



# CENTAX-SEC

ENGLISH

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**CENTAX-SEC**

# ONE SYSTEM. FULL FLEXIBILITY.

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**SYSTEM**

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**At a glance**

Page 03

---

**COUPLING COMPONENTS**

---

**Rubber elements**

Page 06

**Elastomers**

Page 07

**Metal parts**

Page 08

**Membranes**

Page 09

**Link couplings**

Page 10

**Bolts**

Page 11

**Hubs / Adapter**

Page 12

**Connecting dimensions**

Page 13

---

**APPLICATIONS**

---

**Product selection:**

**Which coupling for  
which purpose?**

Page 15

---

**TECHNICAL DATA**

---

**Product application:**

**Which feature for which  
coupling?**

Page 18

---

**SERVICE**

---

**Variants**

Page APP-1

**Explanation of the  
technical data**

Page APP-10

**Contact**

Page APP-17

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# CENTAX-SEC AT A GLANCE

CENTA offers a modular CENTAX-SEC coupling system, which allows a constructive maximum of flexibility.

The components of the series are perfectly matched: multiple combinations allow for various features, and easy control of any torsional situation. Ensuring reliable compensation of axial misalignments three optional components are available (membranes, bolts, links), emphasizing CENTA as the supplier with the most multifaceted portfolio in the market.

For efficient and fast customized solutions.

## Features

- High flexibility in design
- High flexibility in all directions
- High flexibility in torsional elasticity
- High allowable power loss

## Areas of Application



## Torque range

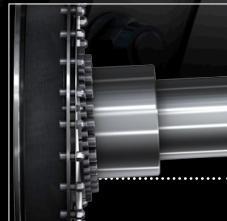
1 to 650 kNm

For efficient torque transmission and long lifespans at a maximum design flexibility.

# CENTAX-SEC SYSTEM



MODULARITY



FUNCTIONS

COMPENSATION OF  
MISALIGNMENT

DAMPING



QUALITY

Multiple combinations of the CENTAX-SEC coupling programm components are available. This modularity allows for adequate design for any application. For efficient and fast customized solutions.

The CENTAX-SEC coupling programm offers many functions to protect your drive from harmful torsional vibrations, to compensate misalignment and to dampen vibrations and noise. Reliable power transmission for your applications with an optimum of features.

The CENTAX-SEC rubber elements are torsionally and radially highly flexible. Combined with three optional components (membranes, links or bolts) each application gets the necessary flexibility in axial and angular direction.

The torsional elasticity of each application is variably tuned by the components applied. Shocks and vibrations are damped, resonances shifted to subcritical ranges and a very low noise level for more comfort on board is achieved.

When the going get's tough, quality is priceless. With an exemplary Quality Management, CENTA ensures products that withstand the roughest assignments. CENTA's coupling systems are more than the sum of their parts. CENTA entertains the vision of intelligent products that meet the highest requirements in terms of design and quality.

**CENTAX-SEC**

# COUPLING COMPONENTS

# CENTAX-SEC

## RUBBER ELEMENTS



The CENTAX-SEC rubber elements are composite parts made of thin, non-cutting shaped flanges with vulcanized elastomer.

As ring elements they cover a torque range of 1-585 kNm and with an outer diameter of 1790 mm they are the largest available on the market.

As segmented elements, for confined spaces, for short building and especially large couplings, they are available in the torque range of 22-650 kNm with an maximum outer diameter of 1940 mm.

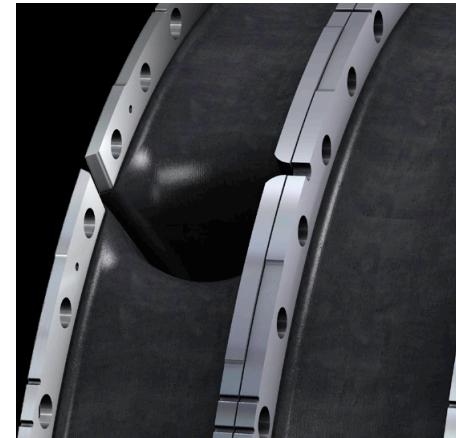
# CENTAX-SEC

## RUBBER ELEMENTS

### THE ELASTOMERS

The elastomers of CENTAX-SEC rubber elements are made of high grade natural rubber - or for special applications with high temperatures – made of Silicone. The geometry of the flange guarantees an equal shear stress through the total cross sectional area. Furthermore the peripheral zones are released by generous radii and rubber outlets for additional releaf.

The proportion of the rubber cross section has been optimized by FEA regarding high torsional and high radial elasticities. Openings within the rubber cross sections have intenionally been abstained, to avoid material weakening, increased edge stress and aging. An intensive inner and outer ventilation of the elastomers nevertheless ensures a high allowable energy loss.



# CENTAX-SEC

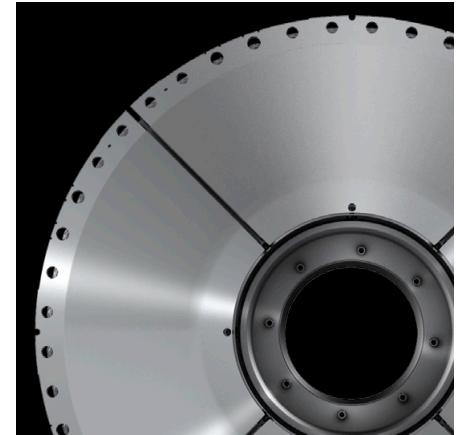
## RUBBER ELEMENTS

### THE METAL PARTS

The non-cutting shaped steelflanges vulcanized to the elastomer are made of thin high grade steel. Equal distribution of stresses and loads within the plain or dished shaped flanges allow for the usage of relatively thin sheet metal, being lightweighted with low moments of inertia. This intelligent light weight design is in successful use since 1988.

The technology of thin sheet metal has also been adapted and further developed for the generation of the segmented CENTAX-SEC rubber elements. An additional bar at the inner non-restrained diameter compensate bending forces and support the segments against deformation. In addition the segments are not affected by any moment of tilt, which would additionally stress the outer bolting (e.g. at the flywheel).

Intensive tests series and fatigue tests and thousands of applications have proven the reliability of this cost efficient design, where stabilizing rings can partly be omitted.



# CENTAX-SEC FUNCTION

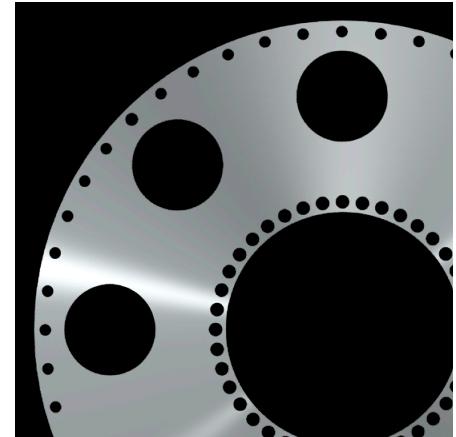
## COMPENSATION OF MISALIGNMENT MEMBRANES

The membranes of series N and G are precisely manufactured from highgrade heat treated spring steel. Large, circular openings reduce their axial and angular stiffness by almost 50%.

The spring characteristic of the membranes is nearly linear in axial direction within the usual range showing slight progression at stronger deformation. FEA calculations, extensive testing and field tests have proven their reliability in practise.

The combination of CENTAX-SEC rubber elements and membranes offer sufficient misalignment capacity for most applications. It is applicable for rigidly or elastically placed engines.

CENTA has developed flexible CENTADISC shafts using the same membranes, applied worldwide. This series is available with steel or carbon fibres tubes. Detailed information on this are given in seperate literature.



# CENTAX-SEC FUNCTION

## COMPENSATION OF MISALIGNMENT

### LINK COUPLINGS

The links of series L are made of high grade cast aluminium or steel. They are designed for push and pull. Each link has a cylindrical rubber bush radially bolted to the hub, and a cardanic rubber joint axially bolted to the flange.

Depending on coupling size varied numbers of links are used and can be mounted at low effort. The axial and angular flexibility are unique to the market. Their spring stiffness is very low and shows a linear characteristic. Torsional vibrations, peak loads and considerable misalignments are compensated for without wear and with low reaction forces (proportional to the deflection).

The combination of CENTAX-SEC rubber element and links is used in cases of extreme high demand for misalignment capacity. It is applicable for extremely soft mounted engines, for shock stress applications and for acoustic decoupling between gear and propeller shaft.



# CENTAX-SEC FUNCTION

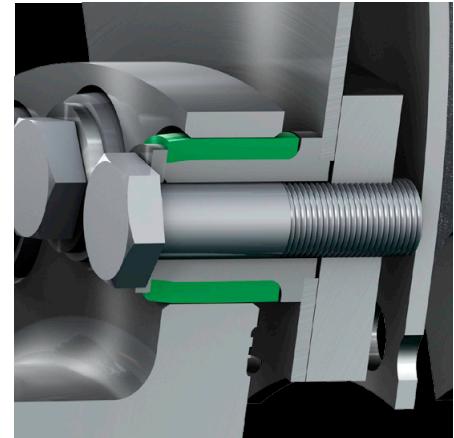
## COMPENSATION OF MISALIGNMENT

### BOLTS

The bolts of series B are made of heavy duty elastomer. They can slide axially within the hub and adjust themselves.

At the same time the design gives ease of mountability. On flanged units, the coupling may be plugged in axially. On free standing drives the units may be mounted axially or radially.

The combination of CENTAX-SEC rubber element and bolts is excessively robust and allows for substantial radial movement. It can be applied for all kinds of main- and auxiliary drives, especially on gensets.



# CENTAX-SEC ADAPTION

## HUBS

The hubs can be made as one or two piece designs, where the rim is connected to the boss by a special method. CENTA decides for the type of hub to be applied.

## ADAPTER

To adjust CENTAX-SEC-couplings to the relevant application, hubs, flanges and adapters are available as standards or special parts according customer specifications. .



# CENTAX-SEC

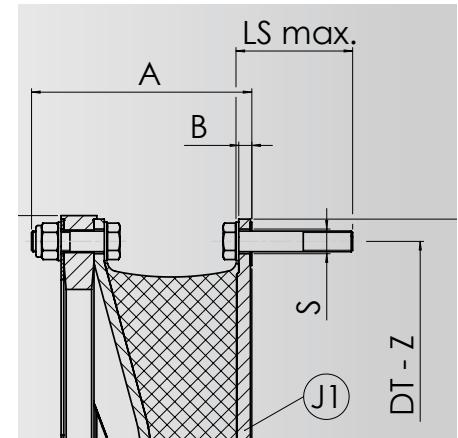
## GEOMETRY

### CONNECTING DIMENSIONS

For the torque range up to 25 kNm the connecting dimensions comply to SAE standard J620. A new generation of coupling elements has been developed for couplings sizes with  $T_{kN} > 25$  kNm with metric dimensions diverging from the previous ones.

Ring elements (series 00 and 100) and segmented elements (series 200 and 400) are offered. It is recommended to mainly apply closed ring elements of series 00 and 100. The segmented series should only be applied, where application requirements are specific in regard of confined space for radial mounting. On very large couplings a segmentation for the elements is essential for production, weight and mountability.

The bolt pattern on the outside of the metal flanges for series 100 and 200 are identical. The large bolts provide sufficient clamping force for the transmission of the torque by friction only. No fitted bolts are necessary and the assembly is very easy.



# CENTAX-SEC

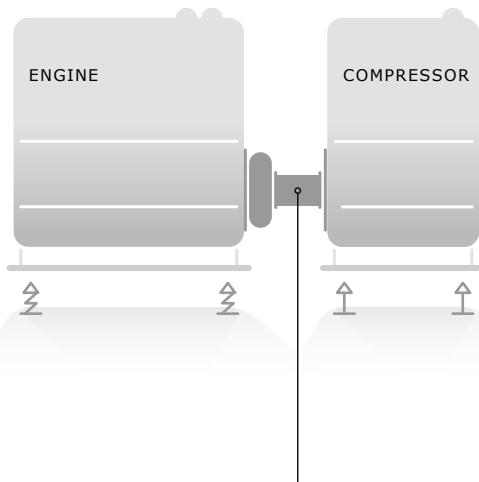
# AREAS OF APPLICATION

Which product for your purpose?

We will gladly assist → [www.centa.info/contact](http://www.centa.info/contact)

# CENTAX-SEC

## APPLICATIONS

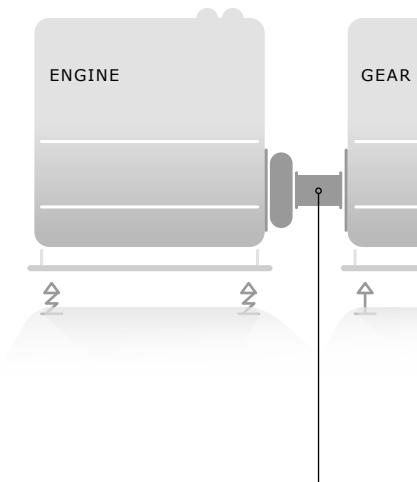


**ENGINE : COMPRESSOR**

**CENTAX-SEC-B**

**CENTAX-SEC-G**

**CENTAX-SEC-L**

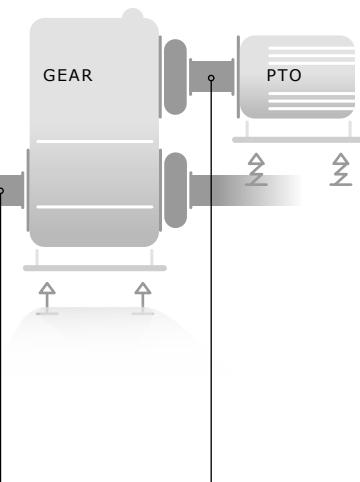


**ENGINE : GEAR**

**CENTAX-SEC-G**

**CENTAX-SEC-L**

**CENTAX-SEC-N/NL**



**GEAR : PTO**

**CENTAX-SEC-NL**

**CENTAX-SEC-G**

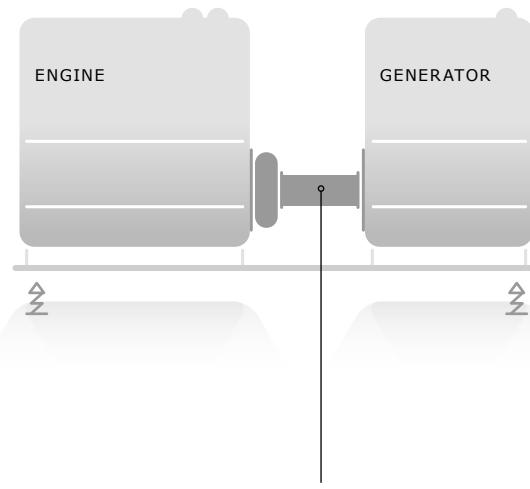
**CENTAX-SEC-L**

Which product for your purpose?

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# CENTAX-SEC

## APPLICATIONS

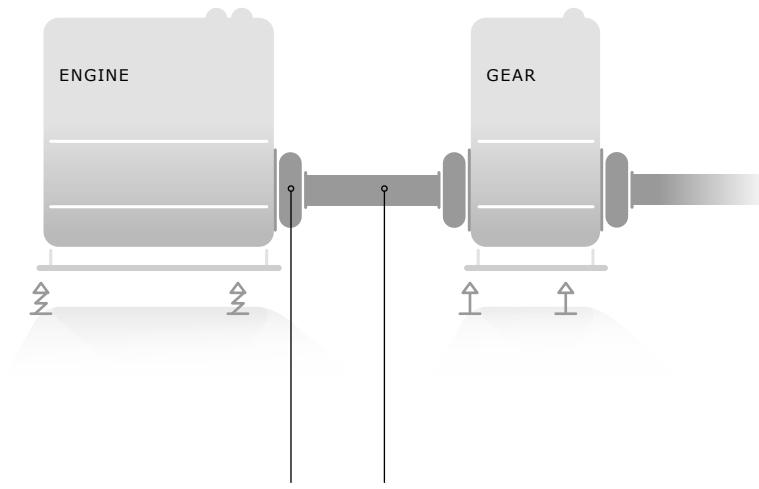


ENGINE : GENERATOR

**CENTAX-SEC-B**

**CENTAX-SEC-G**

**CENTAX-SEC-L**



ENGINE : GEAR

**COUPLING**

**SHAFT**

**CENTAX-SEC-G**

**CENTAX-SEC-L**

**CENTALINK**  
[www.centa.info/cl](http://www.centa.info/cl)

**CENTA CARBON**  
[www.centa.info/carbon](http://www.centa.info/carbon)

**CENTADISC-M**  
[www.centa.info/cd-m](http://www.centa.info/cd-m)

**CENTADISC-C**  
[www.centa.info/cd-c](http://www.centa.info/cd-c)

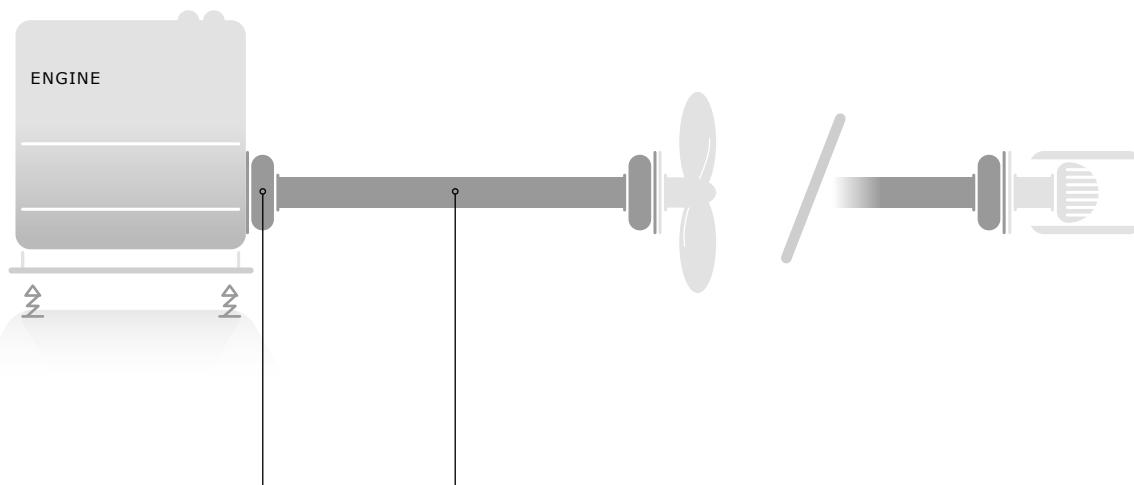
**CENTAFLEX-A**  
[www.centa.info/cf-a](http://www.centa.info/cf-a)

Which product for your purpose?

We will gladly assist → [www.centa.info/contact](http://www.centa.info/contact)

# CENTAX-SEC

## APPLICATIONS



ENGINE : PROPELLER / JET

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### COUPLING

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**CENTAX-SEC-G**

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**CENTAX-SEC-L**

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### SHAFT

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**CENTA CARBON**

[www.centa.info/carbon](http://www.centa.info/carbon)

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**CENTADISC-C**

[www.centa.info/cd-c](http://www.centa.info/cd-c)

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**CENTADISC-M**

[www.centa.info/cd-m](http://www.centa.info/cd-m)

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**CENTALINK**

[www.centa.info/cl](http://www.centa.info/cl)

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**CENTAFLEX-A**

[www.centa.info/cf-a](http://www.centa.info/cf-a)

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Which product for your purpose?

We will gladly assist → [www.centa.info/contact](http://www.centa.info/contact)

**CENTAX-SEC**

# TECHNICAL DATA

Questions on product selection?

We will gladly assist → [www.centa.info/contact](http://www.centa.info/contact)

# CENTAX-SEC

## SERIES 00

### TECHNICAL DATA

<b>Series 00-G</b>	One ring element and membrane	Sizes 52-75 ..... Page 00-2
		Sizes 78-90 ..... Page 00-3
	Two ring elements and membrane	Sizes 52-75 ..... Page 00-4
		Sizes 78-90 ..... Page 00-5
<b>Series 00-L</b>	One ring element and link coupling	Sizes 52-75 ..... Page 00-6
		Sizes 78-90 ..... Page 00-7
	Two ring elements and link coupling	Sizes 52-75 ..... Page 00-8
		Sizes 78-90 ..... Page 00-9

### DIMENSIONS

<b>Series 00-GSS1</b>	Sizes 52-90 ..... Page 00-11
<b>Series 00-GFS2</b>	Sizes 52-90 ..... Page 00-10
<b>Series 00-GSS2</b>	Sizes 52-90 ..... Page 00-12
<b>Series 00-LFS1</b>	Sizes 52-85 ..... Page 00-13
<b>Series 00-LSS1</b>	Sizes 52-85 ..... Page 00-16
<b>Series 00-LFS2</b>	Sizes 52-88 ..... Page 00-14
<b>Series 00-LFS2</b> with failsafe device	Sizes 52-88 ..... Page 00-15
<b>Series 00-LSS2</b>	Sizes 52-85 ..... Page 00-17

# CENTAX-SEC

## SERIES 00-G

ONE RING ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 52-75				→ SIZES 78-90							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
52	45	2,25	6,75	0,56	10,20	4,53	0,27	1,00	±5	0,22	3,00	0,37	0,5	3600
	50	2,80	8,40	0,70	12,00	4,29	0,28	1,05			3,00	0,44		
	60	3,00	9,00	0,75	15,00	5,00	0,29	1,10			3,00	0,53		
	70	3,50	10,50	0,88	29,00	8,29	0,30	1,15			1,80	0,91		
56	45	2,90	8,70	0,73	13,00	4,48	0,30	1,00	±5	0,28	3,00	0,42	0,5	3600
	50	3,50	10,50	0,88	15,40	4,40	0,31	1,05			3,00	0,49		
	60	4,00	12,00	1,00	19,30	4,83	0,33	1,10			3,00	0,59		
	70	4,40	13,20	1,10	36,50	8,30	0,35	1,15			1,80	1,03		
64	50	5,50	16,50	1,38	21,50	3,91	0,36	1,05	±5	0,47	3,00	1,00	0,5	2900
	60	6,00	18,00	1,50	26,80	4,47	0,38	1,10			3,00	1,30		
	70	6,50	19,50	1,63	56,00	8,62	0,40	1,15			1,80	2,10		
66	50	7,50	22,50	1,88	47,00	6,27	0,46	1,05	±5	0,69	4,00	1,30	0,5	2900
	60	8,25	24,75	2,06	58,00	7,03	0,48	1,10			4,00	1,60		
	70	9,00	27,00	2,25	105,00	11,67	0,50	1,15			2,40	2,80		
69	50	11,00	33,00	2,75	68,00	6,18	0,54	1,05	±5	0,69	4,00	1,40	0,5	2900
	60	12,00	36,00	3,00	85,00	7,08	0,57	1,10			4,00	1,80		
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00		
70/71	50	11,50	34,50	2,88	68,00	5,91	0,54	1,05	±5	0,64	4,00	1,50	0,5	2900
	60	12,50	37,50	3,13	85,00	6,80	0,57	1,10			4,00	1,80		
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00		
72	50	15,00	45,00	3,75	94,50	6,30	0,61	1,05	±6	1,20	5,00	1,80	0,5	2750
	60	16,50	49,50	4,13	118,00	7,15	0,64	1,10			5,00	2,20		
	70	18,00	54,00	4,50	212,00	11,78	0,67	1,15			3,00	3,80		
75	50	20,00	60,00	5,00	135,00	6,75	0,68	1,05	±6	1,12	5,50	2,10	0,5	2300
	60	22,00	66,00	5,50	168,00	7,64	0,71	1,10			5,50	2,50		
	70	25,00	75,00	6,25	305,00	12,20	0,75	1,15			3,30	4,30		

# CENTAX-SEC

## SERIES 00-G

### ONE RING ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 78-90				← SIZES 52-75							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
78	50	31,50	94,50	7,88	190,00	6,03	0,82	1,05	±6	1,36	6,00	2,30	0,5	2200
	60	35,00	105,00	8,75	237,00	6,77	0,86	1,10			6,00	2,90		
	70	40,00	120,00	10,00	430,00	10,75	0,90	1,15			3,60	5,10		
80	50	40,00	120,00	10,00	267,00	6,68	0,95	1,05	±6	1,28	7,00	2,60	0,5	2000
	60	44,00	130,00	11,00	334,00	7,59	1,00	1,10			7,00	3,30		
	70	50,00	150,00	12,50	600,00	12,00	1,05	1,15			4,20	5,60		
81	50	50,00	150,00	12,50	320,00	6,40	1,03	1,05	±7	1,25	7,00	3,15	0,5	1500
	60	55,00	165,00	13,75	400,00	7,27	1,08	1,10			7,00	3,90		
	70	63,00	189,00	15,75	730,00	11,59	1,13	1,15			4,20	6,90		
82	50	63,00	189,00	15,75	415,00	6,59	1,10	1,05	±7	1,20	8,00	3,00	0,5	1200
	60	70,00	210,00	17,50	518,00	7,40	1,15	1,10			8,00	3,90		
	70	80,00	230,00	20,00	900,00	11,25	1,20	1,15			4,80	6,50		
84	50	80,00	240,00	20,00	525,00	6,56	1,22	1,05	±7	1,20	8,00	3,20	0,5	1100
	60	90,00	270,00	22,50	656,00	7,29	1,28	1,10			8,00	4,00		
	70	100,00	270,00	25,00	1170,00	11,70	1,34	1,15			4,80	7,10		
85	50	90,00	270,00	22,50	540,00	6,00	1,25	1,05	±7	1,20	8,00	3,30	0,5	1100
	60	100,00	300,00	25,00	675,00	6,75	1,31	1,10			8,00	4,20		
	70	115,00	345,00	28,75	1230,00	10,70	1,37	1,15			4,80	7,30		
88	50	110,00	330,00	27,50	750,00	6,82	1,40	1,05	±9	1,36	8,00	4,00	0,5	1040
	60	120,00	360,00	30,00	938,00	7,82	1,47	1,10			8,00	5,75		
	70	140,00	410,00	35,00	1750,00	12,50	1,54	1,15			4,80	11,25		
90	50	145,00	435,00	36,25	975,00	6,72	1,53	1,05	±9	1,36	8,00	5,20	0,5	1000
	60	160,00	435,00	40,00	1220,00	7,63	1,60	1,10			8,00	7,50		
	70	180,00	435,00	45,00	2240,00	12,44	1,68	1,15			4,80	14,40		

# CENTAX-SEC

## SERIES 00-G

TWO RING ELEMENTS AND MEMBRANE



TECHNICAL DATA			↓ SIZES 52-75				→ SIZES 78-90							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}$ ]	$n_{max}$ [min $^{-1}$ ]
52	45	2,25	6,75	0,56	5,10	2,27	0,54	1,00	$\pm 5$	0,22	6,00	0,19	0,5	3600 (1950)
	50	2,80	8,40	0,70	6,00	2,14	0,56	1,05			6,00	0,22		
	60	3,00	9,00	0,75	7,50	2,50	0,58	1,10			6,00	0,27		
	70	3,50	10,50	0,88	14,50	4,14	0,60	1,15			3,60	0,46		
56	45	2,90	8,70	0,73	6,50	2,24	0,60	1,00	$\pm 5$	0,28	6,00	0,21	0,5	3600 (2000)
	50	3,50	10,50	0,88	7,70	2,20	0,62	1,05			6,00	0,25		
	60	4,00	12,00	1,00	9,65	2,41	0,66	1,10			6,00	0,30		
	70	4,40	13,20	1,10	18,25	4,15	0,70	1,15			3,60	0,52		
64	50	5,50	16,50	1,38	10,75	1,95	0,72	1,05	$\pm 5$	0,47	6,00	0,50	0,5	2900 (2250)
	60	6,00	18,00	1,50	13,40	2,23	0,76	1,10			6,00	0,65		
	70	6,50	19,50	1,63	28,00	4,31	0,80	1,15			3,60	1,05		
66	50	7,50	22,50	1,88	23,50	3,13	0,92	1,05	$\pm 5$	0,69	8,00	0,65	0,5	2900 (2350)
	60	8,25	24,75	2,06	29,00	3,52	0,96	1,10			8,00	0,80		
	70	9,00	27,00	2,25	52,50	5,83	1,00	1,15			4,80	1,40		
69	50	11,00	33,00	2,75	34,00	3,09	1,08	1,05	$\pm 5$	0,69	8,00	0,70	0,5	2900 (2200)
	60	12,00	36,00	3,00	42,50	3,54	1,14	1,10			8,00	0,90		
	70	13,00	39,00	3,25	77,50	5,96	1,20	1,15			4,80	1,50		
70/71	50	11,50	34,50	2,88	34,00	2,96	1,08	1,05	$\pm 5$	0,64	8,00	0,75	0,5	2900 (2200)
	60	12,50	37,50	3,13	42,50	3,40	1,14	1,10			8,00	0,90		
	70	13,00	39,00	3,25	77,50	5,96	1,20	1,15			4,80	1,50		
72	50	15,00	45,00	3,75	47,25	3,15	1,22	1,05	$\pm 6$	1,20	10,00	0,90	0,5	2750 (2100)
	60	16,50	49,50	4,13	59,00	3,58	1,28	1,10			10,00	1,10		
	70	18,00	54,00	4,50	106,00	5,89	1,34	1,15			6,00	1,90		
75	50	20,00	60,00	5,00	67,50	3,38	1,36	1,05	$\pm 6$	1,12	11,00	1,05	0,5	2300 (1800)
	60	22,00	66,00	5,50	84,00	3,82	1,42	1,10			11,00	1,25		
	70	25,00	75,00	6,25	152,50	6,10	1,50	1,15			6,60	2,15		

# CENTAX-SEC

## SERIES 00-G



### TWO RING ELEMENTS AND MEMBRANE

TECHNICAL DATA			↓ SIZES 78-90				← SIZES 52-75							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}^{-1}$ ]	$n_{max}$ [min $^{-1}$ ]
78	50	31,50	94,50	7,88	95,00	3,02	1,64	1,05	$\pm 6$	1,36	12,00	1,15	0,5	2200 (1550)
	60	35,00	105,00	8,75	118,50	3,39	1,72	1,10			12,00	1,45	2,55	
	70	40,00	120,00	10,00	215,00	5,38	1,80	1,15			7,20			
80	50	40,00	120,00	10,00	133,50	3,34	1,90	1,05	$\pm 6$	1,28	14,00	1,30	0,5	2000 (1400)
	60	44,00	130,00	11,00	167,00	3,80	2,00	1,10			14,00	1,65	2,80	
	70	50,00	150,00	12,50	300,00	6,00	2,10	1,15			8,40			
81	50	50,00	150,00	12,50	160,00	3,20	2,06	1,05	$\pm 7$	1,25	14,00	1,58	0,5	1500
	60	55,00	165,00	13,75	200,00	3,64	2,16	1,10			14,00	1,95	3,45	
	70	63,00	189,00	15,75	365,00	5,79	2,26	1,15			8,40			
82	50	63,00	189,00	15,75	207,50	3,29	2,20	1,05	$\pm 7$	1,20	16,00	1,50	0,5	1200
	60	70,00	210,00	17,50	259,00	3,70	2,30	1,10			16,00	1,95	3,25	
	70	80,00	230,00	20,00	450,00	5,63	2,40	1,15			9,60			
84	50	80,00	240,00	20,00	262,50	3,28	2,44	1,05	$\pm 7$	1,20	16,00	1,60	0,5	1100
	60	90,00	270,00	22,50	328,00	3,64	2,56	1,10			16,00	2,00	3,55	
	70	100,00	270,00	25,00	585,00	5,85	2,68	1,15			9,60			
85	50	90,00	270,00	22,50	270,00	3,00	2,50	1,05	$\pm 7$	1,20	16,00	1,65	0,5	1100
	60	100,00	300,00	25,00	337,50	3,38	2,62	1,10			16,00	2,10	3,65	
	70	115,00	345,00	28,75	615,00	5,35	2,74	1,15			9,60			
88	50	110,00	330,00	27,50	375,00	3,41	2,80	1,05	$\pm 9$	1,36	16,00	2,00	0,5	1040
	60	120,00	360,00	30,00	469,00	3,91	2,94	1,10			16,00	2,88	5,63	
	70	140,00	410,00	35,00	875,00	6,25	3,08	1,15			9,60			
90	50	145,00	435,00	36,25	487,50	3,36	3,06	1,05	$\pm 9$	1,36	16,00	2,60	0,5	1000
	60	160,00	435,00	40,00	610,00	3,81	3,20	1,10			16,00	3,75	7,20	
	70	180,00	435,00	45,00	1120,00	6,22	3,36	1,15			9,60			

# CENTAX-SEC

## SERIES 00-L

### ONE RING ELEMENT AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 52-75				→ SIZES 78-90								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed	
	Shore A	T <sub>KN</sub> [kNm]	T <sub>kmax</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]	
52	45	2,25	6,75	0,56	10,20	4,53	0,27	1,00	$\pm 10$	0,29	3,00	0,37	1	3600	
	50	2,80	8,40	0,70	12,00	4,29	0,28	1,05			3,00	0,44			
	60	3,00	9,00	0,75	15,00	5,00	0,29	1,10	$\pm 10$	0,29	3,00	0,53	1		
	70	3,50	10,50	0,88	29,00	8,29	0,30	1,15			1,80	0,91			
56	45	2,90	8,70	0,73	13,00	4,48	0,30	1,00	$\pm 10$	0,29	3,00	0,42	1	3600	
	50	3,50	10,50	0,88	15,40	4,40	0,31	1,05			3,00	0,49			
	60	4,00	12,00	1,00	19,30	4,83	0,33	1,10	$\pm 10$	0,29	3,00	0,59	1		
	70	4,40	13,20	1,10	36,50	8,30	0,35	1,15			1,80	1,03			
64	50	5,50	16,50	1,38	21,50	3,91	0,36	1,05	$\pm 10$	0,36	3,00	1,00	1	2900	
	60	6,00	18,00	1,50	26,80	4,47	0,38	1,10			3,00	1,30			
	70	6,50	19,50	1,63	56,00	8,62	0,40	1,15	$\pm 10$	0,43	1,80	2,10			
66	50	7,50	22,50	1,88	47,00	6,27	0,46	1,05	$\pm 10$	0,43	4,00	1,30	1	2900	
	60	8,25	24,75	2,06	58,00	7,03	0,48	1,10			4,00	1,60			
	70	9,00	27,00	2,25	105,00	11,67	0,50	1,15			2,40	2,80			
69	50	11,00	33,00	2,75	68,00	6,18	0,54	1,05	$\pm 13$	0,52	4,00	1,40	1	2900	
	60	12,00	36,00	3,00	85,00	7,08	0,57	1,10			4,00	1,80			
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15	$\pm 13$	0,52	2,40	3,00			
70/71	50	11,50	34,50	2,88	68,00	5,91	0,54	1,05	$\pm 13$	0,52	4,00	1,50	1	2900	
	60	12,50	37,50	3,13	85,00	6,80	0,57	1,10			4,00	1,80			
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00			
72	50	15,00	45,00	3,75	94,50	6,30	0,61	1,05	$\pm 13$	0,62	5,00	1,80	1	2750	
	60	16,50	49,50	4,13	118,00	7,15	0,64	1,10			5,00	2,20			
	70	18,00	54,00	4,50	212,00	11,78	0,67	1,15	$\pm 13$	0,75	3,00	3,80			
75	50	20,00	60,00	5,00	135,00	6,75	0,68	1,05	$\pm 13$	0,75	5,50	2,10	1	2300	
	60	22,00	66,00	5,50	168,00	7,64	0,71	1,10			5,50	2,50			
	70	25,00	75,00	6,25	305,00	12,20	0,75	1,15			3,30	4,30			

# CENTAX-SEC

## SERIES 00-L

### ONE RING ELEMENT AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 78-90				← SIZES 52-75							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
78	50	31,50	94,50	7,88	190,00	6,03	0,82	1,05	±18	0,90	6,00	2,30	1	2200
	60	35,00	105,00	8,75	237,00	6,77	0,86	1,10			6,00	2,90		
	70	40,00	120,00	10,00	430,00	10,75	0,90	1,15			3,60	5,10		
80	50	40,00	120,00	10,00	267,00	6,68	0,95	1,05	±18	1,10	7,00	2,60	1	2000
	60	44,00	130,00	11,00	334,00	7,59	1,00	1,10			7,00	3,30		
	70	50,00	150,00	12,50	600,00	12,00	1,05	1,15			4,20	5,60		
81	50	50,00	150,00	12,50	320,00	6,40	1,03	1,05	±18	1,10	7,00	3,15	1	1500
	60	55,00	165,00	13,75	400,00	7,27	1,08	1,10			7,00	3,90		
	70	63,00	189,00	15,75	730,00	11,59	1,13	1,15			4,20	6,90		
82	50	63,00	189,00	15,75	415,00	6,59	1,10	1,05	±18	1,30	8,00	3,00	1	1200
	60	70,00	210,00	17,50	518,00	7,40	1,15	1,10			8,00	3,90		
	70	80,00	230,00	20,00	900,00	11,25	1,20	1,15			4,80	6,50		
84	50	80,00	240,00	20,00	525,00	6,56	1,22	1,05	±18	1,30	8,00	3,20	1	1100
	60	90,00	270,00	22,50	656,00	7,29	1,28	1,10			8,00	4,00		
	70	100,00	270,00	25,00	1170,00	11,70	1,34	1,15			4,80	7,10		
85	50	90,00	270,00	22,50	540,00	6,00	1,25	1,05	±18	1,30	8,00	3,30	1	1100
	60	100,00	300,00	25,00	675,00	6,75	1,31	1,10			8,00	4,20		
	70	115,00	345,00	28,75	1230,00	10,70	1,37	1,15			4,80	7,30		
88	50	110,00	330,00	27,50	750,00	6,82	1,40	1,05	±18	1,73	8,00	4,00	1	1040
	60	120,00	360,00	30,00	938,00	7,82	1,47	1,10			8,00	5,75		
	70	140,00	410,00	35,00	1750,00	12,50	1,54	1,15			4,80	11,25		
90	50	145,00	435,00	36,25	975,00	6,72	1,53	1,05	-	-	8,00	5,20	-	1000
	60	160,00	435,00	40,00	1220,00	7,63	1,60	1,10			8,00	7,50		
	70	180,00	435,00	45,00	2240,00	12,44	1,68	1,15			4,80	14,40		

# CENTAX-SEC

## SERIES 00-L

TWO RING ELEMENTS AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 52-75				→ SIZES 78-90							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}$ ]	$n_{max}$ [min $^{-1}$ ]
52	45	2,25	6,75	0,56	5,10	2,27	0,54	1,00	$\pm 10$	0,29	6,00	0,19	1	3600 (1950)
	50	2,80	8,40	0,70	6,00	2,14	0,56	1,05			6,00	0,22		
	60	3,00	9,00	0,75	7,50	2,50	0,58	1,10			6,00	0,27		
	70	3,50	10,50	0,88	14,50	4,14	0,60	1,15			3,60	0,46		
56	45	2,90	8,70	0,73	6,50	2,24	0,60	1,00	$\pm 10$	0,29	6,00	0,21	1	3600 (2000)
	50	3,50	10,50	0,88	7,70	2,20	0,62	1,05			6,00	0,25		
	60	4,00	12,00	1,00	9,65	2,41	0,66	1,10			6,00	0,30		
	70	4,40	13,20	1,10	18,25	4,15	0,70	1,15			3,60	0,52		
64	50	5,50	16,50	1,38	10,75	1,95	0,72	1,05	$\pm 10$	0,36	6,00	0,50	1	2900 (2250)
	60	6,00	18,00	1,50	13,40	2,23	0,76	1,10			6,00	0,65		
	70	6,50	19,50	1,63	28,00	4,31	0,80	1,15			3,60	1,05		
66	50	7,50	22,50	1,88	23,50	3,13	0,92	1,05	$\pm 10$	0,43	8,00	0,65	1	2900 (2350)
	60	8,25	24,75	2,06	29,00	3,52	0,96	1,10			8,00	0,80		
	70	9,00	27,00	2,25	52,50	5,83	1,00	1,15			4,80	1,40		
69	50	11,00	33,00	2,75	34,00	3,09	1,08	1,05	$\pm 13$	0,52	8,00	0,70	1	2900 (2200)
	60	12,00	36,00	3,00	42,50	3,54	1,14	1,10			8,00	0,90		
	70	13,00	39,00	3,25	77,50	5,96	1,20	1,15			4,80	1,50		
70/71	50	11,50	34,50	2,88	34,00	2,96	1,08	1,05	$\pm 13$	0,52	8,00	0,75	1	2900 (2200)
	60	12,50	37,50	3,13	42,50	3,40	1,14	1,10			8,00	0,90		
	70	13,00	39,00	3,25	77,50	5,96	1,20	1,15			4,80	1,50		
72	50	15,00	45,00	3,75	47,25	3,15	1,22	1,05	$\pm 13$	0,62	10,00	0,90	1	2750 (2100)
	60	16,50	49,50	4,13	59,00	3,58	1,28	1,10			10,00	1,10		
	70	18,00	54,00	4,50	106,00	5,89	1,34	1,15			6,00	1,90		
75	50	20,00	60,00	5,00	67,50	3,38	1,36	1,05	$\pm 13$	0,75	11,00	1,05	1	2300 (1800)
	60	22,00	66,00	5,50	84,00	3,82	1,42	1,10			11,00	1,25		
	70	25,00	75,00	6,25	152,50	6,10	1,50	1,15			6,60	2,15		

# CENTAX-SEC

## SERIES 00-L

TWO RING ELEMENTS AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 78-90				← SIZES 52-75							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_KW$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}^{-1}$ ]	$n_{max}$ [min $^{-1}$ ]
78	50	31,50	94,50	7,88	95,00	3,02	1,64	1,05	$\pm 18$	0,90	12,00	1,15	1	2200 (1550)
	60	35,00	105,00	8,75	118,50	3,39	1,72	1,10			12,00	1,45	2,55	
	70	40,00	120,00	10,00	215,00	5,38	1,80	1,15			7,20			
80	50	40,00	120,00	10,00	133,50	3,34	1,90	1,05	$\pm 18$	1,10	14,00	1,30	1	2000 (1400)
	60	44,00	130,00	11,00	167,00	3,80	2,00	1,10			14,00	1,65	2,80	
	70	50,00	150,00	12,50	300,00	6,00	2,10	1,15			8,40			
81	50	50,00	150,00	12,50	160,00	3,20	2,06	1,05	$\pm 18$	1,10	14,00	1,58	1	1500
	60	55,00	165,00	13,75	200,00	3,64	2,16	1,10			14,00	1,95	3,45	
	70	63,00	189,00	15,75	365,00	5,79	2,26	1,15			8,40			
82	50	63,00	189,00	15,75	207,50	3,29	2,20	1,05	$\pm 18$	1,30	16,00	1,50	1	1200
	60	70,00	210,00	17,50	259,00	3,70	2,30	1,10			16,00	1,95	9,60	
	70	80,00	230,00	20,00	450,00	5,63	2,40	1,15			3,25			
84	50	80,00	240,00	20,00	262,50	3,28	2,44	1,05	$\pm 18$	1,30	16,00	1,60	1	1100
	60	90,00	270,00	22,50	328,00	3,64	2,56	1,10			16,00	2,00	3,55	
	70	100,00	270,00	25,00	585,00	5,85	2,68	1,15			9,60			
85	50	90,00	270,00	22,50	270,00	3,00	2,50	1,05	$\pm 18$	1,30	16,00	1,65	1	1100
	60	100,00	300,00	25,00	337,50	3,38	2,62	1,10			16,00	2,10	3,65	
	70	115,00	345,00	28,75	615,00	5,35	2,74	1,15			9,60			
88	50	110,00	330,00	27,50	375,00	3,41	2,80	1,05	$\pm 18$	1,73	16,00	2,00	1	1040
	60	120,00	360,00	30,00	469,00	3,91	2,94	1,10			16,00	2,88	5,63	
	70	140,00	410,00	35,00	875,00	6,25	3,08	1,15			9,60			
90	50	145,00	435,00	36,25	487,50	3,36	3,06	1,05	-	-	16,00	2,60	-	1000
	60	160,00	435,00	40,00	610,00	3,81	3,20	1,10			16,00	3,75	7,20	
	70	180,00	435,00	45,00	1120,00	6,22	3,36	1,15			9,60			

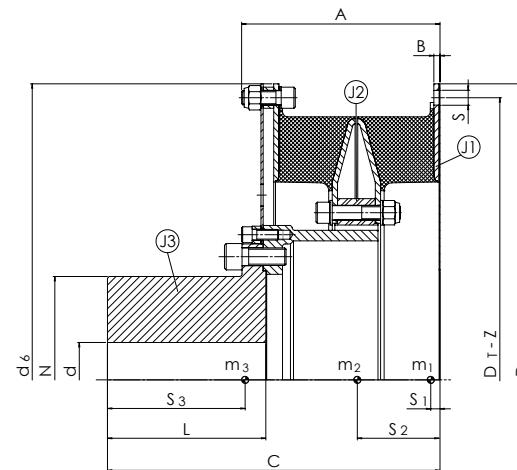
# CENTAX-SEC

## SERIES 00-GFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND MEMBRANE

OUTER HUB



DIMENSIONS				↓ SIZES 52-85																			
Size	$T_{KN}$ [kNm]	SAE J620	$D_A$ [h7]	D <sub>T</sub>	Z	S-bolt	d <sub>6</sub>	N	d max	A	B	C	L	S <sub>1</sub>	Distance centre of gravity, moments of inertia and masses								
															S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub>	J <sub>3</sub>	[kgm <sup>2</sup> ]	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>
52	2,25-3,5	14	466,7	438,2	16x22,5°	13 M12	466,7	160	115	188,5	5	291	125	6,5	79,5	108,5	0,16	0,24	0,40	4,7	10,1	25,1	39,9
56	2,9-4,4	14	466,7	438,2	16x22,5°	13 M12	466,7	160	115	190,5	5	293	125	7,5	81,0	109,0	0,17	0,26	0,41	4,9	10,8	25,4	41,1
64	5,5-6,5	14	466,7	438,2	16x22,5°	13 M12	466,7	165	118	204	6	323,5	140	10,0	87,5	125,5	0,24	0,43	0,55	7,2	17,5	33,0	57,7
66	7,5-9	18	571,5	542,9	12x30°	17 M16	571,5	185	130	187	6	317,5	155	7,5	79,0	138,5	0,46	0,73	1,21	8,9	19,5	47,6	76,0
69	11-13	18	571,5	542,9	6x60°	17 M16	584	210	150	205	7	340	160	11,5	86,5	142,5	0,57	1,28	1,53	9,9	26,9	58,4	95,2
71	11,5-13	21	673,1	641,4	24x15°	17 M16	584	210	150	204,5	6	339,5	160	7,0	84,5	142,5	0,93	1,33	1,53	12,9	27,8	58,4	99,1
72	15-18	21	673,1	641,4	24x15°	17 M16	673,1	235	165	225,5	7	378	180	10,5	94,0	156,5	1,12	2,09	2,86	14,9	35,7	82,5	133,1
75	20-25	24	733,4	692,2	24x15°	19 M18	733,4	235	170	252	10	421	200	12,0	109,0	180,5	2,12	3,79	4,41	24,5	57,4	102,7	184,6
78	31,5-40	-	800	770	32x11,25°	19 M18	800	278	200	275	10	464	220	14,5	117,5	194,5	3,10	6,73	7,17	29,6	85,6	140,3	255,5
80	40-50	-	885	855	48x7,5°	17 M16	885	303	215	302,5	12	524	250	15,5	132,0	221,0	5,64	11,41	12,16	42,4	112,7	199,0	354,1
81	50-63	-	920	880	32x11,25°	19 M18	920	325	232	309	12	541	265	14,0	132,0	230,5	7,19	12,23	15,16	57,7	145,2	236,4	439,3
82	63-80	-	1105	1060	32x11,25°	21 M20	1105	388	280	347	12	593	280	14,5	149,0	242,5	13,61	26,22	29,45	69,2	189,4	314,5	573,1
84	80-100	-	1105	1060	32x11,25°	21 M20	1105	388	280	346	12	592	280	16,0	148,5	243,5	14,74	29,30	30,58	74,1	202,1	319,3	595,5
85	90-115	-	1070	1025	32x11,25°	23,5 M22	1070	388	280	351	12	592	280	17,0	148,0	249,5	13,37	28,66	32,30	73,0	211,8	356,0	640,8
88	110-140	-	1260	1225	45x7,5°	21,5 M20	1260	450	320	432	14	779	385	21,5	190,0	319,5	29,06	75,52	63,76	106,7	351,1	542,4	1000,2
90	145-180	-	1330	1295	48x7,5°	21,5 M20	1330	485	345	432	14	794	400	22,5	190,5	324,5	38,79	93,92	78,51	132,2	402,7	611,2	1146,1

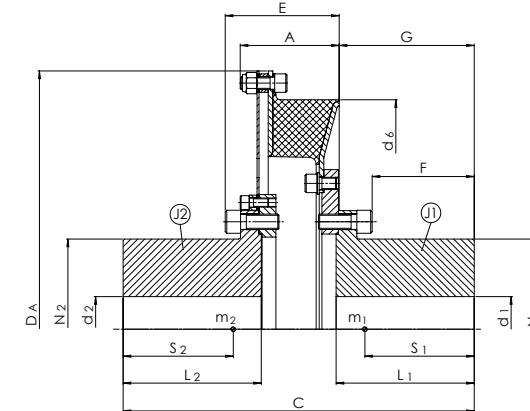
# CENTAX-SEC

## SERIES 00-GSS1

### SHAFT-SHAFT

#### ONE RING ELEMENT AND MEMBRANE

##### OUTER HUB



DIMENSIONS		↓ SIZES 52-85																
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub>	d <sub>6</sub>	N <sub>1</sub> - N <sub>2</sub>	d <sub>1</sub> - d <sub>2</sub> max	A	B	C	F	G	L	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub> [kg]	m <sub>total</sub>
52	2,25-3,5	466,7	380	160	115	106,5	112	333	97	124	125	99,5	100,0	0,22	0,37	20,2	22,7	42,9
56	2,9-4,4	466,7	380	160	115	107,5	113	334	97	124	125	100,5	100,5	0,23	0,38	20,5	23,0	43,5
64	5,5-6,5	466,7	418	165	118	114,5	128,5	370,5	110	136,5	140	112,5	116,5	0,32	0,54	24,6	30,1	54,7
66	7,5-9	571,5	477	185	130	108	118	389	120,5	150,5	155	121,5	125,0	0,59	1,08	34,8	40,3	75,1
70	11,5-13	584	540	210	150	116,5	134,5	409	117	157,5	160	129,5	128,0	1,08	1,34	49,0	49,5	98,5
72	15-18	673,1	598	235	165	129	148,5	457,5	133	176	180	142,5	143,5	1,80	2,58	67,4	72,6	140,0
75	20-25	733,4	650	235	170	143	164	511	148	199	200	170,5	166,5	2,81	4,07	86,1	90,7	176,8
78	31,5-40	800	730	278	200	154	175	562	168	219	220	182,0	176,5	4,80	6,46	118,5	120,4	238,9
80	40-50	885	820	303	215	167,5	204	637	185	248	250	206,5	202,5	8,36	11,04	168,4	174,6	343,0
81	50-63	920	820	325	232	173	202	668	203	263	265	214,5	214,0	8,52	13,70	178,5	205,2	383,7
82	63-80	1105	1000	388	280	194,5	225,5	717,5	215	277	280	225,5	220,0	19,14	25,44	269,3	271,9	541,2
84	80-100	1105	1000	388	280	194	225	717	215	277	280	228,0	222,0	20,67	26,58	275,6	276,7	552,3
85	90-115	1070	1000	388	280	199	225	719	215	279	280	230,0	228,0	20,52	29,81	283,3	311,3	594,6
86	110-140	1260	1160	450	320	227	258	992	316	418	385	316,5	292,0	56,63	56,31	516,9	471,9	988,8
90	145-180	1330	1230	485	345	226,5	257,5	1021,5	331	433	400	322,5	299,5	69,00	71,10	583,9	540,8	1124,7

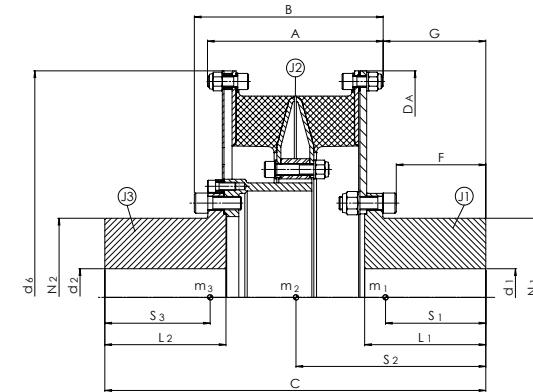
# CENTAX-SEC

## SERIES 00-GSS2

### SHAFT-SHAFT

#### TWO RING ELEMENTS AND MEMBRANE

OUTER HUB



DIMENSIONS				↓ SIZES 52-85																	
Size	$T_{KN}$ [kNm]	D	d	Dimensions		Distance centre of gravity, moments of inertia and masses															
				$N_1 - N_2$	$d_1 - d_2$ max	A	B	C	F	G	$L_1 - L_2$	$S_1$	$S_2$	$S_3$	$J_1$	$J_2$ [kgm <sup>2</sup> ]	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$
52	2,25-3,5	466,7	466,7	160	115	216	221,5	421	97	102,5	125	102,5	209,5	108,5	0,48	0,24	0,40	24,5	10,1	25,1	59,7
56	2,9-4,4	466,7	466,7	160	115	218	223,5	423	97	102,5	125	103,0	211,0	109,0	0,50	0,26	0,41	24,8	10,8	25,4	61,0
64	5,5-6,5	466,7	466,7	165	118	231	245	470	105,5	119,5	140	119,0	234,0	125,5	0,66	0,43	0,55	32,6	17,5	33,0	83,1
66	7,5-9	571,5	571,5	185	130	223	233	479	120,5	125,5	155	130,5	240,5	138,5	1,54	0,73	1,21	47,8	19,5	47,6	114,9
70	11,5-13	584,0	584	210	150	236	254	508	117	137	160	134,0	254,0	142,5	1,92	1,29	1,53	58,3	27,1	58,4	143,8
72	15-18	673,1	673,1	235	165	261	280,5	566	133	152,5	180	149,0	282,0	156,5	3,50	2,09	2,86	82,4	35,7	82,5	200,6
75	20-25	733,4	733,4	235	170	289	310	627	148	169	200	172,5	315,0	180,5	5,46	3,79	4,41	104,0	57,4	102,7	264,1
78	31,5-40	800	800	278	200	317	338	692	168	186	220	185,5	345,5	194,5	8,80	6,73	7,17	141,6	85,6	140,3	367,5
80	40-50	885	885	303	215	343	379,5	784	185	219,5	250	212,0	392,0	221,0	15,54	11,41	12,16	205,3	112,7	199,0	517,0
81	50-63	920	920	325	232	354	383	816	203	230	265	224,5	407,0	230,5	19,04	12,23	15,16	242,5	145,2	236,4	624,1
82	63-80	1105	1105	388	280	392	423	883	215	245	280	232,0	439,0	242,5	37,16	26,22	29,45	326,9	189,4	314,5	830,8
84	80-100	1105	1105	388	280	391	422	882	215	245	280	233,0	438,5	243,5	38,28	29,30	30,58	331,7	202,1	319,3	853,1
85	90-115	1070	1070	388	280	396	422	882	215	245	280	233,0	438,0	249,5	36,19	28,66	32,30	335,0	211,8	356,0	902,8
88	110-140	1260	1260	450	320	480	511	1176	316	349	385	309,0	587,0	319,5	79,85	75,52	63,76	556,8	351,1	542,4	1450,3
90	145-180	1330	1330	485	345	480	511	1206	331	364	400	318,0	602,5	324,5	101,53	93,92	78,51	642,4	402,7	6112	1656,3

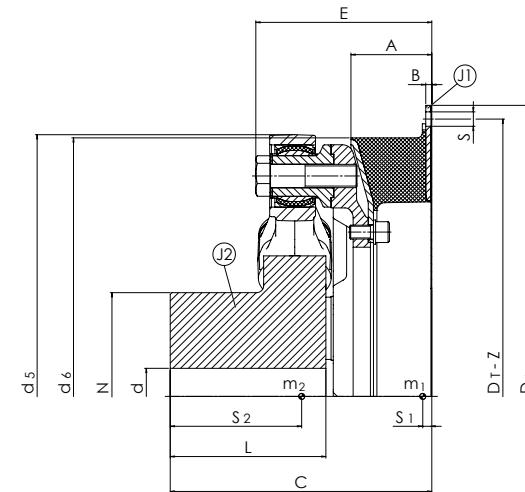
# CENTAX-SEC

## SERIES 00-LFS1

### FLYWHEEL-SHAFT

#### ONE RING ELEMENT AND LINK COUPLING

OUTER HUB



DIMENSIONS		↓ SIZES 52-85																				
Size	T <sub>KN</sub> [kNm]	SAE J620	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	s - bolt	d <sub>5</sub>	d <sub>6</sub>	N	d max	A	B	C	E	L	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub> [kgm <sup>2</sup> ]	m <sub>1</sub>	m <sub>2</sub>	m <sub>total</sub>
52	2,25-3,5	14	466,7	438,2	16x22,5°	13 M12	382	380	140	100	79	5	225	158,5	125	6,5	112,0	0,16	0,41	4,7	27,1	31,8
56	2,9-4,4	14	466,7	438,2	16x22,5°	13 M12	382	380	140	100	80	5	226	159,5	125	7,5	113,0	0,17	0,42	4,9	27,6	32,5
64	5,5-6,5	14	466,7	438,2	16x22,5°	13 M12	403	418	154	110	87,5	6	247	165,5	140	10,0	126,0	0,24	0,70	7,2	41,4	48,6
67	6,0-7,2	18	571,5	542,9	12x30°	17 M16	403	418	154	110	87	5	246,5	165	140	6,5	130,5	0,44	0,74	9,8	40,7	50,5
66	7,5-9	18	571,5	542,9	12x30°	17 M16	440	477	200	135	77	6	252	155,5	155	7,5	128,0	0,46	1,12	8,9	53,3	62,2
69	11-13	18	571,5	542,9	6x60°	17 M16	547	540	210	150	85,5	7	273	194,	160	11,5	140,0	0,57	2,43	9,9	78,5	88,4
71	11,5-13	21	673,1	641,4	24x15°	17 M16	547	540	210	150	85	6	272,5	193,5	160	7,0	141,0	0,93	2,49	12,9	79,4	92,3
72	15-18	21	673,1	641,4	24x15°	17 M16	605	598	240	165	93,5	7	302,5	203,5	180	10,5	152,0	1,12	4,28	14,9	115,8	130,7
75	20-25	24	733,4	692,2	24x15°	19 M18	615	650	270	170	106	10	332,5	213,5	200	12,0	167,5	2,12	6,02	24,5	152,4	176,9
78	31,5-40	-	800	770	32x11,25°	19 M18	740	730	300	200	117	10	378,5	269	220	14,5	189,0	3,10	11,75	29,6	212,0	241,6
80	40-50	-	885	855	48x7,5°	17 M16	785	820	340	240	132	12	416,5	277	250	15,5	212,0	5,64	18,13	42,4	275,3	317,7
81	50-63	-	920	880	32x11,25°	19 M18	785	820	340	240	133	12	417,5	278	250	14,0	222,0	7,19	19,68	57,7	304,5	362,2
82	63-80	-	1105	1060	32x11,25°	21 M20	898	1000	390	280	149,5	12	459,5	290	280	14,5	236,0	13,61	36,61	69,2	418,8	488,0
84	80-100	-	1105	1060	32x11,25°	21 M20	898	1000	390	280	149	12	459	289,5	280	16,0	238,0	14,74	38,15	74,1	425,0	499,1
85	90-115	-	1070	1025	32x11,25°	23,5 M22	898	1000	390	280	149	12	459	289,5	280	17,0	240,5	13,37	38,45	73,0	435,5	508,5

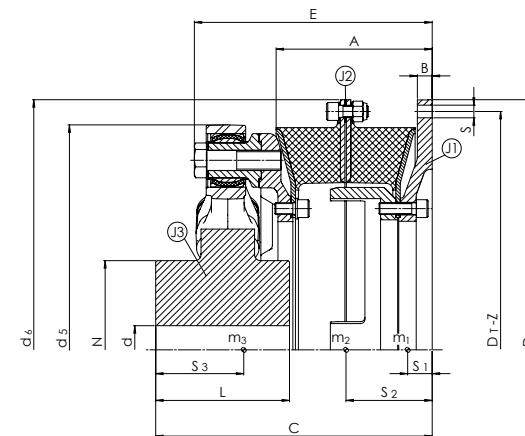
# CENTAX-SEC

## SERIES 00-LFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND LINK COUPLING

##### INNER HUB



DIMENSIONS		↓ SIZES 52-88																		Distance centre of gravity, moments of inertia and masses							
Size	T <sub>KN</sub> [kNm]	Dimensions																Distance centre of gravity, moments of inertia and masses									
		SAE J620	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	s - bolt	d <sub>5</sub>	d <sub>6</sub>	N	d max	A	B	C	E	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub> [kg]	m <sub>total</sub>		
52	2,25-3,5	14	466,7	438,2	16x22,5°	13 M12	382	466,7	147	100	168,5	6	282,5	248	125	32,5	89,0	88,0	0,42	0,36	0,41	17,4	9,6	28,1	55,1		
56	2,9-4,4	14	466,7	438,2	16x22,5°	13 M12	382	466,7	147	100	170,5	6	284,5	250	125	32,5	90,0	88,5	0,43	0,38	0,43	17,7	10,2	28,5	56,4		
64	5,5-6,5	14	466,7	438,2	16x22,5°	13 M12	403	466,7	176	110	183	6	307	261	140	28,0	95,0	98,5	0,48	0,57	0,73	19,4	15,9	43,7	79,0		
66	7,5-9	18	571,5	542,9	12x30°	17 M16	440	571,5	200	135	174	18	316	252,5	155	29,5	96,0	108,0	1,70	1,17	1,12	38,9	20,3	53,3	112,5		
70	11,5-13	21	673,1	641,4	24x15°	17 M16	547	584	230	150	192	18	337,5	300,5	160	27,0	106,0	107,5	3,19	1,41	2,51	52,9	22,2	83,4	158,5		
72	15-18	21	673,1	641,4	24x15°	17 M16	605	673,1	240	165	210	20	372	320	180	33,0	116,0	118,5	3,98	2,55	4,28	62,5	31,5	115,9	209,9		
75	20-25	24	733,4	692,2	24x15°	19 M18	615	733,4	270	170	238	25	419,5	345,5	200	38,5	132,5	138,5	6,47	4,68	6,02	84,9	50,5	152,4	287,8		
78	31,5-40	-	800	770	32x11,25°	19 M18	740	800	300	200	260	25	466	412	220	41,5	143,0	151,5	10,31	6,89	11,75	114,2	61,4	212,0	387,6		
80	40-50	-	885	820	48x7,5°	17 M16	785	885	340	240	296	30	524	441	250	55,0	164,5	173,5	15,01	11,95	18,15	137,2	85,1	275,5	497,8		
81	50-63	-	920	880	32x11,25°	19 M18	785	920	340	240	298	30	526	443	250	40,5	165,5	181,0	22,83	15,20	19,50	226,6	115,0	297,4	639,0		
82	63-80	-	1105	1060	32x11,25°	21 M20	898	1105	390	280	331	30	585	471,5	280	44,0	182,0	197,0	48,63	28,16	36,64	304,8	136,1	419,6	860,5		
84	80-100	-	1105	1060	32x11,25°	21 M20	898	1105	390	280	330	30	584	470,5	280	44,5	181,5	199,0	50,17	30,38	38,18	311,1	145,6	425,9	882,6		
85	90-115	-	1070	1025	32x11,25°	23,5 M22	898	1070	390	280	333	20	587	473,5	280	44,5	184,5	201,0	43,48	28,72	38,48	292,3	148,4	436,2	876,9		
88	110-140	-	1260	1225	48x7,5°	21,5 M20	1032	1260	450	320	391	30	795	576,5	385	52,0	212,5	305,0	98,05	60,82	110,93	433,3	214,1	838,8	1486,2		

# CENTAX-SEC

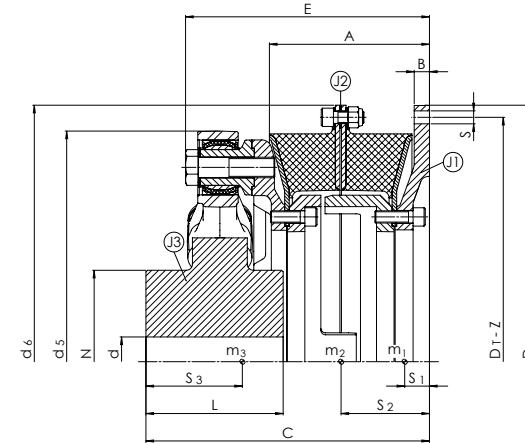
## SERIES 00-LFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND LINK COUPLING

WITH FAILSAFE DEVICE

INNER HUB



DIMENSIONS		↓ SIZES 52-88																		Distance centre of gravity, moments of inertia and masses							
Size	T <sub>KN</sub> [kNm]	Dimensions																Distance centre of gravity, moments of inertia and masses									
		SAE J620	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	s - bolt	d <sub>5</sub>	d <sub>6</sub>	N	d max	A	B	C	E	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub> [kg]	m <sub>total</sub>		
52	2,25-3,5	14	466,7	438,2	16x22,5°	13 M12	382	466,7	147	100	168,5	6	282,5	248	125	32,5	89,0	96,0	0,41	0,36	0,47	17,4	9,6	32,3	59,3		
56	2,9-4,4	14	466,7	438,2	16x22,5°	13 M12	382	466,7	147	100	170,5	6	284,5	250	125	32,5	90,0	96,5	0,43	0,38	0,49	17,7	10,2	32,7	60,6		
64	5,5-6,5	14	466,7	438,2	16x22,5°	13 M12	403	466,7	176	110	183	6	307	261	140	28,0	95,0	105,5	0,47	0,57	0,80	19,0	15,9	48,5	83,4		
66	7,5-9	18	571,5	542,9	12x30°	17 M16	440	571,5	200	135	174	18	316	252,5	155	29,5	96,0	114,5	1,70	1,17	1,24	38,9	20,3	58,8	118,0		
70	11,5-13	21	673,1	641,4	24x15°	17 M16	547	584	230	150	192	18	337,5	300,5	160	26,5	106,0	114,0	3,17	1,41	2,74	52,2	22,2	90,6	165,0		
72	15-18	21	673,1	641,4	24x15°	17 M16	605	673,1	240	165	210	20	372	320	180	32,5	116,0	126,5	3,97	2,55	4,72	62,5	31,5	126,8	220,8		
75	20-25	24	733,4	692,2	24x15°	19 M18	615	733,4	270	170	238	25	419,5	345,5	200	37,5	132,5	144,5	6,43	4,68	6,44	84,1	50,5	162,4	297,0		
78	31,5-40	-	800	770	32x11,25°	19 M18	740	800	300	200	260	25	466	412	220	40,5	143,0	159,5	10,24	6,89	12,63	113,1	61,4	228,0	402,5		
80	40-50	-	885	820	48x7,5°	17 M16	785	885	340	240	296	30	524	441	250	54,0	164,5	183,5	14,90	11,95	19,78	135,8	85,1	298,8	519,7		
81	50-63	-	920	880	32x11,25°	19 M18	785	920	340	240	298	30	526	443	250	40,0	165,5	189,0	22,77	15,20	20,36	225,5	115,0	317,6	658,1		
82	63-80	-	1105	1060	32x11,25°	21 M20	898	1105	390	280	331	30	585	471,5	280	42,5	182,0	206,5	48,37	28,16	39,79	302,3	136,1	451,6	890,0		
84	80-100	-	1105	1060	32x11,25°	21 M20	898	1105	390	280	330	30	584	470,5	280	43,5	181,5	208,0	49,91	30,38	41,33	308,6	145,6	457,9	912,1		
85	90-115	-	1070	1025	32x11,25°	23,5 M22	898	1070	390	280	333	20	587	473,5	280	44,0	184,5	198,5	43,38	28,72	40,52	291,3	148,4	459,7	899,4		
88	110-140	-	1260	1225	48x7,5°	21,5 M20	1032	1260	450	320	391	30	795	576,5	385	51,5	212,5	319,0	97,88	60,82	121,60	432,1	214,1	908,7	1554,9		

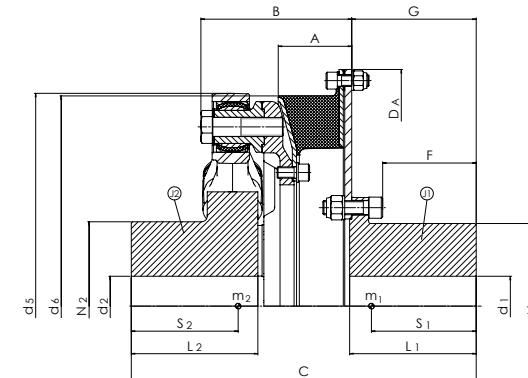
# CENTAX-SEC

## SERIES 00-LSS1

### SHAFT-SHAFT

#### ONE RING ELEMENT AND LINK COUPLING

OUTER HUB



DIMENSIONS		↓ SIZES 52-85																					
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub>	d <sub>5</sub>	d <sub>6</sub>	N <sub>1</sub>	N <sub>2</sub>	d <sub>1</sub> max	d <sub>2</sub> max	A	B	C	F	G	L <sub>1</sub>	L <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub> [kgm <sup>2</sup> ]	m <sub>1</sub> [kg]	m <sub>2</sub> [kg]	m <sub>total</sub> [kg]	
52	2,25-3,5	466,7	382	380	160	140	115	100	86,0	165,5	355	97	123	125	125	102,5	112,0	0,48	0,41	24,5	27,1	51,6	
56	2,9-4,4	466,7	382	380	160	140	115	100	87	166,5	356	97	123	125	125	103,0	113,0	0,50	0,42	24,8	27,6	52,4	
64	5,5-6,5	466,7	403	418	165	154	118	110	96,5	174,5	393,5	105,5	137,5	140	140	119,0	126,0	0,66	0,70	32,6	41,4	74,0	
66	7,5-9	571,5	440	477	185	200	130	135	86	164,5	413,5	120,5	152,5	155	155	130,5	128,0	1,54	1,12	47,8	53,3	101,1	
70	11,5-13	584	547	540	210	230	150	150	96,5	205	441	117	157	160	160	134,0	134,5	1,92	2,51	58,3	83,4	141,7	
72	15-18	673,1	605	598	235	240	165	165	104,5	214,5	490,5	133	177	180	180	149,0	152,0	3,50	4,28	82,4	115,8	198,2	
75	20-25	733,4	615	650	235	270	170	170	116	223,5	538,5	148	196	200	200	172,5	167,5	5,46	6,02	104,0	152,4	256,4	
78	31,5-40	800	740	730	278	300	200	200	129	281	606,5	168	216	220	220	185,5	189,0	8,80	11,75	141,6	212,0	353,6	
80	40-50	885	785	820	303	340	215	240	147	292	676,5	185	245	250	250	212,0	212,0	15,54	18,13	205,3	275,3	480,6	
81	50-63	920	785	820	325	340	232	240	148	293	692,5	203	260	265	250	224,5	222,0	19,04	19,68	242,5	304,5	547,0	
82	63-80	1105	898	1000	388	390	280	280	164,5	305	749,5	215	275	280	280	232,0	236,0	37,16	36,61	326,9	418,8	745,7	
84	80-100	1105	898	1000	388	390	280	280	164	304,5	749	215	275	280	280	233,0	238,0	38,28	38,15	331,7	425,0	756,7	
85	90-115	1070	898	1000	388	390	280	280	164	304,5	749	215	275	280	280	233,0	240,5	36,19	38,45	335,0	435,5	770,5	

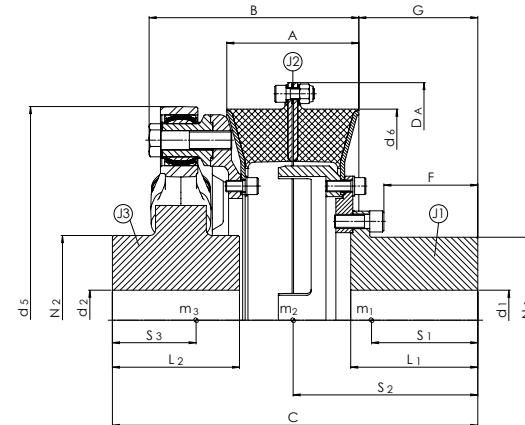
# CENTAX-SEC

## SERIES 00-LSS2

### SHAFT-SHAFT

#### TWO RING ELEMENTS AND LINK COUPLING

##### INNER HUB



DIMENSIONS				↓ SIZES 52-85																					
Size	T <sub>KN</sub> [kNm]	Dimensions															Distance centre of gravity, moments of inertia and masses								
		D <sub>A</sub>	d <sub>5</sub>	d <sub>6</sub>	N <sub>1</sub>	N <sub>2</sub>	d <sub>1</sub> max	d <sub>2</sub> max	A	B	C	F	G	L <sub>1</sub>	L <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub> [kg]	m <sub>total</sub>
52	2,25-3,5	466,7	382	380	160	147	115	100	158	237,5	390	97	118	125	125	115,0	196,5	88,0	0,33	0,36	0,41	26,7	9,6	28,1	64,4
56	2,9-4,4	466,7	382	380	160	147	115	100	160	239,5	392	97	118	125	125	115,5	197,5	88,5	0,34	0,38	0,43	27,1	10,2	28,5	65,8
64	5,5-6,5	466,7	403	418	165	176	118	110	175	253	420	110	121	140	140	115,0	208,0	98,5	0,37	0,57	0,73	27,4	15,9	43,7	87,0
66	7,5-9	571,5	440	477	185	200	130	135	154	232,5	442,5	120,5	146,5	155	155	133,5	222,5	108,0	0,80	1,17	1,12	43,2	20,3	53,3	116,8
70	11,5-13	584,0	547	540	210	230	150	150	171	279,5	467,5	117	151	160	160	136,0	236,0	107,5	1,31	1,41	2,51	55,3	22,2	83,4	160,9
72	15-18	673,1	605	598	235	240	165	165	187	297	517,5	133	168,5	180	180	150,5	261,5	118,5	2,17	2,55	4,28	76,5	31,5	115,9	223,9
75	20-25	733,4	615	650	235	270	170	170	210	317,5	575,5	148	184	200	200	171,0	288,5	138,5	3,07	4,68	6,02	90,3	50,5	152,4	293,2
78	31,5-40	800	740	730	278	300	200	200	232	384	646,5	168	208,5	220	220	187,0	323,5	151,5	5,41	6,89	11,75	127,2	61,4	212,0	400,6
80	40-50	885	785	820	303	340	215	240	262	407	719,5	185	229,5	250	250	209,5	360,0	173,5	9,43	11,95	18,15	180,0	85,1	275,5	540,6
81	50-63	920	785	820	325	340	232	240	264	409	755	203	263	265	250	225,0	394,5	181,0	8,95	15,20	19,50	182,1	115,0	297,4	594,5
82	63-80	1105	898	1000	388	390	280	280	297	437,5	811,5	215	260,5	280	280	230,0	408,5	197,0	21,37	28,16	36,64	289,2	136,1	419,6	844,9
84	80-100	1105	898	1000	388	390	280	280	296	436,5	810,5	215	260,5	280	280	232,0	408,0	199,0	22,91	30,38	38,18	295,5	145,6	425,9	867,0
85	90-115	1070	898	1000	388	390	280	280	296	436,5	829	215	279	280	280	242,0	426,5	201,0	23,87	28,72	38,48	322,4	148,4	436,2	907,0

# CENTAX-SEC

## SERIES 100

### TECHNICAL DATA

<b>Series 100-G</b>	One ring element and membrane	Sizes 176-186 .....Page 100-2
		Sizes 187-194 .....Page 100-3
	Two ring elements and membrane	Sizes 176-186 .....Page 100-4
		Sizes 187-194 .....Page 100-5
<b>Series 100-L</b>	One ring element and link coupling	Sizes 176-184 .....Page 100-6
	Two ring elements and link coupling	Sizes 176-184 .....Page 100-7

### ABMESSUNGEN

<b>Series 100-GFS1</b>	Sizes 176-194 .....Page 100-8
<b>Series 100-GSS1</b>	Sizes 176-194 .....Page 100-12
<b>Series 100-GFS2</b>	Sizes 176-194 .....Page 100-9
<b>Series 100-GFS2</b> with failsafe device	Sizes 176-194 .....Page 100-10
<b>Series 100-GFS2</b> Inner Hub	Sizes 176-194 .....Page 100-11
<b>Series 100-GSS2</b>	Sizes 176-194 .....Page 100-13
<b>Series 100-LFS1</b>	Sizes 176-184 .....Page 100-14
<b>Series 100-LSS1</b>	Sizes 176-184 .....Page 100-17
<b>Series 100-LFS2</b>	Sizes 176-184 .....Page 100-15
<b>Series 100-LFS2</b> with failsafe device	Sizes 176-184 .....Page 100-16
<b>Series 100-LSS2</b>	Sizes 176-184 .....Page 100-18

# CENTAX-SEC

## SERIES 100-G

ONE RING ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 176-186				→ SIZES 187-194							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
176	50	25,00	75,00	6,25	165,00	6,60	0,65	1,05	±6	1,12	5,50	3,50	0,5	2200
	60	30,00	90,00	7,50	210,00	7,00	0,68	1,10			5,50	4,30		
	70	33,00	99,00	8,25	360,00	10,91	0,72	1,15			3,30	7,30		
177	50	31,50	94,50	7,88	230,00	7,30	0,71	1,05	±6	1,20	6,00	3,90	0,5	2000
	60	37,50	112,50	9,38	290,00	7,73	0,75	1,10			6,00	4,70		
	70	44,00	132,00	11,00	510,00	11,59	0,78	1,15			3,60	8,00		
179	50	40,00	120,00	10,00	290,00	7,25	0,78	1,05	±6	1,15	7,00	4,20	0,5	1870
	60	48,00	144,00	12,00	365,00	7,60	0,82	1,10			7,00	5,20		
	70	55,00	165,00	13,75	640,00	11,64	0,86	1,15			4,20	8,80		
181	50	50,00	150,00	12,50	340,00	6,80	0,85	1,05	±7	1,15	7,00	4,20	0,5	1725
	60	60,00	180,00	15,00	430,00	7,17	0,89	1,10			7,00	5,10		
	70	70,00	210,00	17,50	748,00	10,69	0,94	1,15			4,20	8,70		
183	50	63,00	189,00	15,75	445,00	7,06	0,93	1,05	±7	1,18	7,50	4,80	0,5	1600
	60	80,00	240,00	20,00	555,00	6,94	0,98	1,10			7,50	5,80		
	70	90,00	270,00	22,50	975,00	10,83	1,02	1,15			4,50	9,90		
184	50	80,00	240,00	20,00	600,00	7,50	1,02	1,05	±7	1,18	8,00	5,00	0,5	1500
	60	100,00	300,00	25,00	750,00	7,50	1,07	1,10			8,00	6,20		
	70	110,00	330,00	27,50	1320,00	12,00	1,12	1,15			4,80	10,40		
185	50	100,00	300,00	25,00	720,00	7,20	1,12	1,05	±8	1,19	8,00	5,30	0,5	1300
	60	125,00	375,00	31,25	900,00	7,20	1,17	1,10			8,00	6,50		
	70	145,00	435,00	36,25	1580,00	10,90	1,23	1,15			4,80	10,50		
186	50	125,00	375,00	31,25	875,00	7,00	1,21	1,05	±9	1,20	8,00	5,70	0,5	1200
	60	160,00	480,00	40,00	1090,00	6,81	1,27	1,10			8,00	7,00		
	70	180,00	540,00	45,00	1920,00	10,67	1,33	1,15			4,80	11,90		

# CENTAX-SEC

## SERIES 100-G

ONE RING ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 187-194				← SIZES 176-186							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
187	50	180,00	540,00	45,00	1250,00	6,94	1,40	1,05	±9	1,20	8,00	7,30	0,5	1100
	60	220,00	660,00	55,00	1560,00	7,09	1,47	1,10			8,00	8,90		
	70	250,00	750,00	62,50	2745,00	10,98	1,54	1,15			4,80	15,10		
188	50	220,00	660,00	55,00	1430,00	6,50	1,55	1,05	±9	1,20	8,00	8,10	0,5	1000
	60	260,00	780,00	65,00	1790,00	6,88	1,63	1,10			8,00	9,80		
	70	280,00	840,00	70,00	3175,00	11,34	1,71	1,15			4,80	16,60		
190	50	275,00	825,00	68,75	1870,00	6,80	1,69	1,05	±13	1,25	8,00	8,10	0,5	900
	60	330,00	990,00	82,50	2340,00	7,09	1,78	1,10			8,00	9,90		
	70	370,00	1110,00	92,50	4110,00	11,11	1,86	1,15			4,80	16,80		
192	50	320,00	960,00	80,00	2500,00	7,81	1,80	1,05	±14	1,30	8,00	9,00	0,5	850
	60	400,00	1200,00	100,00	3125,00	7,81	1,89	1,10			8,00	11,10		
	70	440,00	1320,00	110,00	5500,00	12,50	1,98	1,15			4,80	18,70		
193	50	380,00	1140,00	95,00	3000,00	7,89	1,93	1,05	±14	1,40	8,00	10,20	0,5	800
	60	460,00	1380,00	115,00	3750,00	8,15	2,03	1,10			8,00	12,40		
	70	510,00	1530,00	127,50	6600,00	12,94	2,12	1,15			4,80	21,00		
194	50	440,00	1320,00	110,00	3360,00	7,64	2,05	1,05	±15	1,70	8,00	10,50	0,5	750
	60	530,00	1590,00	132,50	4200,00	7,92	2,15	1,10			8,00	12,90		
	70	585,00	1755,00	146,25	7400,00	12,65	2,25	1,15			4,80	21,80		

# CENTAX-SEC

## SERIES 100-G

TWO RING ELEMENTS AND MEMBRANE



TECHNICAL DATA			↓ SIZES 176-186				→ SIZES 187-194							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}$ ]	$n_{max}$ [min $^{-1}$ ]
176	50	25,00	75,00	6,25	83,00	3,32	1,30	1,05	$\pm 6$	1,12	11,00	1,80	0,5	2200
	60	30,00	90,00	7,50	105,00	3,50	1,37	1,10			11,00	2,20		
	70	33,00	99,00	8,25	180,00	5,45	1,43	1,15			6,60	3,70		
177	50	31,50	94,50	7,88	115,00	3,65	1,42	1,05	$\pm 6$	1,20	12,00	2,00	0,5	2000
	60	37,50	112,50	9,38	145,00	3,87	1,49	1,10			12,00	2,40		
	70	44,00	132,00	11,00	255,00	5,80	1,56	1,15			7,20	4,00		
179	50	40,00	120,00	10,00	145,00	3,63	1,56	1,05	$\pm 6$	1,15	14,00	2,10	0,5	1870
	60	48,00	144,00	12,00	183,00	3,81	1,64	1,10			14,00	2,60		
	70	55,00	165,00	13,75	320,00	5,82	1,72	1,15			8,40	4,40		
181	50	50,00	150,00	12,50	170,00	3,40	1,70	1,05	$\pm 7$	1,15	14,00	2,10	0,5	1725
	60	60,00	180,00	15,00	215,00	3,58	1,79	1,10			14,00	2,60		
	70	70,00	210,00	17,50	374,00	5,34	1,87	1,15			8,40	4,40		
183	50	63,00	189,00	15,75	223,00	3,54	1,86	1,05	$\pm 7$	1,18	15,00	2,40	0,5	1600
	60	80,00	240,00	20,00	278,00	3,48	1,95	1,10			15,00	2,90		
	70	90,00	270,00	22,50	488,00	5,42	2,05	1,15			9,00	5,00		
184	50	80,00	240,00	20,00	300,00	3,75	2,04	1,05	$\pm 7$	1,18	16,00	2,50	0,5	1500
	60	100,00	300,00	25,00	375,00	3,75	2,14	1,10			16,00	3,10		
	70	110,00	330,00	27,50	660,00	6,00	2,24	1,15			9,60	5,20		
185	50	100,00	300,00	25,00	360,00	3,60	2,24	1,05	$\pm 8$	1,19	16,00	2,70	0,5	1300
	60	125,00	375,00	31,25	450,00	3,60	2,34	1,10			16,00	3,30		
	70	145,00	435,00	36,25	790,00	5,45	2,46	1,15			9,60	5,30		
186	50	125,00	375,00	31,25	438,00	3,50	2,42	1,05	$\pm 9$	1,20	16,00	2,90	0,5	1200
	60	160,00	480,00	40,00	545,00	3,41	2,54	1,10			16,00	3,50		
	70	180,00	540,00	45,00	960,00	5,33	2,66	1,15			9,60	6,00		

# CENTAX-SEC

## SERIES 100-G

TWO RING ELEMENTS AND MEMBRANE



TECHNICAL DATA			↓ SIZES 187-194				← SIZES 176-186							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}$ ]	$n_{max}$ [min $^{-1}$ ]
187	50	180,00	540,00	45,00	625,00	3,47	2,80	1,05	$\pm 9$	1,20	16,00	3,70	0,5	1100
	60	220,00	660,00	55,00	780,00	3,55	2,94	1,10			16,00	4,50		
	70	250,00	750,00	62,50	1373,00	5,49	3,08	1,15			9,60	7,60		
188	50	220,00	660,00	55,00	715,00	3,25	3,10	1,05	$\pm 9$	1,20	16,00	4,10	0,5	1000
	60	260,00	780,00	65,00	895,00	3,44	3,26	1,10			16,00	4,90		
	70	280,00	840,00	70,00	1588,00	5,67	3,41	1,15			9,60	8,30		
190	50	275,00	825,00	68,75	935,00	3,40	3,25	1,05	$\pm 13$	1,25	16,00	4,00	0,5	900
	60	330,00	990,00	82,50	1170,00	3,55	3,41	1,10			16,00	5,00		
	70	370,00	1110,00	92,50	2055,00	5,55	3,58	1,15			9,60	8,40		
192	50	320,00	960,00	80,00	1250,00	3,91	3,20	1,05	$\pm 14$	1,30	16,00	4,50	0,5	850
	60	400,00	1200,00	100,00	1562,50	3,91	3,36	1,10			16,00	5,50		
	70	440,00	1320,00	110,00	2750,00	6,25	3,52	1,15			9,60	9,30		
193	50	380,00	1140,00	95,00	1500,00	3,95	3,70	1,05	$\pm 14$	1,40	16,00	5,10	0,5	800
	60	460,00	1380,00	115,00	1875,00	4,08	3,89	1,10			16,00	6,20		
	70	510,00	1530,00	127,50	3300,00	6,47	4,07	1,15			9,60	10,50		
194	50	440,00	1320,00	110,00	1680,00	3,82	3,71	1,05	$\pm 15$	1,70	16,00	5,30	0,5	750
	60	530,00	1590,00	132,50	2100,00	3,96	3,90	1,10			16,00	6,50		
	70	585,00	1755,00	146,25	3700,00	6,32	4,08	1,15			9,60	10,90		

# CENTAX-SEC

## SERIES 100-L



### ONE RING ELEMENT AND LINK COUPLING

TECHNICAL DATA			↓ SIZES 176-184											
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
176	50	25,00	75,00	6,25	165,00	6,60	0,65	1,05	13	0,75	5,50	3,50	1	2200
	60	30,00	90,00	7,50	210,00	7,00	0,68	1,10						
	70	33,00	99,00	8,25	360,00	10,91	0,72	1,15						
177	50	31,50	94,50	7,88	230,00	7,30	0,71	1,05	18	1,10	6,00	3,90	1	2000
	60	37,50	112,50	9,38	290,00	7,73	0,75	1,10						
	70	44,00	132,00	11,00	510,00	11,59	0,78	1,15						
179	50	40,00	120,00	10,00	290,00	7,25	0,78	1,05	18	1,10	7,00	4,20	1	1870
	60	48,00	144,00	12,00	365,00	7,60	0,82	1,10						
	70	55,00	165,00	13,75	640,00	11,64	0,86	1,15						
181	50	50,00	150,00	12,50	340,00	6,80	0,85	1,05	18	1,10	7,00	4,20	1	1725
	60	60,00	180,00	15,00	430,00	7,17	0,89	1,10						
	70	70,00	210,00	17,50	748,00	10,69	0,94	1,15						
183	50	63,00	189,00	15,75	445,00	7,06	0,93	1,05	18	1,10	7,50	4,80	1	1600
	60	80,00	240,00	20,00	555,00	6,94	0,98	1,10						
	70	90,00	270,00	22,50	975,00	10,83	1,02	1,15						
184	50	80,00	240,00	20,00	600,00	7,50	1,02	1,05	18	1,10	8,00	5,00	1	1500
	60	100,00	300,00	25,00	750,00	7,50	1,07	1,10						
	70	110,00	330,00	27,50	1320,00	12,00	1,12	1,15						

# CENTAX-SEC

## SERIES 100-L

TWO RING ELEMENTS AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 176-184											
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{ }^\circ$ ]	$n_{max}$ [min $^{-1}$ ]
176	50	25,00	75,00	6,25	83,00	3,32	1,30	1,05	13	0,75	11,00	1,80	1	2200
	60	30,00	90,00	7,50	105,00	3,50	1,37	1,10			11,00	2,20	3,70	
	70	33,00	99,00	8,25	180,00	5,45	1,43	1,15			6,60			
177	50	31,50	94,50	7,88	115,00	3,65	1,42	1,05	18	1,10	12,00	2,00	1	2000
	60	37,50	112,50	9,38	145,00	3,87	1,49	1,10			12,00	2,40		
	70	44,00	132,00	11,00	255,00	5,80	1,56	1,15			7,20	4,00		
179	50	40,00	120,00	10,00	145,00	3,63	1,56	1,05	18	1,10	14,00	2,10	1	1870
	60	48,00	144,00	12,00	183,00	3,81	1,64	1,10			14,00	2,60		
	70	55,00	165,00	13,75	320,00	5,82	1,72	1,15			8,40	4,40		
181	50	50,00	150,00	12,50	170,00	3,40	1,70	1,05	18	1,10	14,00	2,10	1	1725
	60	60,00	180,00	15,00	215,00	3,58	1,79	1,10			14,00	2,60		
	70	70,00	210,00	17,50	374,00	5,34	1,87	1,15			8,40	4,40		
183	50	63,00	189,00	15,75	223,00	3,54	1,86	1,05	18	1,10	15,00	2,40	1	1600
	60	80,00	240,00	20,00	278,00	3,48	1,95	1,10			15,00	2,90		
	70	90,00	270,00	22,50	488,00	5,42	2,05	1,15			9,00	5,00		
184	50	80,00	240,00	20,00	300,00	3,75	2,04	1,05	18	1,10	16,00	2,50	1	1500
	60	100,00	300,00	25,00	375,00	3,75	2,14	1,10			16,00	3,10		
	70	110,00	330,00	27,50	660,00	6,00	2,24	1,15			9,60	5,20		

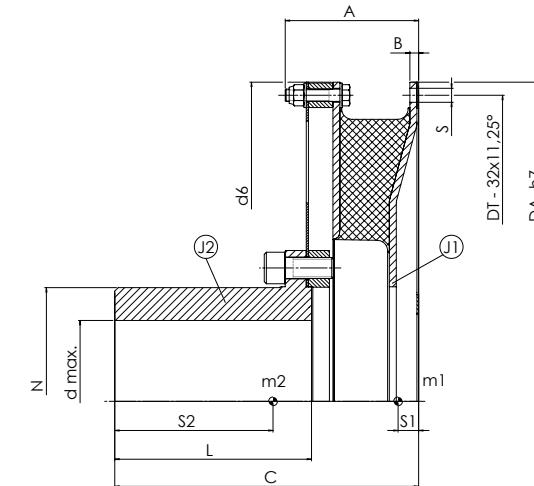
# CENTAX-SEC

## SERIES 100-GFS1

### FLYWHEEL-SHAFT

#### ONE RING ELEMENT AND MEMBRANE

OUTER HUB



DIMENSIONS			↓ SIZES 176-194															
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	S-bolt	d <sub>6</sub>	N	d max	A	B	C	L	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub> [kg]	m <sub>total</sub>
176	25-33	730	700	16 M14	730	260	185	152,5	10	347,5	225	22,5	182,5	2,4	4,4	33,0	104,3	137,3
177	31,5-44	790	755	18 M16	790	280	200	164	10	365	235	23,5	191,5	3,5	6,3	40,4	128,7	169,1
179	40-55	860	820	20 M18	860	310	220	172	10	388	250	25,5	199,5	4,9	8,8	47,8	155,5	203,3
181	50-70	920	880	20 M18	920	330	235	195	10	444	285	29,5	228,5	6,8	13,3	56,5	199,4	255,9
183	63-90	995	950	22 M20	995	360	255	211	10	465	300	32,5	239,0	9,3	19,2	66,9	253,7	320,6
184	80-110	1070	1025	24 M22	1070	390	275	220	10	484	310	36,0	246,0	13,0	26,9	79,6	310,0	389,6
185	100-145	1160	1110	26 M24	1160	390	275	236	12	563	370	40,0	296,0	21,2	39,1	111,3	377,1	488,4
186	125-180	1240	1190	26 M24	1240	450	320	254	12	586	385	42,0	298,0	28,1	53,0	128,7	463,7	592,4
187	180-250	1355	1295	30 M27	1355	480	340	266	12	614	400	47,0	315,0	42,6	79,1	163,9	584,8	748,7
188	220-280	1460	1395	33 M30	1460	520	370	319	14	742	480	62,5	379,0	79,4	138,3	232,0	815,5	1047,5
190	275-370	1565	1500	33 M30	1565	550	390	319	17	767	500	60,0	388,0	104,2	166,7	302,5	906,6	1209,1
192	320-440	1685	1615	36 M33	1685	660	475	326	17	798	520	65,0	404,0	144,0	240,7	354,8	1115,9	1470,7
193	380-510	1738	1675	36 M33	1738	660	475	326	17	798	520	62,0	410,0	168,2	268,0	390,1	1152,9	1543,0
194	440-585	1790	1726	36 M33	1790	660	475	330	17	804	520	64,0	415,0	189,9	294,4	411,0	1180,1	1591,1

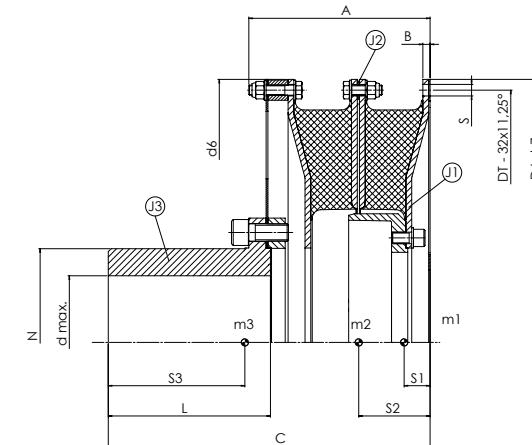
# CENTAX-SEC

## SERIES 100-GFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND MEMBRANE

##### OUTER HUB



DIMENSIONS				↓ SIZES 176-194																			
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	S-bolt	$d_6$	Dimensions								Distance centre of gravity, moments of inertia and masses									
						N	$d_{max}$	A	B	C	L	$S_1$	$S_2$	$S_3$	$J_1$	$J_2$ [kgm <sup>2</sup> ]	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$		
176	25-33	730	700	16 M14	730	260	185	251,5	10	446,5	225	34,5	99,0	189,0	2,8	4,5	4,7	48,8	56,4	109,4	214,6		
177	31,5-44	790	755	18 M16	790	280	200	270	10	471	235	36,5	106,0	198,5	4,1	6,3	6,8	60,7	68,2	135,7	264,6		
179	40-55	860	820	20 M18	860	310	220	286	10	502	250	38,0	114,0	206,0	5,6	9,2	9,5	67,5	85,3	162,0	314,8		
181	50-70	920	880	20 M18	920	330	235	326	10	573	285	47,5	129,0	233,5	8,2	14,1	13,5	87,2	110,5	201,9	399,6		
183	63-90	995	950	22 M20	995	360	255	348	10	600	300	50,0	135,0	243,0	10,9	19,8	19,4	99,7	136,1	254,6	490,4		
184	80-110	1070	1025	24 M22	1070	390	275	366	10	628	310	56,0	144,0	252,0	15,6	27,2	27,5	124,5	157,8	313,4	595,7		
185	100-145	1160	1110	26 M24	1160	390	275	400	12	725	370	63,0	162,0	304,0	25,3	43,8	40,3	170,5	217,1	384,2	771,8		
186	125-180	1240	1190	26 M24	1240	450	320	427	12	757	385	64,0	171,0	305,0	33,2	58,4	54,0	193,3	255,7	468,3	917,3		
187	180-250	1355	1295	30 M27	1355	480	340	451	12	797	400	68,0	183,0	322,0	48,3	89,8	80,6	232,0	337,4	586,1	1155,5		
188	220-280	1460	1395	33 M30	1460	520	370	551	14	971	480	79,0	229,0	386,0	75,0	164,3	132,6	295,3	527,7	799,3	1622,3		
190	275-370	1565	1500	33 M30	1565	550	390	542	17	993	500	74,0	226,0	360,0	111,5	190,6	183,3	373,3	534,8	956,7	1864,8		
192	320-440	1685	1615	36 M33	1685	660	475	567	17	1032	520	80,0	234,0	425,0	154,8	261,3	267,7	439,2	621,3	1176,0	2326,5		
193	380-510	1738	1675	36 M33	1738	660	475	567	17	1032	520	77,0	234,0	431,0	179,0	302,8	299,1	474,4	683,8	1216,5	2374,7		
194	440-585	1790	1726	36 M33	1790	660	475	575,	17	1042	520	79,0	238,0	435,0	203,3	344,8	327,0	503,4	728,9	1241,2	2473,5		

# CENTAX-SEC

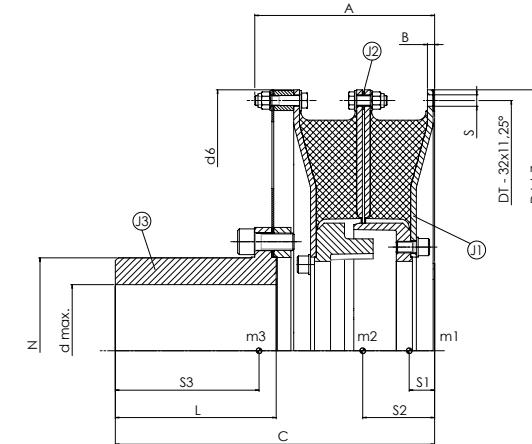
## SERIES 100-GFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND MEMBRANE

WITH FAILSAFE DEVICE

OUTER HUB



DIMENSIONS				↓ SIZES 176-194																	
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	s - bolt	d <sub>6</sub>	N	d max	A	B	C	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>total</sub>
176	25-33	730	700	16 M14	730	260	185	251,5	10	446,5	225	34,5	99,0	200,0	2,8	4,5	5,0	48,8	56,4	121,5	226,7
177	31,5-44	790	755	18 M16	790	280	200	270	10	471	235	36,5	106,0	210,0	4,1	6,3	7,3	60,7	68,2	151,3	280,2
179	40-55	860	820	20 M18	860	310	220	286	10	502	250	38,0	114,0	215,5	5,6	9,2	10,0	67,6	85,3	175,8	328,7
181	50-70	920	880	20 M18	920	330	235	326	10	573	285	47,5	129,0	248,0	8,2	14,1	14,4	87,2	110,5	224,0	421,7
183	63-90	995	950	22 M20	995	360	255	348	10	600	300	50,0	135,0	257,0	10,9	19,8	20,5	99,7	136,1	278,8	514,6
184	80-110	1070	1025	24 M22	1070	390	275	366	10	628	310	56,0	144,0	268,0	15,6	27,2	29,4	124,5	157,8	347,5	629,8
185	100-145	1160	1110	26 M24	1160	390	275	400	12	725	370	63,0	162,0	323,0	25,3	43,8	43,3	170,5	217,1	428,5	816,1
186	125-180	1240	1190	26 M24	1240	450	320	427	12	757	385	64,0	171,0	324,0	33,2	58,4	57,6	193,3	255,7	515,8	964,8
187	180-250	1355	1295	30 M27	1355	480	340	451	12	797	400	68,0	183,0	339,0	48,3	89,8	84,9	232,0	337,4	639,5	1208,9
188	220-280	1460	1395	33 M30	1460	520	370	541	14	971	480	80,0	229,0	401,0	75,0	164,7	135,5	295,3	528,3	840,9	1664,5
190	275-370	1565	1500	36 M33	1565	550	390	542	17	993	500	74,0	226,0	425,0	111,5	190,7	190,3	373,3	534,8	1022,9	1931,0
192	320-440	1685	1615	36 M33	1685	600	430	567	17	1032	520	80,0	234,0	445,0	154,8	261,3	279,0	439,2	621,3	1266,3	2326,8
193	380-510	1738	1675	36 M33	1738	600	430	567	17	1032	520	77,0	234,0	450,0	179,0	302,8	310,5	474,4	683,8	1306,8	2465,0
194	440-585	1790	1726	36 M33	1790	600	430	575	17	1042	520	79,0	238,0	454,0	203,3	344,8	340,5	503,4	728,9	1335,6	2567,9

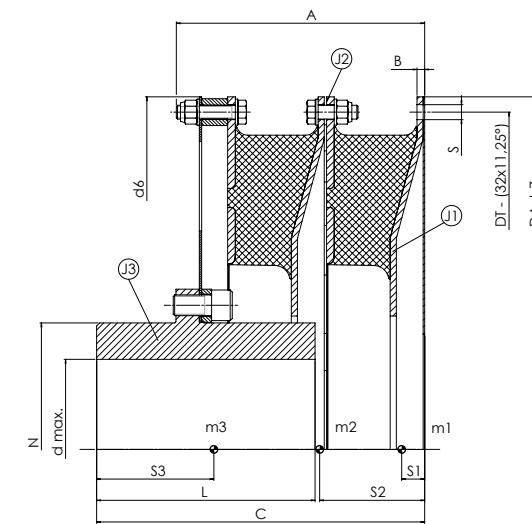
# CENTAX-SEC

## SERIES 100-GFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND MEMBRANE

##### INNER HUB



DIMENSIONS				↓ SIZES 176-194																	
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	S-bolt	d <sub>6</sub>	Dimensions N	d max	A	B	C	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>total</sub>
176	25-33	730	700	16 M14	730	260	185	251,5	10	338	225	22,5	105,5	122,0	2,4	4,9	4,3	33,0	61,6	98,7	193,3
177	31,5-44	790	755	18 M16	790	280	195	270	10	355	235	23,5	112,5	125,0	3,5	6,9	6,1	40,4	75,2	122,6	238,2
179	40-55	860	820	20 M18	860	310	220	286	10	378	250	25,0	121,0	135,0	4,9	9,9	8,7	47,8	91,7	150,4	289,9
181	50-70	920	880	20 M18	920	330	235	324	10	428	285	30,0	137,0	153,0	6,8	14,3	13,1	56,5	112,8	193,2	363,9
183	63-90	995	950	22 M20	995	360	255	346	10	449	300	32,0	142,0	161,0	9,3	20,0	18,6	66,9	137,0	245,0	448,9
184	80-110	1070	1025	24 M22	1070	385	275	364	10	468	310	36,0	153,0	164,0	13,0	27,5	26,0	79,5	160,3	291,5	531,3
185	100-145	1160	1110	26 M24	1160	420	300	398	12	547	370	40,0	173,0	201,0	21,2	45,1	39,7	111,3	224,1	384,8	720,6
186	125-180	1240	1190	26 M24	1240	395	285 [320]	415	12	570	385	42,0	181,0	218,0	27,8	59,4	51,6	127,6	260,1	463,9	851,6
187	180-250	1355	1295	30 M27	1355	425	305 [340]	439	12	597	400	47,0	195,0	220,0	42,1	91,0	78,1	163,9	338,1	595,1	1097,1
188	220-280	1460	1395	33 M30	1460	460	330 [365]	539	14	724	480	63,0	245,0	261,0	69,4	159,1	134,9	232,0	508,2	819,8	1560,0
190	275-370	1565	1500	33 M30	1565	550	345 [390]	545	17	739	500	60,0	245,0	276,0	104,2	206,9	165,5	302,5	580,2	939,5	1822,2
192	320-440	1685	1615	36 M33	1685	595	425 [475]	570	17	766	520	65,0	255,0	281,0	144,0	284,8	254,6	354,8	677,2	1233,4	2265,4
193	380-510	1738	1675	36 M33	1738	660	425 [475]	570	17	766	520	62,0	254,0	283,0	168,2	330,1	282,2	390,1	742,9	1270,4	2403,4
194	440-585	1790	1726	36 M33	1790	595	425 [475]	578	17	778	520	64,0	256,0	289,0	189,9	373,3	311,7	411,0	785,6	1325,0	2521,6

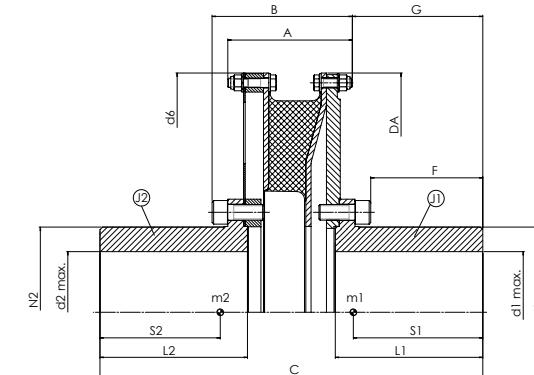
# CENTAX-SEC

## SERIES 100-GSS1

### SHAFT-SHAFT

#### ONE RING ELEMENT AND MEMBRANE

OUTER HUB



DIMENSIONS		↓ SIZES 176-188																
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub>	d <sub>6</sub>	N <sub>1</sub> - N <sub>2</sub>	d <sub>1</sub> - d <sub>2</sub> max	A	B	C	F	G	L <sub>1</sub> - L <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub> [kg]	m <sub>total</sub>
176	25-33	730	730	260	185	190	214	584	171	199	225	196,5	182,5	7,5	4,4	146,4	104,3	250,7
177	31,5-44	790	790	280	200	206	226	611,5	181	204,5	235	205,5	191,5	10,9	6,3	179,4	128,7	308,1
179	40-55	860	860	310	220	219	239	651,5	196	216,5	250	218,0	199,5	16,7	8,8	229,8	155,5	385,3
181	50-70	920	920	330	235	242	269,5	742,5	221,5	251,5	285	245,0	228,5	22,4	13,3	275,8	199,4	475,2
183	63-90	995	995	360	255	268	291	781,5	231	259,5	300	258,5	239,0	33,8	19,1	354,9	253,7	608,5
184	80-110	1070	1070	390	275	277	300	810,5	241	269,5	310	266,0	246,0	46,4	26,9	425,0	310,0	735,0
185	100-145	1160	1160	390	275	300	326	949,5	301	322,5	370	320,0	296,0	68,1	39,1	524,3	378,1	902,4
186	125-180	1240	1240	450	320	318	334	987,5	316	337,5	385	324,0	298,0	89,5	53,0	627,1	463,7	1090,8
187	180-250	1355	1355	480	340	330	371	1035	307	357	400	342,0	315,0	130,9	79,1	779,0	584,8	1363,8
188	220-280	1460	1460	520	370	372	419	1242	385	440	480	405,0	378,0	195,9	136,8	1007,0	807,6	184,6
190	275-370	1565	1565	550	390	388	441,5	1287	394,5	451	500	424,0	388,0	277,2	166,7	1221,6	906,6	2128,2
192	320-440	1685	1685	600	430	394	449,5	1336	416,5	470	520	438,0	404,0	378,3	240,7	1454,5	1115,9	2570,4
193	380-510	1738	1738	600	430	394	449,5	1336	416,5	470	520	443,0	410,0	426,8	268,0	1520,9	1152,9	2673,8
194	440-585	1790	1790	600	430	398	455,5	1342	416,5	470	520	447,0	415,0	473,7	294,4	1572,3	1180,1	2752,4

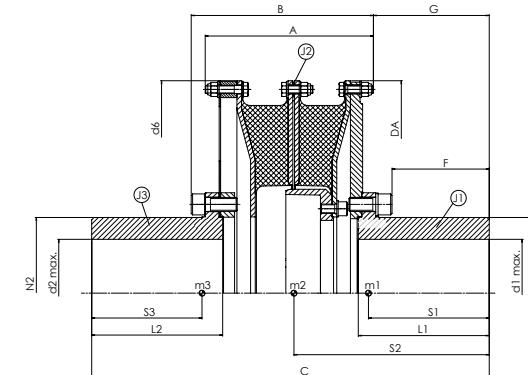
# CENTAX-SEC

## SERIES 100-GSS2

### SHAFT-SHAFT

#### TWO RING ELEMENTS AND MEMBRANE

OUTER HUB



Size	DIMENSIONS		↓ SIZES 176-188													Distance centre of gravity, moments of inertia and masses					
	T <sub>KN</sub> [kNm]	D <sub>A</sub>	d <sub>6</sub>	N <sub>1</sub> - N <sub>2</sub>	d <sub>1</sub> - d <sub>2</sub> max	A	B	C	F	G	L <sub>1</sub> - L <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub>	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>total</sub>
176	25-33	730	730	260	185	289	313	683	167	199	225	206,0	335,5	189,0	8,0	4,5	4,7	163,0	56,4	109,4	328,8
177	31,5-44	790	790	280	200	312	332	717,5	177	204,5	235	216,0	352,5	198,5	11,5	6,3	6,8	200,3	68,2	135,7	404,2
179	40-55	860	860	310	220	333	353	765,5	196	216,5	250	227,0	377,5	206,0	17,4	9,2	9,5	249,5	85,3	162,0	496,8
181	50-70	920	920	330	235	373	398,5	871,5	221,5	251,5	285	258,0	427,5	233,5	23,8	14,1	13,5	306,5	110,5	201,9	618,9
183	63-90	995	995	360	255	405	426	916,5	231	251,5	300	270,5	451,5	243,0	35,3	19,8	19,4	387,8	136,1	254,6	778,5
184	80-110	1070	1070	390	275	423	444	954,5	241	269,5	310	280,5	470,5	252,0	49,0	27,2	27,5	469,9	157,8	313,4	941,1
185	100-145	1160	1160	390	275	464	488	1111,5	301	322,5	370	337,5	548,5	304,0	72,2	43,8	40,3	583,5	217,1	384,2	1184,8
186	125-180	1240	1240	450	320	491	505	1158,5	316	337,5	385	341,0	572,5	305,0	94,6	58,4	54,0	691,8	255,7	468,3	1415,8
187	180-250	1355	1355	480	340	515	554	1218	307	357	400	357,0	604,0	322,0	136,5	89,8	80,6	847,1	337,4	586,1	1770,6
188	220-280	1460	1460	520	370	603	648	1471	385	438	480	418,0	729,0	384,0	201,6	164,7	130,8	1071,0	528,3	787,2	2386,5
190	275-370	1565	1565	550	390	611	667,5	1513	394,5	451	500	434,0	746,0	407,0	283,0	190,7	183,6	1296,3	534,8	959,5	2790,6
192	320-440	1685	1685	600	430	625	683,5	1570	416,5	470	520	451,0	772,0	425,0	388,5	261,3	266,4	1537,7	621,3	1174,8	3333,8
193	380-510	1738	1738	600	430	635	683,5	1570	416,5	470	520	456,0	772,0	430,0	436,8	302,8	299,3	1604,6	683,8	1217,8	3506,2
194	440-585	1790	1790	600	430	643	693,5	1580	416,5	470	520	460,0	776,0	435,0	486,2	344,8	327,2	1664,0	728,9	1242,6	3635,5

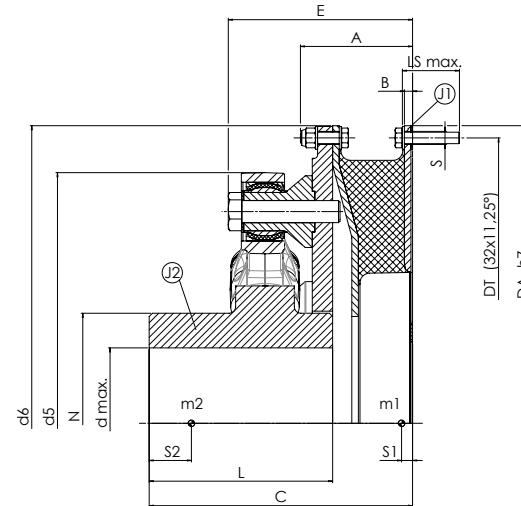
# CENTAX-SEC

## SERIES 100-LFS1

### FLYWHEEL-SHAFT

### ONE RING ELEMENT AND LINK COUPLING

#### INNER HUB



DIMENSIONS		↓ SIZES 176-184																			
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	S-bolt	d <sub>6</sub>	d <sub>6</sub>	N	d max	A	B	C	E	L	LS <sub>max</sub>	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>total</sub>
176	25-33	730	700	16 M14	615	730	270	185	137,5	10	323	226	255	70	13,5	174,5	2,2	10,4	29,0	203,1	232,1
177	31,5-44	790	755	18 M16	740	790	280	200	149	10	352,5	283,5	235	75	15,0	187,5	3,0	18,7	34,9	292,0	326,9
179	40-55	860	820	20 M18	785	860	315	220	162	10	374,5	291,5	250	80	15,5	196,0	4,3	28,1	42,9	375,8	418,7
181	50-70	920	880	20 M18	785	920	340	235	187	12	424,5	306,5	285	95	16,0	228,5	6,7	36,2	56,1	429,5	485,6
183	63-90	995	950	22 M20	898	995	370	255	193	12	444	312,5	300	100	17,0	234,5	9,1	55,1	66,3	570,9	637,2
184	80-110	1070	1025	24 M22	933	1070	400	275	207	12	463	321,5	310	110	18,0	246,0	12,6	71,4	77,0	637,6	714,6

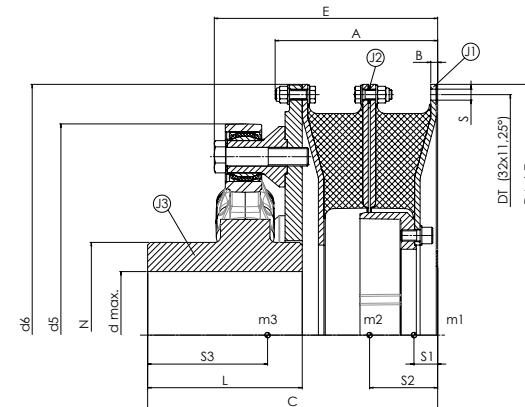
# CENTAX-SEC

## SERIES 100-LFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND LINK COUPLING

##### INNER HUB



Size	DIMENSIONS		↓ SIZES 176-184																					
	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	S-bolt	d <sub>6</sub>	d <sub>6</sub>	N	d max	A	B	C	E	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>total</sub>	
176	25-33	730	700	16 M14	615	730	270	185	236,5	10	422	325	225	34,0	99,0	174,5	2,8	4,6	10,4	47,8	58,4	203,1	309,3	
177	31,5-44	790	755	18 M16	740	790	280	200	255	10	458,5	389,5	235	36,0	106,0	187,5	3,9	6,6	18,7	59,3	71,2	292,0	422,5	
179	40-55	860	820	20 M18	785	860	315	220	276	10	488,5	405,5	250	38,0	114,0	196,0	5,4	9,5	28,1	66,1	88,7	375,8	530,6	
181	50-70	920	880	20 M18	785	920	340	235	316	10	553,5	435,5	285	46,0	129,0	228,5	8,1	14,3	36,2	88,0	112,1	429,5	629,6	
183	63-90	995	950	22 M20	898	995	370	255	328	10	579	447,5	300	50,0	135,0	235,0	10,9	19,9	55,1	99,5	136,6	570,9	807,0	
184	80-110	1070	1025	24 M22	933	1070	400	275	351	10	607	465,5	310	56,0	144,0	246,0	15,5	27,6	71,4	123,7	160,0	637,6	921,3	

# CENTAX-SEC

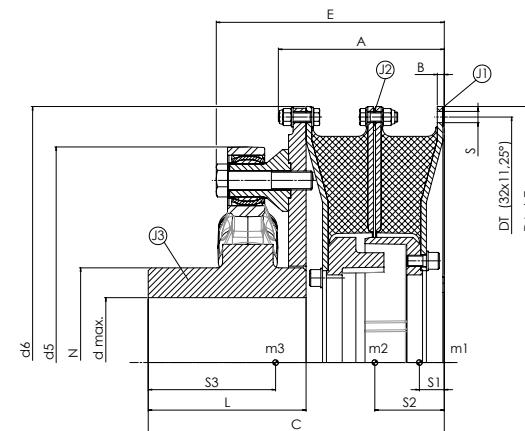
## SERIES 100-LFS2

### FLYWHEEL-SHAFT

#### TWO RING ELEMENTS AND LINK COUPLING

WITH FAILSAFE DEVICE

INNER HUB



Size	DIMENSIONS		↓ SIZES 176-184																					
	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	S-bolt	d <sub>6</sub>	d <sub>6</sub>	N	d max	A	B	C	E	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>total</sub>	
176	25-33	730	700	16 M14	615	730	270	185	236,5	10	422	325	225	34,0	99,0	180,5	2,8	4,6	10,7	47,8	58,4	215,2	321,4	
177	31,5-44	790	755	18 M16	740	790	280	200	255	10	458,5	389,5	235	36,0	106,0	192,5	3,9	6,6	19,1	59,3	71,2	307,5	438,0	
179	40-55	860	820	20 M18	785	860	315	220	276	10	488,5	405,5	250	38,0	114,0	200,0	5,4	9,5	28,6	66,1	88,7	389,7	544,5	
181	50-70	920	880	20 M18	785	920	340	235	316	10	553,5	435,5	285	46,0	129,0	235,5	8,1	14,3	37,1	88,0	112,1	451,6	651,7	
183	63-90	995	950	22 M20	898	995	370	255	328	10	579	447,5	300	50,0	135,0	240,0	10,9	19,9	56,2	99,5	136,6	595,1	831,2	
184	80-110	1070	1025	24 M22	933	1070	400	275	351	10	607	465,5	310	56,0	144,0	253,0	15,5	27,6	73,3	123,7	160,0	671,8	955,5	

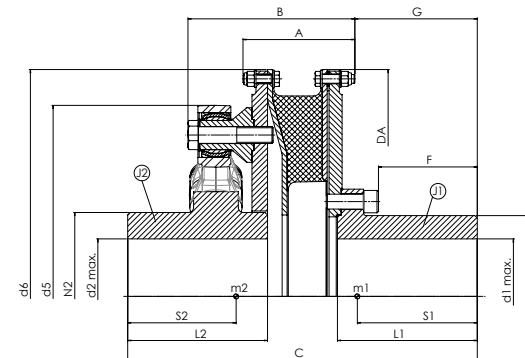
# CENTAX-SEC

## SERIES 100-LSS1

### SHAFT-SHAFT

#### ONE RING ELEMENT AND LINK COUPLING

INNER HUB



DIMENSIONS		↓ SIZES 176-184																			
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub>	d <sub>6</sub>	d <sub>6</sub>	N <sub>1</sub>	N <sub>2</sub>	Dimensions d <sub>1</sub> - d <sub>2</sub> max	A	B	C	F	G	L <sub>1</sub> - L <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub> [kgm <sup>2</sup> ]	m <sub>1</sub> [kg]	m <sub>2</sub> [kg]	m <sub>total</sub>	
176	25-33	730	615	730	260	270	185	180	268,5	562,5	171	197	225	193,0	174,5	7,3	10,4	141,4	203,1	344,5	
177	31,5-44	790	740	790	280	280	200	196	330,5	602	181	202,5	235	202,5	187,5	10,5	18,7	173,6	292,0	465,6	
179	40-55	860	785	860	310	315	220	214	343,5	641	196	214,5	250	215,0	196,0	16,3	28,1	225,4	375,8	601,2	
181	50-70	920	785	920	330	340	235	237	356,5	726	221,5	251,5	285	242,5	228,5	22,7	36,2	277,4	429,5	706,9	
183	63-90	995	898	995	360	370	255	248	367,5	763,5	231	264,5	300	256,5	234,5	34,0	55,1	357,4	570,9	928,3	
184	80-110	1070	933	1070	390	400	275	262	376,5	792,5	241	274,5	310	263,5	246,0	46,2	71,4	421,4	637,6	1059,0	

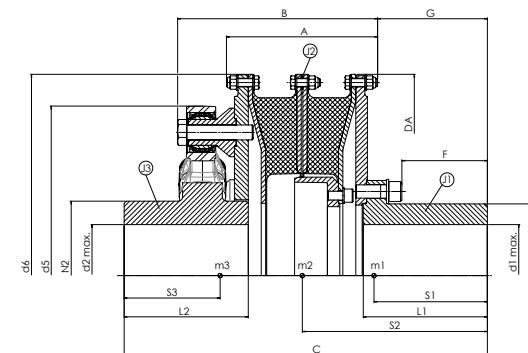
# CENTAX-SEC

## SERIES 100-LSS2

### SHAFT-SHAFT

#### TWO RING ELEMENTS AND LINK COUPLING

##### INNER HUB



DIMENSIONS		↓ SIZES 176-184																							
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub>	d <sub>6</sub>	d <sub>6</sub>	N <sub>1</sub>	N <sub>2</sub>	d <sub>1</sub> - d <sub>2</sub> max	A	B	C	F	G	L <sub>1</sub> - L <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub> [kg]	m <sub>total</sub>		
176	25-33	730	615	730	260	270	185	274	362,5	658,5	167	199	225	205,5	335,5	174,5	7,8	4,6	10,4	160,8	58,4	203,1	422,3		
177	31,5-44	790	740	790	280	280	200	297	431,5	705	177	204,5	235	215,5	352,5	187,5	11,4	6,6	18,7	197,7	71,2	292,0	560,9		
179	40-55	860	785	860	310	315	220	323	452,5	752	196	216,5	250	226,5	377,0	196,0	17,4	9,5	28,1	247,6	88,7	375,8	712,1		
181	50-70	920	785	920	330	340	235	363	482,5	852	221,5	251,5	285	257,5	427,5	228,5	24,0	14,3	36,2	310,0	112,1	429,5	851,6		
183	63-90	995	898	995	360	370	255	380	499,5	895,5	231	264,5	300	270,5	451,5	234,5	35,3	19,9	55,1	389,1	136,6	570,9	1096,6		
184	80-110	1070	933	1070	390	400	275	408	522,5	933,5	241	269,5	310	280,5	470,5	246,0	49,1	27,6	71,4	468,0	160,0	637,6	1265,6		

# CENTAX-SEC

## SERIES 200

### TECHNICAL DATA

<b>Series 200-G</b> One segmented element and membrane	Sizes 276–286 ..... Sizes 287–294 .....	Page 200-2 Page 200-3
Two segmented elements and membrane	Sizes 276–286 ..... Sizes 287–294 .....	Page 200-4 Page 200-5
<b>Series 200-L</b> One segmented element and link coupling	Sizes 276–284 .....	Page 200-6
Two segmented elements and link coupling	Sizes 276–284 .....	Page 200-7

### DIMENSIONS

<b>Series 200-GFS1</b>	Sizes 276–294 .....	Page 200-8
<b>Series 200-GFS1</b> inner hub	Sizes 276–294 .....	Page 200-9
<b>Series 200-GFS2</b>	Sizes 276–294 .....	Page 200-10
<b>Series 200-GFS2</b> inner hub	Sizes 276–294 .....	Page 200-11
<b>Series 200-GFS2</b> with failsafe device	Sizes 276–294 .....	Page 200-12
<b>Series 200-LFS1</b>	Sizes 276–284 .....	Page 200-13
<b>Series 200-LFS1</b> inner hub	Sizes 276–284 .....	Page 200-14
<b>Series 200-LFS2</b>	Sizes 276–284 .....	Page 200-15
<b>Series 200-LFS2</b> inner hub	Sizes 276–284 .....	Page 200-16
<b>Series 200-LSS2</b> with failsafe device	Sizes 276–284 .....	Page 200-17

# CENTAX-SEC

## SERIES 200-G

ONE SEGMENTED ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ sizes 276–286				→ sizes 287–294							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
276	50	22,00	66,00	5,50	154,00	7,00	0,83	1,05	±6	1,12	5,50	3,20	0,5	1800
	60	26,00	78,00	6,50	193,00	7,42	0,87	1,10			5,50	4,00		
	70	30,00	90,00	7,50	340,00	11,33	0,91	1,15			3,30	6,70		
277	50	28,00	84,00	7,00	210,00	7,50	0,91	1,05	±6	1,20	6,00	3,60	0,5	1700
	60	34,00	102,00	8,50	265,00	7,79	0,96	1,10			6,00	4,30		
	70	40,00	120,00	10,00	465,00	11,63	1,00	1,15			3,60	7,30		
279	50	35,00	105,00	8,75	265,00	7,57	0,99	1,05	±6	1,15	7,00	3,90	0,5	1600
	60	44,00	132,00	11,00	335,00	7,61	1,04	1,10			7,00	4,80		
	70	50,00	150,00	12,50	585,00	11,70	1,09	1,15			4,20	8,10		
281	50	45,00	135,00	11,25	314,00	6,98	1,10	1,05	±7	1,15	7,00	3,90	0,5	1450
	60	55,00	165,00	13,75	393,00	7,15	1,16	1,10			7,00	4,70		
	70	65,00	195,00	16,25	690,00	10,62	1,21	1,15			4,20	8,00		
283	50	55,00	165,00	13,75	408,00	7,42	1,19	1,05	±7	1,18	7,50	4,40	0,5	1250
	60	70,00	210,00	17,50	510,00	7,29	1,25	1,10			7,50	5,40		
	70	80,00	240,00	20,00	900,00	11,25	1,31	1,15			4,50	9,10		
284	50	70,00	210,00	17,50	550,00	7,86	1,31	1,05	±7	1,18	8,00	4,60	0,5	1250
	60	85,00	255,00	21,25	690,00	8,12	1,38	1,10			8,00	5,70		
	70	100,00	300,00	25,00	1210,00	12,10	1,44	1,15			4,80	9,60		
285	50	95,00	285,00	23,75	665,00	7,00	1,41	1,05	±8	1,19	8,00	4,90	0,5	1200
	60	115,00	345,00	28,75	830,00	7,22	1,48	1,10			8,00	6,00		
	70	135,00	405,00	33,75	1460,00	10,81	1,55	1,15			4,80	9,50		
286	50	115,00	345,00	28,75	805,00	7,00	1,60	1,05	±9	1,20	8,00	5,30	0,5	1125
	60	140,00	420,00	35,00	1006,00	7,19	1,68	1,10			8,00	6,50		
	70	160,00	480,00	40,00	1770,00	11,06	1,76	1,15			4,80	10,90		

# CENTAX-SEC

## SERIES 200-G

ONE SEGMENTED ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 287-294			← SIZES 276-286								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
287	50	160,00	480,00	40,00	1150,00	7,19	1,83	1,05	±9	1,20	8,00	6,70	0,5	1000
	60	185,00	555,00	46,25	1440,00	7,78	1,92	1,10			8,00	8,10		
	70	220,00	660,00	55,00	2530,00	11,50	2,01	1,15			4,80	13,90		
288	50	200,00	600,00	50,00	1320,00	6,60	2,00	1,05	±12	1,20	8,00	7,10	0,5	800
	60	240,00	720,00	60,00	1650,00	6,88	2,10	1,10			8,00	8,80		
	70	260,00	780,00	65,00	2900,00	11,15	2,20	1,15			4,80	15,50		
290	50	265,00	795,00	66,25	1625,00	6,13	2,24	1,05	±13	1,25	8,00	7,40	0,5	750
	60	320,00	960,00	80,00	2035,00	6,36	2,35	1,10			8,00	9,80		
	70	360,00	1080,00	90,00	3575,00	9,93	2,46	1,15			4,80	17,30		
292	50	310,00	930,00	77,50	2195,00	7,08	2,38	1,05	±14	1,30	8,00	8,30	0,5	700
	60	380,00	1140,00	95,00	2745,00	7,22	2,50	1,10			8,00	10,90		
	70	425,00	1275,00	106,25	4820,00	11,34	2,62	1,15			4,80	19,20		
293	50	360,00	1080,00	90,00	2605,00	7,24	2,53	1,05	±14	1,40	8,00	9,30	0,5	675
	60	430,00	1290,00	107,50	3265,00	7,59	2,66	1,10			8,00	12,20		
	70	480,00	1440,00	120,00	5730,00	11,94	2,78	1,15			4,80	21,60		
294	50	420,00	1260,00	105,00	2920,00	6,95	2,69	1,05	±15	1,70	8,00	9,70	0,5	675
	60	510,00	1530,00	127,50	3660,00	7,18	2,83	1,10			8,00	12,70		
	70	570,00	1710,00	142,50	6425,00	11,27	2,96	1,15			4,80	22,50		

# CENTAX-SEC

## SERIES 200-G

TWO SEGMENTED ELEMENTS AND MEMBRANE



TECHNICAL DATA			↓ SIZES 276-286				→ SIZES 287-294							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_KW$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}$ ]	$n_{max}$ [min $^{-1}$ ]
276	50	22,00	66,00	5,50	77,00	3,50	1,66	1,05	$\pm 6$	1,12	11,00	1,60	0,5	1800
	60	26,00	78,00	6,50	97,00	3,73	1,74	1,10			11,00	2,00	3,30	
	70	30,00	90,00	7,50	170,00	5,67	1,83	1,15			6,60			
277	50	28,00	84,00	7,00	105,00	3,75	1,82	1,05	$\pm 6$	1,20	12,00	1,80	0,5	1700
	60	34,00	102,00	8,50	133,00	3,91	1,91	1,10			12,00	2,20		
	70	40,00	120,00	10,00	233,00	5,83	2,00	1,15			7,20	3,70		
279	50	35,00	105,00	8,75	133,00	3,80	1,98	1,05	$\pm 6$	1,15	14,00	2,00	0,5	1600
	60	44,00	132,00	11,00	168,00	3,82	2,08	1,10			14,00	2,40		
	70	50,00	150,00	12,50	293,00	5,86	2,18	1,15			8,40	4,00		
281	50	45,00	135,00	11,25	157,00	3,49	2,20	1,05	$\pm 7$	1,15	14,00	1,90	0,5	1450
	60	55,00	165,00	13,75	197,00	3,58	2,31	1,10			14,00	2,40		
	70	65,00	195,00	16,25	345,00	5,31	2,42	1,15			8,40	4,00		
283	50	55,00	165,00	13,75	204,00	3,71	2,38	1,05	$\pm 7$	1,18	15,00	2,20	0,5	1250
	60	70,00	210,00	17,50	255,00	3,64	2,50	1,10			15,00	2,70		
	70	80,00	240,00	20,00	450,00	5,63	2,62	1,15			9,00	4,50		
284	50	70,00	210,00	17,50	275,00	3,93	2,62	1,05	$\pm 7$	1,18	16,00	2,30	0,5	1250
	60	85,00	255,00	21,25	345,00	4,06	2,75	1,10			16,00	2,80		
	70	100,00	300,00	25,00	605,00	6,05	2,88	1,15			9,60	4,80		
285	50	95,00	285,00	23,75	333,00	3,50	2,82	1,05	$\pm 8$	1,19	16,00	2,40	0,5	1200
	60	115,00	345,00	28,75	415,00	3,61	2,96	1,10			16,00	3,00		
	70	135,00	405,00	33,75	730,00	5,40	3,10	1,15			9,60	4,75		
286	50	115,00	345,00	28,75	403,00	3,50	3,20	1,05	$\pm 9$	1,20	16,00	2,60	0,5	1125
	60	140,00	420,00	35,00	503,00	3,59	3,36	1,10			16,00	3,20		
	70	160,00	480,00	40,00	885,00	5,53	3,52	1,15			9,60	5,50		

# CENTAX-SEC

## SERIES 200-G

TWO SEGMENTED ELEMENTS AND MEMBRANE



TECHNICAL DATA			↓ SIZES 287-294			← SIZES 276-286								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}$ ]	$n_{max}$ [min $^{-1}$ ]
287	50	160,00	480,00	40,00	575,00	3,59	3,66	1,05	$\pm 9$	1,20	16,00	3,40	0,5	1000
	60	185,00	555,00	46,25	720,00	3,89	3,84	1,10						
	70	220,00	660,00	55,00	1265,00	5,75	4,03	1,15						
288	50	200,00	600,00	50,00	660,00	3,30	4,00	1,05	$\pm 12$	1,20	16,00	3,55	0,5	800
	60	240,00	720,00	60,00	825,00	3,44	4,20	1,10						
	70	260,00	780,00	65,00	1450,00	5,58	4,40	1,15						
290	50	265,00	795,00	66,25	813,00	3,07	4,48	1,05	$\pm 13$	1,25	16,00	3,71	0,5	750
	60	320,00	960,00	80,00	1018,00	3,18	4,70	1,10						
	70	360,00	1080,00	90,00	1788,00	4,97	4,92	1,15						
292	50	310,00	930,00	77,50	1097,00	3,54	4,76	1,05	$\pm 14$	1,30	16,00	4,13	0,5	700
	60	380,00	1140,00	95,00	1373,00	3,61	5,00	1,10						
	70	425,00	1275,00	106,25	2411,00	5,67	5,24	1,15						
293	50	360,00	1080,00	90,00	1303,00	3,62	5,06	1,05	$\pm 14$	1,40	16,00	4,65	0,5	675
	60	430,00	1290,00	107,50	1631,00	3,79	5,32	1,10						
	70	480,00	1440,00	120,00	2865,00	5,97	5,56	1,15						
294	50	420,00	1260,00	105,00	1461,00	3,48	5,38	1,05	$\pm 15$	1,70	16,00	4,83	0,5	675
	60	510,00	1530,00	127,50	1829,00	3,59	5,66	1,10						
	70	570,00	1710,00	142,50	3211,00	5,63	5,92	1,15						

# CENTAX-SEC

## SERIES 200-L

ONE SEGMENTED ELEMENT AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 276-284											
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
276	50	22,00	66,00	5,50	154,00	7,00	0,83	1,05	±13	0,75	5,50	3,20	1	1800
	60	26,00	78,00	6,50	193,00	7,42	0,87	1,10						
	70	30,00	90,00	7,50	340,00	11,33	0,91	1,15						
277	50	28,00	84,00	7,00	210,00	7,50	0,91	1,05	±18	1,10	6,00	3,60	1	1700
	60	34,00	102,00	8,50	265,00	7,79	0,96	1,10						
	70	40,00	120,00	10,00	465,00	11,63	1,00	1,15						
279	50	35,00	105,00	8,75	265,00	7,57	0,99	1,05	±18	1,10	7,00	3,90	1	1600
	60	44,00	132,00	11,00	335,00	7,61	1,04	1,10						
	70	50,00	150,00	12,50	585,00	11,70	1,09	1,15						
281	50	45,00	135,00	11,25	314,00	6,98	1,10	1,05	±18	1,10	7,00	3,90	1	1450
	60	55,00	165,00	13,75	393,00	7,15	1,16	1,10						
	70	65,00	195,00	16,25	690,00	10,62	1,21	1,15						
283	50	55,00	165,00	13,75	408,00	7,42	1,19	1,05	±18	1,10	7,50	4,40	1	1250
	60	70,00	210,00	17,50	510,00	7,29	1,25	1,10						
	70	80,00	240,00	20,00	900,00	11,25	1,31	1,15						
284	50	70,00	210,00	17,50	550,00	7,86	1,31	1,05	±18	1,10	8,00	4,60	1	1250
	60	85,00	255,00	21,25	690,00	8,12	1,38	1,10						
	70	100,00	300,00	25,00	1210,00	12,10	1,44	1,15						

# CENTAX-SEC

## SERIES 200-L



### TWO SEGMENTED ELEMENTS AND LINK COUPLING

TECHNICAL DATA			↓ SIZES 276-284											
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{deg}^{-1}$ ]	$n_{max}$ [min $^{-1}$ ]
276	50	22,00	66,00	5,50	77,00	3,50	1,66	1,05	$\pm 13$	0,75	11,00	1,60	1	1800
	60	26,00	78,00	6,50	97,00	3,73	1,74	1,10						
	70	30,00	90,00	7,50	170,00	5,67	1,83	1,15						
277	50	28,00	84,00	7,00	105,00	3,75	1,82	1,05	$\pm 18$	1,10	12,00	1,80	1	1700
	60	34,00	102,00	8,50	133,00	3,91	1,91	1,10						
	70	40,00	120,00	10,00	233,00	5,83	2,00	1,15						
279	50	35,00	105,00	8,75	133,00	3,80	1,98	1,05	$\pm 18$	1,10	14,00	2,00	1	1600
	60	44,00	132,00	11,00	168,00	3,82	2,08	1,10						
	70	50,00	150,00	12,50	293,00	5,86	2,18	1,15						
281	50	45,00	135,00	11,25	157,00	3,49	2,20	1,05	$\pm 18$	1,10	14,00	1,90	1	1450
	60	55,00	165,00	13,75	197,00	3,58	2,31	1,10						
	70	65,00	195,00	16,25	345,00	5,31	2,42	1,15						
283	50	55,00	165,00	13,75	204,00	3,71	2,38	1,05	$\pm 18$	1,10	15,00	2,20	1	1250
	60	70,00	210,00	17,50	255,00	3,64	2,50	1,10						
	70	80,00	240,00	20,00	450,00	5,63	2,62	1,15						
284	50	70,00	210,00	17,50	275,00	3,93	2,62	1,05	$\pm 18$	1,10	16,00	2,30	1	1250
	60	85,00	255,00	21,25	345,00	4,06	2,75	1,10						
	70	100,00	300,00	25,00	605,00	6,05	2,88	1,15						

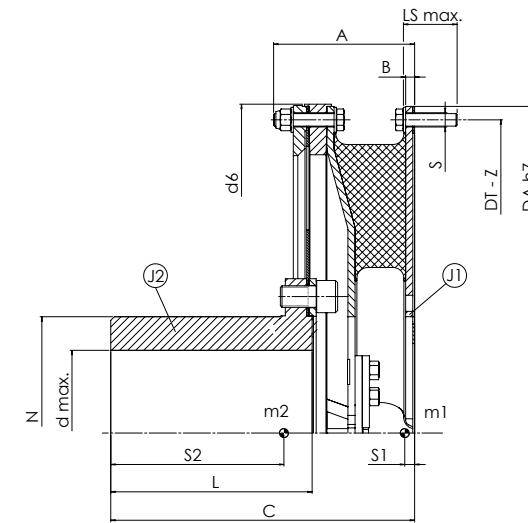
# CENTAX-SEC

## SERIES 200-GFS1

### FLYWHEEL-SHAFT

#### ONE SEGMENTED ELEMENT AND MEMBRANE

OUTER HUB



DIMENSIONS		↓ SIZES 276-294																		
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S-bolt	d <sub>6</sub>	N	d max	A	B	LS <sub>max</sub>	C	L	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>total</sub>
276	22-30	730	700	32x11,25°	16 M14	735	260	185	162,5	10	70	339,5	225	11,0	194,0	2,1	7,9	30,1	133,6	163,7
277	28-40	790	755	32x11,25°	18 M16	795	280	200	169	10	75	357	235	12,0	203,0	2,9	11,0	36,4	161,4	197,8
279	35-50	860	820	32x11,25°	20 M18	865	310	220	187	10	80	380	250	13,0	211,0	4,1	15,1	43,2	191,9	235,1
281	45-65	920	880	32x11,25°	20 M18	925	330	235	197	12	95	430	285	15,0	237,0	6,6	19,8	59,1	231,1	290,2
283	55-80	995	950	32x11,25°	22 M20	1000	360	255	203	12	100	451	300	15,0	248,0	9,1	28,4	69,8	289,5	359,3
284	70-100	1070	1025	32x11,25°	24 M22	1075	390	275	212	12	110	470	310	16,0	256,0	12,5	39,4	82,6	351,0	433,6
285	95-135	1160	1110	32x11,25°	26 M24	1165	390	275	238	14	120	549	370	18,0	310,0	20,2	58,5	113,8	440,3	554,1
286	115-160	1240	1190	32x11,25°	26 M24	1245	450	320	246	14	130	572	385	19,0	311,0	27,0	76,5	132,5	526,0	658,5
287	160-220	1355	1295	32x11,25°	30 M27	1360	480	340	258	14	140	600	400	21,0	327,0	40,6	113,8	168,2	659,0	827,2
288	200-260	1460	1395	32x11,25°	33 M30	1465	520	370	311	17	180	727	480	26,0	392,0	74,5	178,2	258,3	889,0	1147,3
290	265-360	1565	1500	32x11,25°	33 M30	1575	550	390	321	19	180	772	500	26,0	423,0	115,5	257,9	352,1	1094,7	1446,8
292	310-425	1685	1615	32x11,25°	36 M33	1695	600	430	331	21	180	807	520	29,0	440,0	167,2	365,2	432,4	1333,1	1765,5
293	360-480	1738	1675	32x11,25°	36 M33	1748	600	430	331	21	180	807	520	28,0	449,0	190,4	437,4	464,5	1438,9	1903,4
294	420-570	1790	1726	32x11,25°	36 M33	1800	600	430	342	19	180	811	520	28,0	449,0	209,2	470,0	479,1	1452,0	1931,1

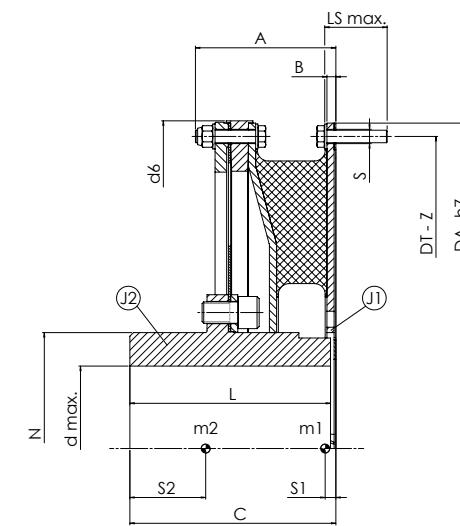
# CENTAX-SEC

## SERIES 200-GFS1

### FLYWHEEL-SHAFT

#### ONE SEGMENTED ELEMENT AND MEMBRANE

INNER HUB



DIMENSIONS		↓ SIZES 276-294																						
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S-bolt	d <sub>6</sub>	N	d max	A	B	LS <sub>max</sub>	C	L	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>total</sub>				
276	22-30	730	700	32x11,25°	16 M14	735	260	185	152,5	10	70	235	225	12,0	124,0	2,1	7,9	30,4	130,5	160,9				
277	28-40	790	755	32x11,25°	18 M16	795	280	200	169	10	75	245	235	13,0	119,0	3,0	10,9	37,0	157,7	194,7				
279	35-50	860	820	32x11,25°	20 M18	865	310	220	182	10	80	260	250	14,0	131,0	4,2	15,8	44,1	195,4	239,5				
281	45-65	920	880	32x11,25°	20 M18	925	330	235	197	12	95	300	285	14,0	153,0	6,5	20,7	58,3	234,1	292,4				
283	55-80	995	950	32x11,25°	22 M20	1000	360	255	203	12	100	315	300	15,0	155,0	9,0	28,7	69,2	289,6	358,8				
284	70-100	1070	1025	32x11,25°	24 M22	1075	390	275	212	12	110	325	310	16,0	160,0	12,4	39,8	81,6	343,3	424,9				
285	95-135	1160	1110	32x11,25°	26 M24	1165	390	275	233	14	120	385	370	21,0	180,0	21,4	57,4	120,5	441,7	562,2				
286	115-160	1240	1190	32x11,25°	26 M24	1245	450	285 [320]	246	14	130	405	385	19,0	191,0	26,8	76,9	131,5	515,6	647,1				
287	160-220	1355	1295	32x11,25°	30 M27	1360	480	305 [340]	258	14	140	420	400	20,0	214,0	40,0	115,1	165,8	649,9	815,7				
288	200-260	1460	1395	32x11,25°	33 M30	1465	520	330 [365]	311	17	180	505	480	24,0	274,0	74,5	176,0	258,3	893,9	1152,2				
290	265-360	1565	1500	32x11,25°	33 M30	1575	550	345 [390]	321	19	180	525	500	26,0	290,0	115,5	256,6	352,1	1125,5	1477,6				
292	310-425	1685	1615	32x11,25°	36 M33	1695	600	425 [475]	331	21	180	545	520	29,0	293,0	167,2	373,5	432,4	1427,0	1859,4				
293	360-480	1738	1675	32x11,25°	36 M33	1748	665	425 [475]	331	21	180	545	520	28,0	294,0	190,4	445,2	464,5	1528,8	1993,3				
294	420-570	1790	1726	32x11,25°	36 M33	1800	665	430 [475]	342	19	180	545	520	28,0	298,0	209,2	482,2	479,1	1575,6	2054,7				

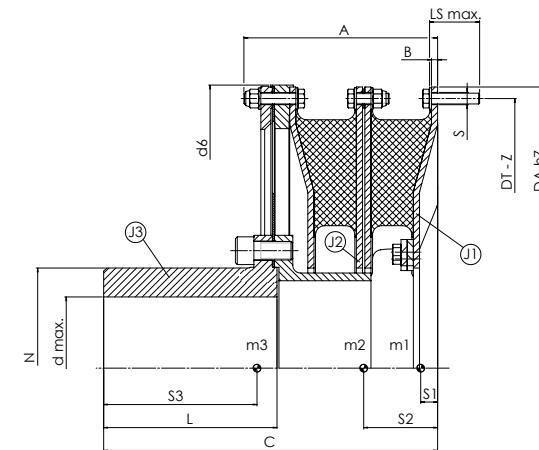
# CENTAX-SEC

## SERIES 200-GFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND MEMBRANE

OUTER HUB



DIMENSIONS		↓ SIZES 276-294																					
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_6$	N	$d_{max}$	A	B	$LS_{max}$	C	L	$S_1$	$S_2$	$S_3$	$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$
276	22-30	730	700	32x11,25°	16 M14	735	260	185	259,5	8	70	436,5	225	22,0	97,0	199,0	2,2	4,5	8,1	31,0	60,5	146,0	237,5
277	28-40	790	755	32x11,25°	18 M16	795	280	200	273	8	75	461	235	23,0	104,0	209,0	3,2	6,3	11,3	37,8	73,7	179,0	290,5
279	35-50	860	820	32x11,25°	20 M18	865	310	220	299	8	80	492	250	25,0	112,0	217,0	4,5	8,9	15,5	44,8	88,2	207,9	340,9
281	45-65	920	880	32x11,25°	20 M18	925	330	235	324	8	95	557	285	31,0	127,0	245,0	6,3	14,0	20,3	53,8	119,4	250,8	424,0
283	55-80	995	950	32x11,25°	22 M20	1000	360	255	336	8	100	584	300	33,0	133,0	256,0	8,6	19,4	29,3	63,2	142,6	314,9	520,7
284	70-100	1070	1025	32x11,25°	24 M22	1075	390	275	354	8	110	612	310	37,0	142,0	264,0	12,0	27,0	40,7	74,8	169,2	383,7	627,7
285	95-135	1160	1110	32x11,25°	26 M24	1165	390	275	398	10	120	709	370	42,0	160,0	370,0	20,0	43,7	60,5	107,8	234,2	483,0	825,0
286	115-160	1240	1190	32x11,25°	26 M24	1245	450	320	415	10	130	741	385	43,0	169,0	322,0	26,3	57,5	79,0	123,5	270,6	570,5	964,6
287	160-220	1355	1295	32x11,25°	30 M27	1360	480	340	439	10	140	781	400	48,0	181,0	337,0	39,8	87,5	117,0	156,1	345,9	709,0	1211,0
288	200-260	1460	1395	32x11,25°	33 M30	1465	520	370	539	12	180	955	480	65,0	227,0	406,0	66,7	160,3	186,7	226,6	529,5	982,7	1738,8
290	265-360	1565	1500	32x11,25°	33 M30	1575	550	390	550	15	180	1001	500	60,0	229,0	437,0	99,6	246,8	265,9	296,0	726,2	1196,3	2218,5
292	310-425	1685	1615	32x11,25°	36 M33	1695	600	430	569	15	180	1044	520	64,0	239,0	454,0	135,5	355,8	378,7	339,0	890,0	1467,2	2696,2
293	360-480	1738	1675	32x11,25°	36 M33	1748	600	430	569	15	180	1044	520	63,0	239,0	462,0	161,7	403,2	456,3	381,3	953,0	1577,4	2911,7
294	420-570	1790	1726	32x11,25°	36 M33	1800	600	430	583	15	180	1050	520	64,0	241,0	464,0	182,8	439,9	482,6	402,4	977,8	1581,3	2961,5

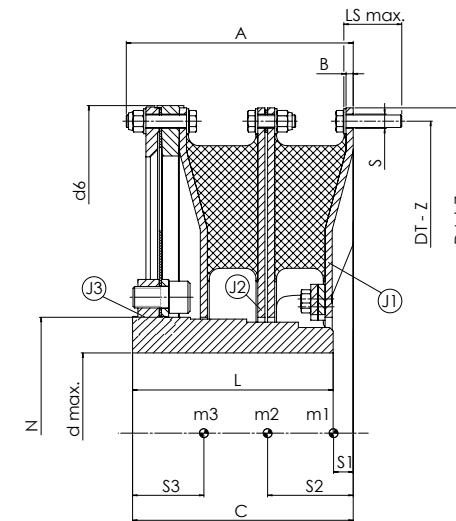
# CENTAX-SEC

## SERIES 200-GFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND MEMBRANE

##### INNER HUB



DIMENSIONS				↓ SIZES 276-294																			
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_6$	N	$d_{max}$	A	B	LS <sub>max</sub>	C	L	$S_1$	Distance centre of gravity, moments of inertia and masses								
															$S_2$	$S_3$	$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$
276	22-30	730	700	32x11,25°	16 M14	735	260	180	259,5	8	70	247,5	225	22,0	97,0	66,0	2,2	4,5	7,8	31,0	60,5	132,1	223,6
277	28-40	790	755	32x11,25°	18 M16	795	280	180	273	8	75	262	235	23,0	104,0	67,0	3,2	6,3	10,9	37,8	73,7	159,8	271,3
279	35-50	860	820	32x11,25°	20 M18	865	310	220	299	8	80	278	250	25,0	112,0	76,0	4,5	8,9	15,1	44,8	88,2	190,7	323,7
281	45-65	920	880	32x11,25°	20 M18	925	330	235	324	8	95	314,5	285	31,0	127,0	91,0	6,3	14,0	19,8	53,8	119,4	231,0	404,2
283	55-80	995	950	32x11,25°	22 M20	1000	360	255	336	8	100	329	300	33,0	133,0	96,0	8,6	19,4	28,5	63,2	142,6	288,7	494,5
284	70-100	1070	1025	32x11,25°	24 M22	1075	385	275	354	8	110	347	310	37,0	142,0	97,0	12,0	27,0	39,2	74,8	169,2	345,0	589,0
285	95-135	1160	1110	32x11,25°	26 M24	1165	390	275	398	10	120	384	370	42,0	160,0	115,0	20,0	43,7	60,1	107,8	234,2	478,4	820,4
286	115-160	1240	1190	32x11,25°	26 M24	1245	450	320	415	10	130	401	385	43,0	169,0	121,0	26,3	57,5	76,3	123,5	270,6	519,6	913,7
287	160-220	1355	1295	32x11,25°	30 M27	1360	480	340	439	10	140	450	400	48,0	181,0	137,0	39,8	87,5	114,2	156,1	345,9	662,5	1164,5
288	200-260	1460	1395	32x11,25°	33 M30	1465	515	370	539	12	180	546	480	63,0	227,0	162,0	65,4	162,9	177,2	221,7	539,3	872,7	1633,7
290	265-360	1565	1500	32x11,25°	33 M30	1575	550	390	550	15	180	583,5	500	60,0	229,0	182,0	99,6	245,3	257,8	296,0	723,8	1092,4	2112,2
292	310-425	1685	1615	32x11,25°	36 M33	1695	600	430	569	15	180	608,5	520	63,0	239,0	186,0	135,0	355,8	372,6	335,3	890,0	1344,9	2570,2
293	360-480	1738	1675	32x11,25°	36 M33	1748	600	430	569	15	180	608,5	520	63,0	239,0	183,0	161,7	403,2	445,3	381,3	953,0	1450,5	2784,8
294	420-570	1790	1726	32x11,25°	36 M33	1800	600	430	583	15	180	614,5	520	64,0	241,0	184,0	182,8	439,9	470,1	402,4	977,8	1452,3	2832,5

# CENTAX-SEC

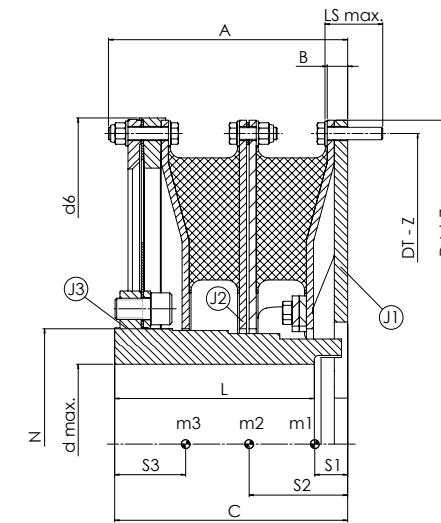
## SERIES 200-GFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND MEMBRANE

WITH FAILSAFE DEVICE

INNER HUB



Size	DIMENSIONS		↓ SIZES 276-294																						
	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S-bolt	d <sub>6</sub>	N	d max	A	B	LS <sub>max</sub>	C	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>total</sub>		
276	22-30	730	700	32x11,25°	16 M14	735	260	180	274,5	23	70	262,5	225	20,0	112,0	68,0	5,4	4,5	7,8	73,3	60,5	133,5	267,3		
277	28-40	790	755	32x11,25°	18 M16	795	280	180	288	23	75	277	235	21,0	119,0	69,0	7,5	6,3	10,9	88,3	73,7	161,8	323,8		
279	35-50	860	820	32x11,25°	20 M18	865	310	220	314	23	80	293	250	22,0	127,0	80,0	10,6	8,9	15,1	102,2	88,2	194,6	385,0		
281	45-65	920	880	32x11,25°	20 M18	925	330	235	344	28	95	334,5	285	25,0	147,0	95,5	16,8	14,0	19,9	142,0	119,4	235,9	497,3		
283	55-80	995	950	32x11,25°	22 M20	1000	360	255	356	28	100	349	300	26,0	153,0	99,0	23,0	19,4	28,5	165,9	142,6	293,3	601,8		
284	70-100	1070	1025	32x11,25°	24 M22	1075	385	275	374	28	110	367	310	28,0	162,0	104,0	31,2	27,0	39,5	193,7	169,2	354,7	717,6		
285	95-135	1160	1110	32x11,25°	26 M24	1165	390	275	418	30	120	404	370	32,0	180,0	117,0	46,7	43,7	60,2	251,3	234,2	482,5	968,0		
286	115-160	1240	1190	32x11,25°	26 M24	1245	450	320	435	30	130	421	385	33,0	189,0	123,0	61,3	57,5	76,4	285,6	270,6	522,2	1078,4		
287	160-220	1355	1295	32x11,25°	30 M27	1360	480	340	459	30	140	470	400	36,0	201,0	147,0	89,5	87,5	115,2	350,6	345,9	686,2	1382,7		
288	200-260	1460	1395	32x11,25°	33 M30	1465	513	370	569	42	180	577	480	47,0	257,0	186,0	167,0	160,3	181,2	564,9	529,5	912,5	2006,9		
290	265-360	1565	1500	32x11,25°	33 M30	1575	550	390	580	45	180	613,5	500	48,0	259,0	191,0	232,2	245,3	259,6	684,9	723,8	1123,3	2532,0		
292	310-425	1685	1615	32x11,25°	36 M33	1695	600	430	588	45	180	638,5	520	49,0	269,0	196,0	313,4	355,8	375,9	788,7	890,0	1388,5	3067,2		
293	360-480	1738	1675	32x11,25°	36 M33	1748	600	430	588	45	180	638,5	520	49,0	269,0	192,0	363,9	403,2	448,1	864,5	953,0	1489,5	3307,0		
294	420-570	1790	1726	32x11,25°	36 M33	1800	600	430	613	45	180	644,5	520	50,0	271,0	194,0	411,0	441,9	472,4	919,5	980,4	1491,8	3391,7		

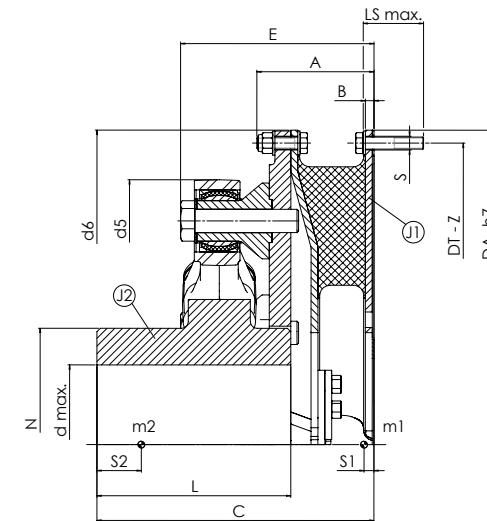
# CENTAX-SEC

## SERIES 200-LFS1

### FLYWHEEL-SHAFT

#### ONE SEGMENTED ELEMENT AND LINK COUPLING

OUTER HUB



DIMENSIONS		↓ SIZES 276-284																				
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S-bolt	d <sub>5</sub>	d <sub>6</sub>	N	d <sub>max</sub>	A	B	LS <sub>max</sub>	C	E	L	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>total</sub>
276	22-30	730	700	32x11,25°	16 M14	615	730	270	185	137,5	10	70	323	226	225	12,0	175,0	2,1	10,4	30,4	204,1	234,5
277	28-40	790	755	32x11,25°	18 M16	740	790	280	200	149	10	75	252,5	283,5	235	13,0	188,0	3,0	18,7	37,0	293,8	330,8
279	35-50	860	820	32x11,25°	20 M18	785	860	315	220	162	10	80	374,5	291,5	250	14,0	197,0	4,2	28,1	44,1	376,4	420,5
281	45-65	920	880	32x11,25°	20 M18	785	920	340	235	187	12	95	424,5	306,5	285	14,0	230,0	6,5	36,3	58,3	431,7	490,0
283	55-80	995	950	32x11,25°	22 M20	898	995	370	255	193	12	100	444	312,5	300	15,0	235,0	9,0	55,1	69,2	572,4	641,6
284	70-100	1070	1025	32x11,25°	24 M22	933	1070	400	275	207	12	110	463	321,5	310	16,0	245,0	12,4	71,2	81,6	637,8	719,4

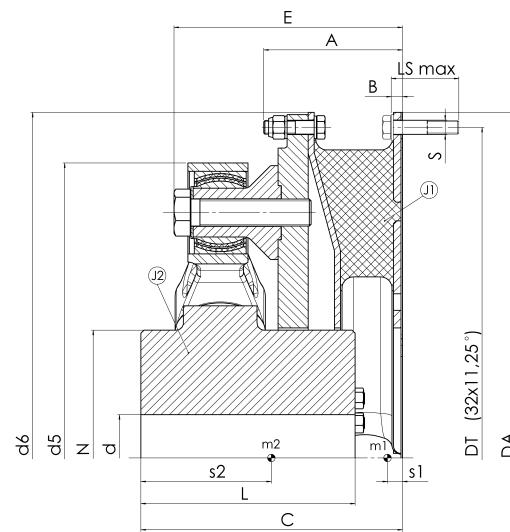
# CENTAX-SEC

## SERIES 200-LFS1

### FLYWHEEL-SHAFT

#### ONE SEGMENTED ELEMENT AND LINK COUPLING

INNER HUB



Size	Dimensions													↓ SIZES 276-284									
	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S-bolt	d <sub>5</sub>	d <sub>6</sub>	N	d <sub>max</sub>	A	B	LS <sub>max</sub>	C	E	L	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>total</sub>	
276	22-30	730	700	32x11,25°	16 M14	615	730	270	185	137,5	10	70	264	226	225	12,0	131,0	2,1	10,4	30,4	201,7	232,1	
277	28-40	790	755	32x11,25°	18 M16	740	790	280	200	149	10	75	326,5	283,5	235	13,0	167,0	3,0	18,7	37,0	292,7	329,7	
279	35-50	860	820	32x11,25°	20 M18	785	860	315	220	162	10	80	335,5	291,5	250	14,0	166,0	4,2	28,1	44,1	376,4	420,5	
281	45-65	920	880	32x11,25°	20 M18	785	920	340	235	187	12	95	350,5	306,5	285	14,0	174,0	6,5	36,3	58,3	431,7	490,0	
283	55-80	995	950	32x11,25°	22 M20	898	995	370	255	193	12	100	358	312,5	300	15,0	169,0	9,0	55,1	69,2	572,0	641,2	
284	70-100	1070	1025	32x11,25°	24 M22	933	1070	400	275	207	12	110	367	321,5	310	16,0	174,0	12,4	71,2	81,6	639,0	720,6	

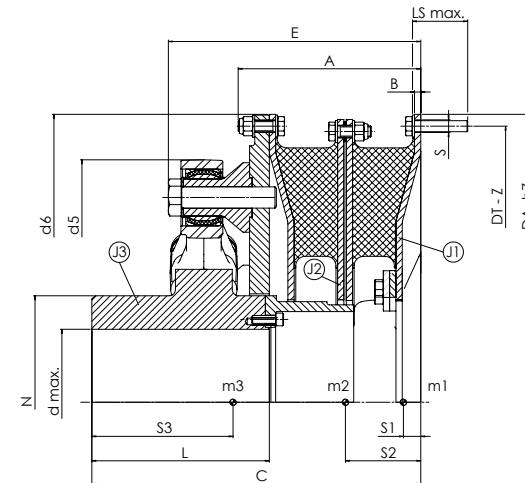
# CENTAX-SEC

## SERIES 200-LFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND LINK COUPLING

OUTER HUB



Size	DIMENSIONS		↓ SIZES 276-284																						
	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	S-bolt	d <sub>5</sub>	d <sub>6</sub>	N	Dimensions min-max	A	B	C	E	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub> [kgm <sup>2</sup> ]	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>total</sub>		
276	22-30	730	700	32x11,25°	16 M14	615	730	270	185	234,5	8	70	420	323	225	22,0	97,0	179,0	2,2	4,5	10,5	30,7	60,8	212,9	304,4
277	28-40	790	755	32x11,25°	18 M16	740	790	280	200	253	8	75	456,5	387,5	235	23,0	104,0	192,0	3,1	6,4	18,8	37,2	74,8	302,5	414,5
279	35-50	860	820	32x11,25°	20 M18	785	860	315	220	269	8	80	481,5	398,5	250	24,0	112,0	201,0	4,4	9,2	28,4	44,0	90,3	390,7	525,0
281	45-65	920	880	32x11,25°	20 M18	785	920	340	235	314	8	95	551,5	433,5	285	31,0	127,0	296,0	6,4	13,9	38,8	54,6	118,2	453,2	626,0
283	55-90	995	950	32x11,25°	22 M20	898	995	370	255	326	8	100	577	445,5	300	33,0	133,0	240,0	8,8	19,3	55,8	64,4	141,2	597,3	802,9
284	70-100	1070	1025	32x11,25°	24 M22	933	1070	400	275	349	8	110	605	463,5	310	37,0	142,0	253,0	12,2	26,8	72,6	75,8	167,5	67,1	916,4

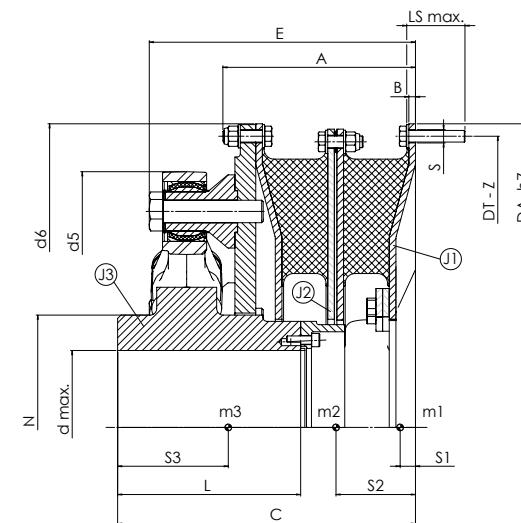
# CENTAX-SEC

## SERIES 200-LFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND LINK COUPLING

##### INNER HUB



Size	Dimensions														Distance centre of gravity, moments of inertia and masses										
	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_5$	$d_6$	N	$d_{max}$	A	B	$LS_{max}$	C	E	L	$S_1$	$S_2$	$S_3$	$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$ [kg]
276	22–30	730	700	32x11,25°	16 M14	615	730	270	185	234,5	8	70	361	323	225	22,0	97,0	133,0	2,2	4,5	10,4	30,7	60,8	206,0	297,5
277	28–40	790	755	32x11,25°	18 M16	740	790	280	200	253	8	75	430,5	387,5	235	23,0	104,0	170,0	3,1	6,4	18,8	37,2	74,8	299,2	411,2
279	35–50	860	820	32x11,25°	20 M18	785	860	315	220	274	8	80	447,5	403,5	250	24,0	112,0	170,0	4,4	9,2	28,3	44,0	90,3	387,4	521,7
281	45–65	920	880	32x11,25°	20 M18	785	920	340	235	314	8	95	477,5	433,5	285	31,0	127,0	178,0	6,4	13,9	36,6	54,6	118,2	444,6	617,4
283	55–80	995	950	32x11,25°	22 M20	898	995	370	255	326	8	100	491	445,5	300	33,0	133,0	173,0	8,8	19,3	55,5	64,4	141,2	585,6	791,2
284	70–100	1070	1025	32x11,25°	24 M22	933	1070	400	275	349	8	110	509	463,5	310	37,0	142,0	178,0	12,2	26,8	71,9	75,8	167,5	655,3	898,6

# CENTAX-SEC

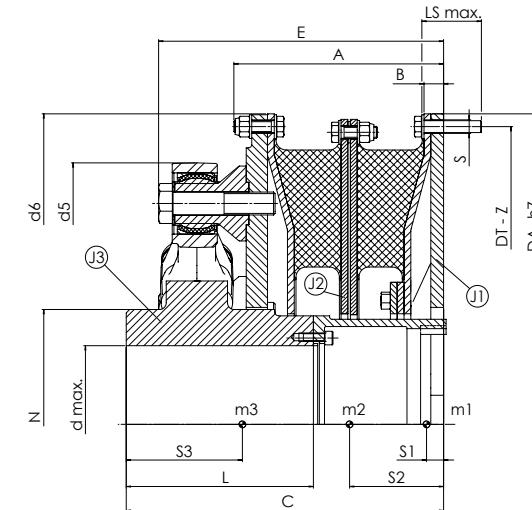
## SERIES 200-LFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND LINK COUPLING

WITH FAILSAFE DEVICE

INNER HUB



Size	Dimensions														Distance centre of gravity, moments of inertia and masses										
	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_5$	$d_6$	N	$d_{max}$	A	B	$LS_{max}$	C	E	L	$S_1$	$S_2$	$S_3$	$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$
276	22–30	730	700	32x11,25°	16 M14	615	730	270	185	249,5	23	70	376	338	225	20,0	112,0	137,0	5,4	4,5	10,4	72,7	60,8	209,8	343,3
277	28–40	790	755	32x11,25°	18 M16	740	790	280	200	268	23	75	445,5	402,5	235	20,0	119,0	172,0	7,4	6,4	18,8	87,5	74,8	302,5	465,0
279	35–50	860	820	32x11,25°	20 M18	785	860	315	220	289	23	80	462,5	418,5	250	21,0	127,0	173,0	10,4	9,2	28,4	101,4	90,3	329,7	584,4
281	45–65	920	880	32x11,25°	20 M18	785	920	340	235	334	28	95	497,5	453,5	285	26,0	147,0	183,0	16,9	13,9	36,8	142,8	118,2	453,2	714,2
283	55–80	995	950	32x11,25°	22 M20	898	995	370	255	246	28	100	511	465	300	27,0	153,0	177,0	23,1	19,3	55,8	166,6	141,2	585,8	903,6
284	70–100	1070	1025	32x11,25°	24 M22	933	1070	400	275	369	28	110	529	483,5	310	28,0	162,0	184,0	31,4	26,8	72,4	194,8	167,5	669,6	1031,9

# CENTAX-SEC SERIES 400

## TECHNICAL DATA

**Series 400-G** One segmented element and membrane      Sizes 496-498 .....Page 400-2

Two segmented elements and membrane      Sizes 496-498 .....Page 400-3

## DIMENSIONS

**Series 400-GFS1**      Sizes 496-498 .....Page 400-4

**Series 400-GFS1** Inner Hub      Sizes 496-498 .....Page 400-5

**Series 400-GFS2**      Sizes 496-498 .....Page 400-6

**Series 400-GFS2** Inner Hub      Sizes 496-498 .....Page 400-7

**Series 400-GFS2** with failsafe device      Sizes 496-498 .....Page 400-8

# CENTAX-SEC

## SERIES 400-G

ONE SEGMENTED ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 496-498											
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax.}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{ }^\circ$ ]	$n_{max}$ [min $^{-1}$ ]
496	50	425,00	1275,00	106,25	3500,00	8,24	2,48	1,05	$\pm 17$	2,00	8,50	10,10	0,5	675
	60	500,00	1500,00	125,00	4300,00	8,60	2,60	1,10			8,50	12,60		
	70	550,00	1650,00	137,50	7600,00	13,82	2,73	1,15			5,10	22,20		
498	50	500,00	1500,00	125,00	4200,00	8,40	2,70	1,05	$\pm 18$	2,50	9,00	11,90	0,5	600
	60	600,00	1800,00	150,00	5300,00	8,83	2,84	1,10			9,00	14,90		
	70	650,00	1950,00	162,50	9250,00	14,23	2,97	1,15			5,40	26,20		

# CENTAX-SEC

## SERIES 400-G

TWO SEGMENTED ELEMENTS AND MEMBRANE



TECHNICAL DATA			↓ SIZES 496-498											
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	$T_{KN}$ [kNm]	$T_{Kmax.}$ [kNm]	$T_{KW}$ [kNm]	$C_{Tdyn}$ [kNm/rad]	$C_{Tdyn}/T_{KN}$	$P_{KV}$ [kW]	$\psi$	$\Delta K_a$ [mm]	$C_{ka}$ [kN/mm]	$\Delta K_r$ [mm]	$C_{rdyn}$ [kN/mm]	$\Delta K_w$ [ $\text{ }^\circ$ ]	$n_{max}$ [min $^{-1}$ ]
496	50	425,00	1275,00	106,25	1750,00	4,12	4,96	1,05	$\pm 17$	2,00	17,00	5,05	0,5	675
	60	500,00	1500,00	125,00	2150,00	4,30	5,21	1,10			17,00	6,30		
	70	550,00	1650,00	137,50	3800,00	6,91	5,46	1,15			10,20	11,10		
498	50	500,00	1500,00	125,00	2100,00	4,20	5,40	1,05	$\pm 18$	2,50	18,00	5,95	0,5	600
	60	600,00	1800,00	150,00	2650,00	4,42	5,67	1,10			18,00	7,45		
	70	650,00	1950,00	162,50	4625,00	7,12	5,94	1,15			10,80	13,10		

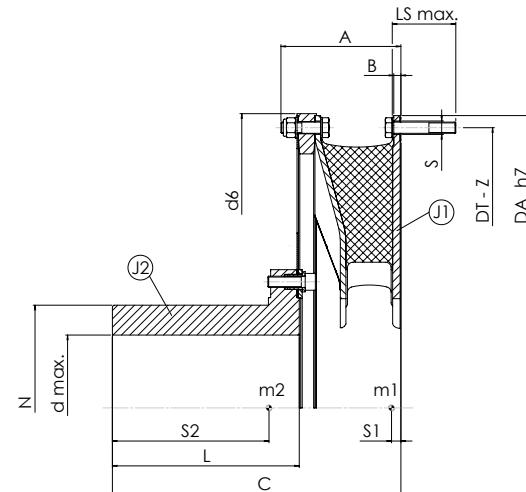
# CENTAX-SEC

## SERIES 400-GFS1

### FLYWHEEL-SHAFT

#### ONE SEGMENTED ELEMENT AND MEMBRANE

OUTER HUB



DIMENSIONS		↓ SIZES 496-498																			
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_6$	N	d max	A	B	LS <sub>max</sub>	C	L	Distance centre of gravity, moments of inertia and masses							
														$S_1$	$S_2$	$J_1$	$J_2$	$m_1$	$m_2$	$m_{total}$	
496	425-550	1940	1870	32x11,25°	36 M33	1950	675	480	347	24	190	847	540	28,0	427,0	315,9	622,9	618,9	1739,2	2358,1	
498	500-650	1940	1870	48x7,5°	36 M33	1950	675	480	347	24	190	847	540	30,0	459,0	331,8	660,8	642,3	1783,9	2426,2	

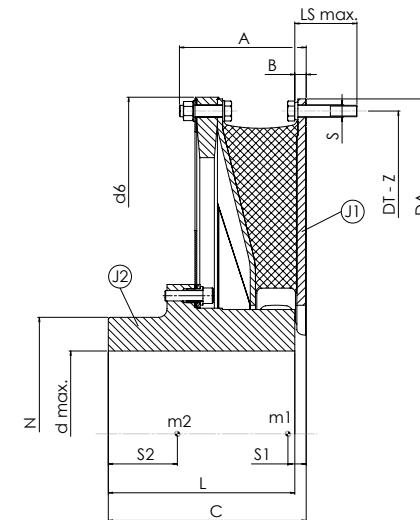
# CENTAX-SEC

## SERIES 400-GFS1

### FLYWHEEL-SHAFT

#### ONE SEGMENTED ELEMENT AND MEMBRANE

INNER HUB



DIMENSIONS		↓ SIZES 496-498																		
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_6$	N	d max	A	B	LS <sub>max</sub>	C	L	Distance centre of gravity, moments of inertia and masses						
														$S_1$	$S_2$	$J_1$	$J_2$	$m_1$	$m_2$	$m_{total}$
496	425-550	1940	1870	32x11,25°	36 M33	1950	675	480	367	33	180	573,0	540	24,0	289,0	303,5	760,5	591,7	2045,5	2637,2
498	500-650	1940	1870	48x7,5°	36 M33	1950	675	480	367	33	180	573,0	540	26,0	303,0	315,5	795,7	608,6	2089,5	2698,1

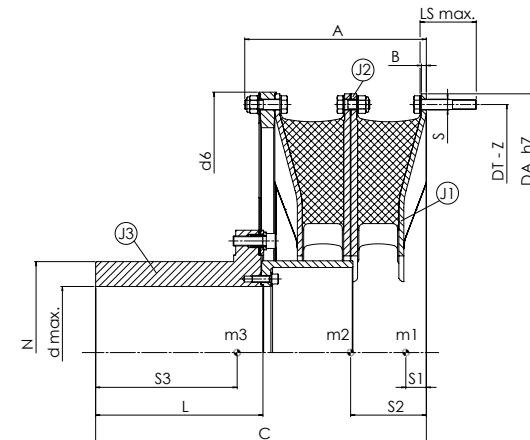
# CENTAX-SEC

## SERIES 400-GFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND MEMBRANE

OUTER HUB



DIMENSIONS		↓ SIZES 496-498																					
Size	$T_{KN}$ [kNm]	Dimensions													Distance centre of gravity, moments of inertia and masses								
		$D_A$ [h7]	$D_T$	Z	S-bolt	$d_6$	N	$d_{max}$	A	B	$LS_{max}$	C	L	$S_1$	$S_2$	$S_3$	$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$
496	425-550	1940	1870	32x11,25°	36 M33	1950	675	480	612	15	180	1112	540	67,0	256,0	482,0	230,7	670,1	750,4	438,6	1281,7	2038,2	3758,5
498	500-650	1940	1870	48x7,5°	36 M33	1950	675	480	612	15	180	1112	540	67,0	256,0	484,0	246,8	720,3	781,9	458,0	1349,2	2075,2	3882,4

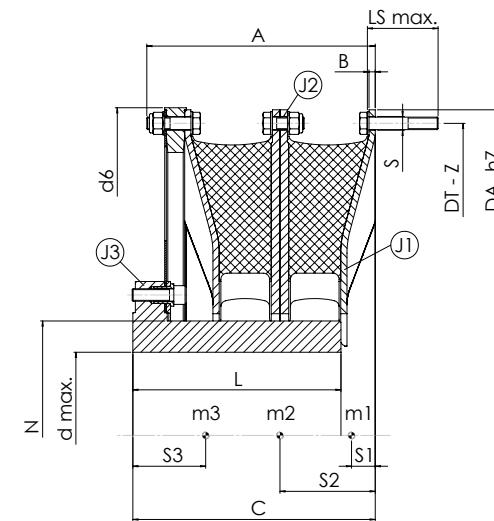
# CENTAX-SEC

## SERIES 400-GFS2

### FLYWHEEL-SHAFT

#### TWO SEGMENTED ELEMENTS AND MEMBRANE

INNER HUB



DIMENSIONS		↓ SIZES 496-498																					
Size	$T_{KN}$ [kNm]	Dimensions													Distance centre of gravity, moments of inertia and masses								
		$D_A$ [h7]	$D_T$	Z	S-bolt	$d_6$	N	$d_{max}$	A	B	LS <sub>max</sub>	C	L	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	J <sub>1</sub>	J <sub>2</sub>	J <sub>3</sub>	$m_1$	$m_2$	$m_3$	$m_{total}$
496	425-550	1940	1870	32x11,25°	36 M33	1950	675	480	602	15	190	654,5	540	67,0	256,0	195,0	230,7	670,1	732,7	438,6	1281,7	1879,7	3600,0
498	500-650	1940	1870	48x7,5°	36 M33	1950	675	480	602	15	190	654,5	540	67,0	256,0	191,0	246,8	720,6	764,1	458,0	1349,6	1916,6	3824,2

# CENTAX-SEC

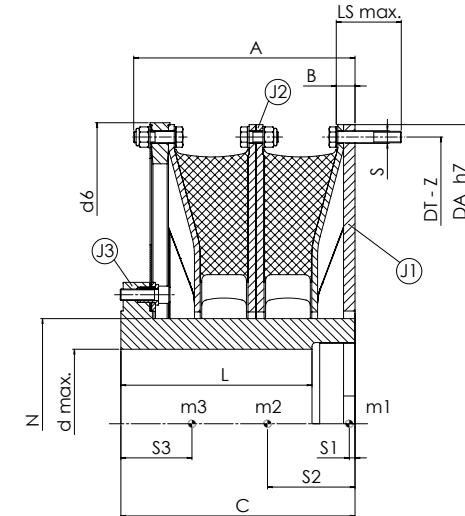
## SERIES 400-GFS2

### FLYWHEEL-SHAFT

TWO SEGMENTED ELEMENTS AND MEMBRANE

WITH FAILSAFE DEVICE

INNER HUB



DIMENSIONS		↓ SIZES 496-498																					
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_6$	N	$d_{max}$	Dimensions						Distance centre of gravity, moments of inertia and masses								
									A	B	$L_{max}$	C	L	$S_1$	$S_2$	$S_3$	$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$m_{total}$
496	425-550	1940	1870	32x11,25°	36 M33	1950	675	480	637	50	190	679,5	540	50,0	291,0	207,0	599,4	670,1	627,9	1143,8	1281,7	1794,6	4220,1
498	500-650	1940	1870	48x7,5°	36 M33	1950	675	480	637	50	190	679,5	540	51,0	291,0	206,0	611,6	720,9	659,6	1158,7	1350,2	1831,9	4340,8

# CENTAX-SEC SERIES B

## TECHNICAL DATA

<b>Series B</b>	One ring element and bolts	Sizes 64–78 ..... Sizes 80–188 .....	Page B-2 Page B-3
	One segmented element and bolts	Sizes 276–283 ..... Sizes 284–288 .....	Page B-4 Page B-5

## DIMENSIONS

<b>Series BFS1</b>		Sizes 64–90 ..... Sizes 186–188 .....	Page B-6 Page B-7	
<b>Series BFS1</b>	inner hub		Sizes 276–288 .....	Page B-8

# CENTAX-SEC

## SERIES B

ONE RING ELEMENT AND BOLTS



TECHNICAL DATA			↓ SIZES 64-78				→ SIZES 80-188							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{°}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
64	50	5,50	16,50	1,38	21,20	3,85	0,36	1,05	$\pm 5$		3,00	1,00	0,50	2900
	60	6,00	18,00	1,50	26,80	4,47	0,38	1,10			3,00	1,30		
	70	6,50	19,50	1,63	56,00	8,62	0,40	1,15			1,80	2,10		
66	50	7,50	22,50	1,88	47,00	6,27	0,46	1,05	$\pm 5$		4,00	1,30	0,50	2900
	60	8,30	24,75	2,06	58,00	7,03	0,48	1,10			4,00	1,60		
	70	9,00	27,00	2,25	105,00	11,67	0,50	1,15			2,40	2,80		
67	50	6,00	18,00	1,50	25,50	4,25	0,36	1,05	$\pm 5$		3,00	1,30	0,50	2900
	60	6,60	19,80	1,65	31,80	4,82	0,38	1,10			3,00	1,60		
	70	7,20	21,60	1,80	65,00	9,03	0,40	1,15			1,80	2,80		
69	50	11,00	33,00	2,75	68,00	6,18	0,54	1,05	$\pm 5$		4,00	1,40	0,50	2900
	60	12,00	36,00	3,00	85,00	7,08	0,57	1,10			4,00	1,80		
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00		
71	50	11,50	34,50	2,88	68,00	5,91	0,54	1,05	$\pm 5$		4,00	1,50	0,50	2900
	60	12,50	37,50	3,13	85,00	6,80	0,57	1,10			4,00	1,80		
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00		
72	50	15,00	45,00	3,75	94,50	6,30	0,61	1,05	$\pm 5$		5,00	1,80	0,50	2750
	60	16,50	49,50	4,13	118,00	7,15	0,64	1,10			5,00	2,20		
	70	18,00	54,00	4,50	212,00	11,78	0,67	1,15			3,00	3,80		
75	50	20,00	60,00	5,00	135,00	6,75	0,68	1,05	$\pm 5$		5,50	2,10	0,50	2300
	60	22,00	66,00	5,50	168,00	7,64	0,71	1,10			5,50	2,50		
	70	25,00	75,00	6,25	305,00	12,20	0,75	1,15			3,30	4,30		
76	50	25,00	75,00	6,25	165,00	6,60	0,89	1,05	$\pm 5$		5,50	3,50	0,50	2200
	60	30,00	90,00	7,50	200,00	6,67	0,93	1,10			5,50	4,30		
	70	33,00	99,00	8,25	365,00	11,06	0,98	1,15			3,30	7,30		
78	50	31,50	94,50	7,88	190,00	6,03	0,82	1,05	$\pm 5$		6,00	2,30	0,25	2000
	60	35,00	105,00	8,75	237,00	6,77	0,86	1,10			6,00	2,90		
	70	40,00	120,00	10,00	430,00	10,75	0,90	1,15			3,60	5,10		

# CENTAX-SEC

## SERIES B

ONE RING ELEMENT AND BOLTS



TECHNICAL DATA			↓ SIZES 80-188				← SIZES 64-78									
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed		
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{°}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]		
80	50	40,00	120,00	10,00	267,00	6,68	0,95	1,05	±5						1725	
	60	44,00	132,00	11,00	334,00	7,59	1,00	1,10								
	70	50,00	150,00	12,50	600,00	12,00	1,05	1,15								
81	50	50,00	150,00	12,50	320,00	6,40	1,03	1,05	±5						1500	
	60	55,00	165,00	13,75	400,00	7,27	1,08	1,10								
	70	63,00	189,00	15,75	730,00	11,59	1,13	1,15								
82	50	63,00	189,00	15,75	415,00	6,59	1,10	1,05	±5						1200	
	60	70,00	210,00	17,50	518,00	7,40	1,15	1,10								
	70	80,00	230,00	20,00	900,00	11,25	1,20	1,15								
84	50	80,00	240,00	20,00	525,00	6,56	1,22	1,05	±5						1100	
	60	90,00	270,00	22,50	656,00	7,29	1,28	1,10								
	70	100,00	270,00	25,00	1170,00	11,70	1,34	1,15								
85	50	90,00	270,00	22,50	540,00	6,00	1,25	1,05	±5						1100	
	60	100,00	300,00	25,00	675,00	6,75	1,31	1,10								
	70	115,00	345,00	28,75	1210,00	10,52	1,37	1,15								
186	50	125,00	375,00	31,25	875,00	7,00	1,69	1,05	±5						1100	
	60	150,00	450,00	37,50	1090,00	7,27	1,77	1,10								
	70	180,00	540,00	45,00	1920,00	10,67	1,86	1,15								
187	50	180,00	540,00	45,00	1250,00	6,94	1,93	1,05	±5						1000	
	60	220,00	660,00	55,00	1560,00	7,09	2,02	1,10								
	70	250,00	750,00	62,50	2745,00	10,98	2,12	1,15								
188	50	220,00	660,00	55,00	1300,00	5,91	1,78	1,05	±5						1000	
	60	260,00	780,00	65,00	1560,00	6,00	1,87	1,10								
	70	280,00	840,00	70,00	2760,00	9,86	1,96	1,15								

# CENTAX-SEC

## SERIES B

ONE SEGMENTED ELEMENT AND BOLTS



TECHNICAL DATA			↓ SIZES 276-283				→ SIZES 284-288							
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
276	50	22,00	66,00	5,50	154,00	7,00	0,76	1,05	$\pm 5$	DEPENDING ON ACTUAL TORQUE	5,5	3,2	0,5	1800
	60	26,00	78,00	6,50	193,00	7,42	0,80	1,10			5,5	4,0		
	70	30,00	84,00	7,50	339,00	11,30	0,84	1,15			1,7	6,7		
277	50	28,00	84,00	7,00	193,00	6,89	0,83	1,05	$\pm 5$	DEPENDING ON ACTUAL TORQUE	6,0	3,6	0,5	1700
	60	34,00	102,00	8,50	242,00	7,12	0,87	1,10			6,0	4,3		
	70	40,00	112,00	10,00	424,00	10,60	0,91	1,15			2,0	7,3		
279	50	35,00	105,00	8,75	242,00	6,91	0,91	1,05	$\pm 5$	DEPENDING ON ACTUAL TORQUE	7,0	3,9	0,5	1600
	60	44,00	132,00	11,00	334,00	7,59	0,95	1,10			7,0	4,8		
	70	50,00	140,00	12,50	532,00	10,64	1,00	1,15			2,5	8,1		
281	50	45,00	135,00	11,25	314,00	6,98	1,00	1,05	$\pm 5$	DEPENDING ON ACTUAL TORQUE	7,0	3,9	0,5	1450
	60	55,00	165,00	13,75	393,00	7,15	1,05	1,10			7,0	4,7		
	70	65,00	182,00	16,25	690,00	10,62	1,10	1,15			2,5	8,0		
283	50	55,00	165,00	13,75	408,00	7,42	1,09	1,05	$\pm 5$	DEPENDING ON ACTUAL TORQUE	7,5	4,4	0,5	1250
	60	70,00	210,00	17,50	510,00	7,29	1,14	1,10			7,5	5,4		
	70	80,00	224,00	20,00	900,00	11,25	1,20	1,15			2,5	9,1		

# CENTAX-SEC

## SERIES B

ONE SEGMENTED ELEMENT AND BOLTS



TECHNICAL DATA			↓ SIZES 284-288			← SIZES 276-283								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]	n <sub>max</sub> [min <sup>-1</sup> ]
284	50	70,00	210,00	17,50	500,00	7,14	1,20	1,05	±5	DEPENDING ON ACTUAL TORQUE	8,0	4,6	0,5	1250
	60	85,00	255,00	21,25	627,00	7,38	1,26	1,10			8,0	5,7		
	70	100,00	280,00	25,00	1100,00	11,00	1,32	1,15			2,5	9,6		
286	50	115,00	345,00	28,75	805,00	7,00	1,44	1,05	±5	DEPENDING ON ACTUAL TORQUE	8,0	5,3	0,5	1100
	60	140,00	420,00	35,00	1006,00	7,19	1,51	1,10			8,0	6,5		
	70	160,00	448,00	40,00	1770,00	11,06	1,58	1,15			2,5	10,9		
287	50	160,00	480,00	40,00	1150,00	7,19	1,70	1,05	±5	DEPENDING ON ACTUAL TORQUE	8,0	6,7	0,5	1000
	60	185,00	555,00	46,25	1440,00	7,78	1,79	1,10			8,0	8,1		
	70	220,00	616,00	55,00	2530,00	11,50	1,87	1,15			2,5	13,9		
288	50	200,00	600,00	50,00	1375,00	6,88	1,78	1,05	±5	DEPENDING ON ACTUAL TORQUE	8,0	7,1	0,5	1000
	60	240,00	720,00	60,00	1651,00	6,88	1,87	1,10			8,0	8,8		
	70	260,00	728,00	65,00	2921,00	11,23	1,96	1,15			2,5	15,5		

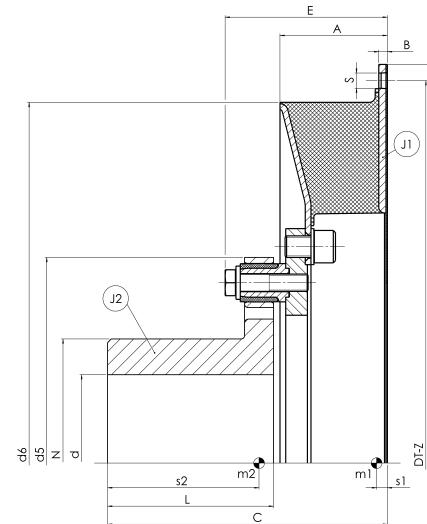
# CENTAX-SEC

## SERIES BFS1

### FLYWHEEL-SHAFT

#### ONE RING ELEMENT AND BOLTS

##### OUTER HUB



DIMENSIONS			↓ SIZES 64-90						→ SIZES 186-188						Distance centre of gravity, moments of inertia and masses						
Size	T <sub>KN</sub> [kNm]	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S-bolt	d <sub>5</sub>	d <sub>6</sub>	A	B	E	d min-max	C	L	N	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>total</sub>
64	5,5-6,5	466,7 SAE14	438,2	16	12,5 M12	320	418	87,5	6	175	100-140	252,5	140	200	10,0	124,0	0,2	0,7	7,2	47,3	54,5
66	7,5-9	571,5 SAE18	542,9	12	17 M16	320	477	77	6	156,5	100-140	234	140	200	7,5	123,0	0,5	0,9	8,9	51,4	60,3
69	11-13	571,5 SAE18	542,9	6	17 M16	330	540	85,5	7	165	100-140	242,5	140	200	11,5	129,0	0,6	1,3	9,9	58,1	68,0
70	11,5-13	584,0	564	24	13 M12	330	540	85,5	7	165	100-140	242,5	140	200	10,0	129,0	0,7	1,3	11,0	58,3	69,3
71	11,5-13	673,1 SAE21	641,4	24	17 M16	330	540	86	7	165,5	100-140	243	140	200	7,5	130,0	1,0	1,3	14,3	58,9	73,2
72	15-18	673,1 SAE21	641,4	24	17 M16	350	598	93,5	7	177,5	100-155	265,5	155	220	10,5	144,0	1,1	2,0	15,0	75,3	90,3
75	20-25	733,4 SAE24	692,2	24	19 M18	430	650	106	10	196	100-180 180-200	309 324	180 195	258 280	12,0	163,5 172,0	2,1	3,9 4,0	24,5	111,7 116,2	136,2 116,2
76	25-33	733,4 SAE24	692,2	24	19 M18	430	676	96,5	10	185	95-180 180-200	302 317	180 195	258 280	12,5	168,5 177,5	2,4	4,1 4,3	30,5	121,9 126,3	152,4 126,3
78	31,5-40	800	770	32	19 M18	430	730	117	10	204	100-180 180-200	317 332	180 195	258 280	14,5	170,0 178,5	3,1	5,3 5,4	29,5	124,3 128,8	153,8 128,8
80	40-50	885	855	48	17 M16	570	820	132	12	213,5	120-245 245-285	379 449	230 300	344 400	15,5	202,5 235,0	5,6	12,0 14,0	42,4	213,1 262,0	255,5 304,4
81	50-63	920	880	32	19 M18	570	820	133	12	217	120-245 245-285	380 450	230 300	344 400	14,5	206,5 240,0	7,1	12,4 14,4	56,3	227,5 276,4	283,8 332,7
82	63-80	1105	1060	32	21 M20	570	1000	149,5	12	225,5	120-245 245-285	388,5 458,5	230 300	344 385	14,5	209,0 244,0	13,6	18,7 20,7	69,2	242,2 291,1	311,4 360,3
84	80-100	1105	1060	32	21 M20	570	1000	149	12	225	120-245 245-285	388 458	230 300	344 400	16,0	211,0 246,5	14,7	20,2 22,2	74,1	248,5 297,4	322,6 371,5
85	90-115	1070	1025	32	23,5 M22	570	1000	149	12	235	120-245 245-275	388 428	230 260	344 400	17,0	217,0 209,0	13,4	20,1 22,3	73,0	255,7 314,2	328,7 387,2
90	145-180	1330	1295	48	21,5 M20	770	1230	177	14	261	170-285 285-360	464 499	270 305	400 508	22,5	257,0 261,0	38,6	55,8 61,9	131,5	445,0 528,9	576,5 660,4

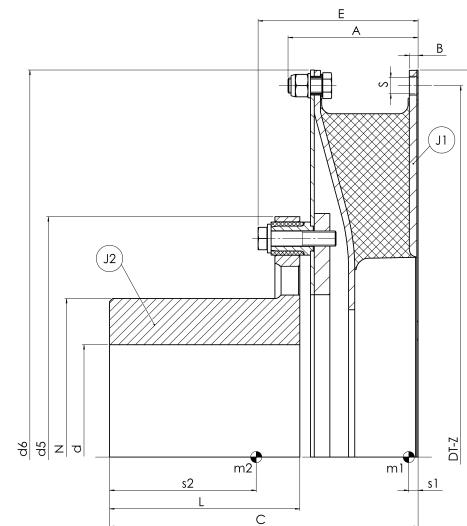
# CENTAX-SEC

## SERIES BFS1

### FLYWHEEL-SHAFT

#### ONE RING ELEMENT AND BOLTS

OUTER HUB



DIMENSIONS			↓ SIZES 186-188						← SIZES 64-90						Distance centre of gravity, moments of inertia and masses						
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$d_5$	$d_6$	A	B	E	d min-max	C	L	N	$S_1$	$S_2$	$J_1$	$J_2$	$m_1$	$m_2$	$m_{total}$
186	125-180	1240	1190	32	26 M24	770	1240	212	14	260	170-285 285-360	463 498	270 305	400 508	21,5	254,0 259,0	27,1	61,0 67,2	124,7	449,5 533,3	574,2 658,0
187	180-250	1355	1295	32	30 M27	770	1355	229	14	272	170-285 285-360	475 510	270 305	400 508	23,0	259,0 268,5	41,1	83,1 89,1	162,5	512,6 583,8	675,1 746,3
188	220-280	1460	1395	32	33 M30	770	1460	282	17	321	170-285 285-360	524 559	270 305	400 508	26,0	279,0 289,0	75,4	125,3 132,7	252,0	604,0 690,4	856,0 942,4

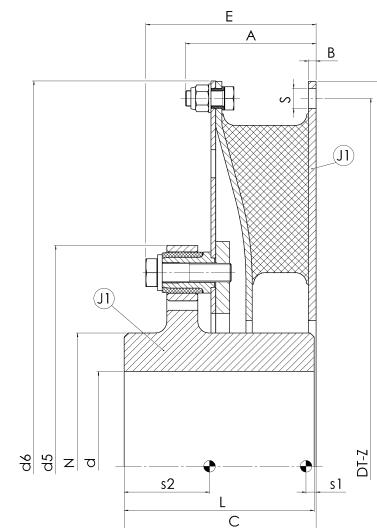
# CENTAX-SEC

## SERIES BFS1

### FLYWHEEL-SHAFT

#### ONE SEGMENTED ELEMENT AND BOLTS

##### INNER HUB



DIMENSIONS		↓ SIZES 276-288																Distance centre of gravity, moments of inertia and masses						
Size	$T_{KN}$ [kNm]	$D_A$ [h7]	$D_T$	Z	S-bolt	$LS_{max}$	Dimensions								N	Distance centre of gravity, moments of inertia and masses								
							$d_5$	$d_6$	A	B	E	d min-max	C	L		$S_1$	$S_2$	$J_1$ [kgm <sup>2</sup> ]	$J_2$ [kgm <sup>2</sup> ]	$m_1$ [kg]	$m_2$ [kg]	$m_{total}$ [kg]		
276	22-30	730	700	32	16 M14	65	430	730	127	10	183,5	100-190	211	205	280	11,5	103,5	2,1	5,8	30,4	132,4	162,8		
277	28-40	790	755	32	18 M16	75	430	790	139	10	190,5	100-190	218	205	280	13,0	105,0	3,0	7,4	37,0	142,8	179,8		
279	35-50	860	820	32	20 M18	80	430	860	147	10	203	100-190 190-200	226 226	220 220	280 280	14,0	111,5 111,5	4,2	9,9 9,9	44,1	167,0 162,0	211,1 206,1		
281	45-65	920	880	32	19 M18	90	570	920	162	12	218	120-245	241	230	344	14,5	111,0	6,5	17,0	58,3	239,5	297,8		
283	55-80	995	950	32	22 M20	95	570	995	173	12	224	120-245 245-265	252 247	245 240	344 374	15,0	118,8 115,0	9,0	21,6 22,1	69,2	265,7 273,4	334,9 342,6		
284	70-100	1070	1025	32	24 M22	100	570	1070	182	12	233	120-245 245-275	256 256	250 250	344 385	16,5	118,6 120,0	12,6	27,1 27,9	82,9	284,7 298,3	367,6 381,2		
286	115-160	1240	1190	32	26 M24	120	770	1240	212	14	262	170-285 285-330	285 285	275 275	400 468	18,5	124,0 125,0	26,8	64,2 66,5	131,5	468,7 497,0	600,2 628,5		
287	160-220	1355	1295	32	30 M27	130	770	1355	229	14	274	170-285 285-360	297 297	285 290	400 508	21,5	128,0 131,0	40,6	86,4 91,2	168,1	522,5 577,8	690,6 745,9		
288	200-260	1460	1395	32	32 M30	170	770	1460	280	17	319	170-285 285-360	342 342	285 295	400 508	23,5	137,0 141,0	72,5	125,4 131,0	251,2	610,4 679,8	861,6 931,0		

# CENTAX-SEC SERIES N/NL

## TECHNICAL DATA

<b>Series N</b>	One ring element and membrane	Sizes 35–64 ..... Page N/NL-2
		Sizes 67–75 ..... Page N/NL-3
<b>Series NL</b>	One ring elements and link coupling	Sizes 52–64 ..... Page N/NL-4
		Sizes 67–75 ..... Page N/NL-5

## DIMENSIONS

<b>Series NFS</b>	Sizes 35–75 ..... Page N/NL-6
<b>Series NLFS</b>	Sizes 52–75 ..... Page N/NL-7

# CENTAX-SEC

## SERIES N

### ONE RING ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 35-64				→ SIZES 67-75								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Flange Size SAE J620	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]		
35	45	1,10	3,30	0,28	4,80	4,36	0,20	1,00	$\pm 5$	0,18	3,00	0,36	0,5	11,5 14	3600
	50	1,20	3,60	0,30	5,80	4,83	0,21	1,05			3,00	0,42			
	60	1,40	4,20	0,35	7,20	5,14	0,23	1,10			2,00	0,50			
45	45	1,60	4,80	0,40	7,10	4,44	0,23	1,00	$\pm 5$	0,20	3,00	0,41	0,5	11,5 14	3600
	50	1,80	5,40	0,45	8,50	4,72	0,24	1,05			3,00	0,49			
	60	2,20	6,60	0,55	10,60	4,82	0,26	1,10			2,00	0,59			
51	45	2,10	6,30	0,53	9,70	4,62	0,26	1,00	$\pm 5$	0,30	3,00	0,47	0,5	11,5 290	3600
	50	2,50	7,50	0,63	11,30	4,52	0,27	1,05			3,00	0,68			
	60	3,00	9,00	0,75	14,10	4,70	0,29	1,10			2,00	0,80			
52	45	2,25	6,75	0,56	10,20	4,53	0,27	1,00	$\pm 5$	0,22	3,00	0,37	0,5	14 355	3600
	50	2,80	8,40	0,70	12,00	4,29	0,28	1,05			3,00	0,44			
	60	3,00	9,00	0,75	15,00	5,00	0,29	1,10			3,00	0,53			
	70	3,50	10,50	0,88	29,00	8,29	0,30	1,15			1,80	0,91			
56	45	2,90	8,70	0,73	13,00	4,48	0,30	1,00	$\pm 5$	0,28	3,00	0,42	0,5	14 355	3600
	50	3,50	10,50	0,88	15,40	4,40	0,31	1,05			3,00	0,49			
	60	4,00	12,00	1,00	19,30	4,83	0,33	1,10			3,00	0,59			
	70	4,40	13,20	1,10	36,50	8,30	0,35	1,15			1,80	1,03			
64	50	5,50	16,50	1,38	21,20	3,85	0,36	1,05	$\pm 5$	0,47	3,00	1,00	0,5	14 355	2900
	60	6,00	18,00	1,50	26,30	4,38	0,38	1,10			3,00	1,30			
	70	6,50	19,50	1,63	56,00	8,62	0,40	1,15			1,80	2,10			

# CENTAX-SEC

## SERIES N

### ONE RING ELEMENT AND MEMBRANE



TECHNICAL DATA			↓ SIZES 67-75				→ SIZES 35-64								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Flange Size SAE J620	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn/T<sub>KN</sub></sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]		n <sub>max</sub> [min <sup>-1</sup> ]
67	50	6,00	18,00	1,50	25,50	4,27	0,36	1,05	$\pm 5$	0,53	3,00	1,30	0,5	18 460	2900
	60	6,60	19,80	1,65	31,00	7,70	0,38	1,10			3,00	1,60			
	70	7,20	21,60	1,80	65,00	8,47	0,40	1,15			1,80	2,80			
66	50	7,50	22,50	1,88	47,00	6,27	0,46	1,05	$\pm 5$	0,69	4,00	1,20	0,5	18 460	2900
	60	8,25	24,75	2,06	59,00	7,15	0,48	1,10			4,00	1,50			
	70	9,00	27,00	2,25	105,00	11,67	0,50	1,15			2,40	2,50			
69	50	11,00	33,00	2,75	68,00	6,18	0,54	1,05	$\pm 5$	0,53	4,00	1,40	0,5	18 460	2900
	60	12,00	36,00	3,00	85,00	7,10	0,57	1,10			4,00	1,80			
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00			
71	50	11,50	34,50	2,88	68,00	5,91	0,54	1,05	$\pm 5$	0,84	4,00	1,50	0,5	21 530	2900
	60	12,50	37,50	3,13	85,00	6,80	0,57	1,10			4,00	1,80			
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00			
72	50	15,00	45,00	3,75	94,50	6,30	0,61	1,05	$\pm 6$	1,00	5,00	1,80	0,5	21 530	2750
	60	16,50	49,50	4,13	118,00	7,15	0,64	1,10			5,00	2,20			
	70	18,00	54,00	4,50	212,00	11,78	0,67	1,15			3,00	3,80			
75	50	20,00	60,00	5,00	135,00	6,75	0,68	1,05	$\pm 6$	1,12	5,50	2,10	0,5	24 610	2300
	60	22,00	66,00	5,50	169,00	7,15	0,71	1,10			5,50	2,50			
	70	25,00	75,00	6,25	305,00	12,20	0,75	1,15			3,30	4,30			

# CENTAX-SEC

## SERIES NL

### ONE RING ELEMENT AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 52-64				→ SIZES 67-75								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Flange Size SAE J620	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn</sub> /T <sub>KN</sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]		
52	45	2,25	6,75	0,56	10,20	4,53	0,27	1,00	$\pm 10$	0,29	3,00	0,37	1,0	14 355	3600
	50	2,80	8,40	0,70	12,00	4,29	0,28	1,05			3,00	0,44			
	60	3,00	9,00	0,75	15,00	5,00	0,29	1,10	$\pm 10$	0,29	3,00	0,53	1,0	14 355	3600
	70	3,50	10,50	0,88	29,00	8,29	0,30	1,15			1,80	0,91			
56	45	2,90	8,70	0,73	13,00	4,48	0,30	1,00	$\pm 10$	0,29	3,00	0,42	1,0	14 355	3600
	50	3,50	10,50	0,88	15,40	4,40	0,31	1,05			3,00	0,49			
	60	4,00	12,00	1,00	19,30	4,83	0,33	1,10	$\pm 10$	0,36	3,00	0,59	1,0	14 355	3600
	70	4,40	13,20	1,10	36,50	8,30	0,35	1,15			1,80	1,03			
64	50	5,50	16,50	1,38	21,20	3,85	0,36	1,05	$\pm 10$	0,36	3,00	1,00	1,0	14 355	2900
	60	6,00	18,00	1,50	26,30	4,38	0,38	1,10			3,00	1,30			
	70	6,50	19,50	1,63	56,00	8,62	0,40	1,15	$\pm 10$	0,36	1,80	2,10			

# CENTAX-SEC

## SERIES NL

ONE RING ELEMENT AND LINK COUPLING



TECHNICAL DATA			↓ SIZES 67-75				→ SIZES 52-64								
CENTAX Size	Shore hardness	Nominal torque	Max. torque	Continuous vibratory torque at 10 Hz	Dyn. torsional stiffness	Specific torsional stiffness	Allowable energy loss	Relative Damping	Allowable axial Shaft displacement	Axial stiffness	Allowable radial Shaft displacement	Radial stiffness	Allowable angular displacement	Flange Size SAE J620	Max. Speed
	Shore A	T <sub>KN</sub> [kNm]	T <sub>Kmax.</sub> [kNm]	T <sub>KW</sub> [kNm]	C <sub>Tdyn</sub> [kNm/rad]	C <sub>Tdyn/T<sub>KN</sub></sub>	P <sub>KV</sub> [kW]	ψ	ΔK <sub>a</sub> [mm]	C <sub>ka</sub> [kN/mm]	ΔK <sub>r</sub> [mm]	C <sub>rdyn</sub> [kN/mm]	ΔK <sub>w</sub> [ $\text{deg}$ ]		n <sub>max</sub> [min <sup>-1</sup> ]
67	50	6,00	18,00	1,50	25,50	4,27	0,36	1,05	$\pm 10$	0,40	3,00	1,30	1,0	18 460	2900
	60	6,60	19,80	1,65	31,00	7,70	0,38	1,10			3,00	1,60			
	70	7,20	21,60	1,80	65,00	8,47	0,40	1,15			1,80	2,80			
66	50	7,50	22,50	1,88	47,00	6,27	0,46	1,05	$\pm 10$	0,43	4,00	1,20	1,0	18 460	2900
	60	8,25	24,75	2,06	59,00	7,15	0,48	1,10			4,00	1,50			
	70	9,00	27,00	2,25	105,00	11,67	0,50	1,15			2,40	2,50			
69	50	11,00	33,00	2,75	68,00	6,18	0,54	1,05	$\pm 13$	0,52	4,00	1,40	1,0	18 460	2900
	60	12,00	36,00	3,00	85,00	7,10	0,57	1,10			4,00	1,80			
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00			
71	50	11,50	34,50	2,88	68,00	5,91	0,54	1,05	$\pm 13$	0,52	4,00	1,50	1,0	21 530	2900
	60	12,50	37,50	3,13	85,00	6,80	0,57	1,10			4,00	1,80			
	70	13,00	39,00	3,25	155,00	11,92	0,60	1,15			2,40	3,00			
72	50	15,00	45,00	3,75	94,50	6,30	0,61	1,05	$\pm 13$	0,62	5,00	1,80	1,0	21 530	2750
	60	16,50	49,50	4,13	118,00	7,15	0,64	1,10			5,00	2,20			
	70	18,00	54,00	4,50	212,00	11,78	0,67	1,15			3,00	3,80			
75	50	20,00	60,00	5,00	135,00	6,75	0,68	1,05	$\pm 13$	0,75	5,50	2,10	1,0	24 610	2300
	60	22,00	66,00	5,50	169,00	7,15	0,71	1,10			5,50	2,50			
	70	25,00	75,00	6,25	305,00	12,20	0,75	1,15			3,30	4,30			

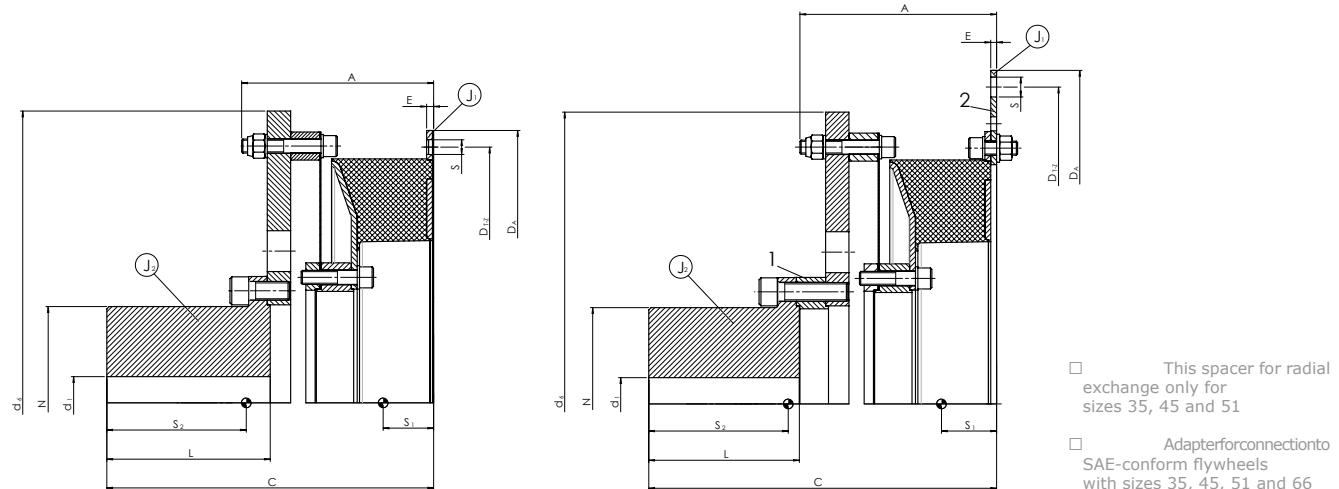
# CENTAX-SEC

## SERIES NFS

### FLYWHEEL-SHAFT

#### ONE RING ELEMENT AND MEMBRANE

##### OUTER HUB



This spacer for radial exchange only for sizes 35, 45 and 51

Adapter for connection to SAE-conform flywheels with sizes 35, 45, 51 and 66

DIMENSIONS		↓ SIZES 35-75													Distance centre of gravity, moments of inertia and masses					
Size	T <sub>KN</sub> [kNm]	A	C	d <sub>1</sub> min-max	d <sub>6</sub>	E	L	N	SAE J620	D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub> [kg]	m <sub>total</sub>
35	1,1-1,4	124,9	230 205	20-85	380	4	100	125	11,5/290 14/355	352,4 466,7	333,4 438,2	8x45°	11 13	7,0 5,0	118,0 100,5	0,07 0,16	0,36 0,35	3,2 5,6	26,5 24,1	29,7
45	1,6-2,2	127,4 130,4	232 210	20-85	400	5 4	100	125	11,5/290 14/355	352,4 466,7	333,4 438,2	8x45°	11 13	8,0 6,0	122,0 104,0	0,05 0,17	0,45 0,43	2,6 5,6	30,0 27,6	32,6 32,2
51	2,1-3,0	126,4 129,4	232 210	20-85	400	5 4	100	125	11,5/290 14/355	352,4 466,7	333,4 438,2	8x45°	11 13	9,5 12,5	121,5 103,5	0,07 0,20	0,44 0,42	3,8 7,0	29,4 26,9	33,2 33,9
52	2,25-3,0	152,0	256	45-115	460	5	125	160	14/355	466,7	438,2	16x22,5°	13	7,5	129,5	0,16	0,99	4,8	45,6	50,4
56	2,9-4,0	153,0	256	45-115	460	5	125	160	14/355	466,7	438,2	16x22,5°	13	8,5	129,5	0,17	1,00	5,2	45,7	50,9
64	5,5-6,5	164,5	280	50-118	500 550*	6	140	165	14/355	466,7	438,2	16x22,5°	13	10,0	144,0 *135,3	0,24	1,40 *1,92	7,2	55,6 *74,2	62,8 *81,4
67	6,0-7,2	164,0	279	50-118	550	5	140	165	18/460	571,5	542,9	12x30°	17	8,0	144,5	0,46	1,87	10,4	62,6	73,0
66	7,5-9,0	150,5 154,5	285 289	65-118	600	6 5	155	185	18/460 21/530	571,5 673,1	542,9 641,4	12x30°	17	8,5 8,0	153,5	0,47 1,06	2,80	9,2 15,5	81,6 90,9	90,8 106,4
69	11,0-13,0	162,5	298	65-150	595	7	160	210	18/460	571,5	542,9	6x60°	17	11,0	161,0	0,57	3,40	9,8	92,3	102,1
71	11,5-13,0	162,0	297	65-150	595	6	160	210	21/530	673,1	641,4	24x15°	17	8,5	161,0	0,96	3,41	13,6	92,5	106,1
72	15,0-18,0	175,0	327	80-150	680	7	180	235	21/530	673,1	641,4	24x15°	17	11,0	173,5	1,14	5,84	15,2	130,6	145,8
75	20,0-25,0	206,5	375	65-170	730	10	200	235	24/610	733,4	692,2	24x15°	19	12,5	207,5	2,16	9,31	25,0	167,7	192,7

\* In some cases (e.g. on 10 cyl. engines) the torsional analysis may require the higher inertia of J<sub>2</sub>, m<sub>2</sub>, m<sub>total</sub>, s<sub>2</sub> and the larger diameter d<sub>6</sub>

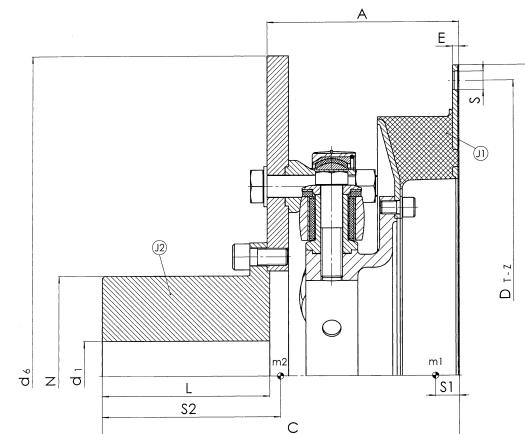
# CENTAX-SEC

## SERIES NLFS

### FLYWHEEL-SHAFT

#### ONE RING ELEMENT AND LINK COUPLING

OUTER HUB



DIMENSIONS		↓ SIZES 52-75															Distance centre of gravity, moments of inertia and masses						
Size	T <sub>KN</sub> [kNm]	A	C	d <sub>1</sub> min-max	d <sub>6</sub>	E	L	N	SAE J620	Flange dimensions				S	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub> [kg]	m <sub>total</sub>		
										D <sub>A</sub> [h7]	D <sub>T</sub>	Z	S	S <sub>1</sub>	S <sub>2</sub>	J <sub>1</sub> [kgm <sup>2</sup> ]	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub> [kg]	m <sub>total</sub>			
52	2,25-3,0	183,0	306,0	45-115	450	5	125	160	14	466,7	438,2	16x22,5°	13	7,5	147,0	0,16	1,00	4,8	53,8	58,6			
56	2,9-4,0	184,0	307,0	45-115	450	5	125	160	14	466,7	438,2	16x22,5°	13	8,5	148,0	0,17	1,01	5,2	54,2	59,4			
64	5,50-6,5	190,0	327,5	50-118	485	6	140	165	14	466,7	438,2	16x22,5°	13	10,0	162,0	0,24	1,43	7,2	65,6	72,8			
67	6,0-7,2	189,5	327,0	50-118	535	5	140	165	18	571,5	542,9	12x30°	17	8,0	161,5	0,46	1,85	10,4	72,5	82,9			
66	7,5-9,0	179,0	331,5	65-130	590	6	155	185	18	571,5	542,9	12x30°	17	8,5	172,0	0,47	2,79	9,2	90,0	99,2			
69	11,0-13,0	189,0	346,0	65-150	575	7	160	210	18	571,5	542,9	6x60°	17	11,0	176,5	0,57	3,35	9,8	100,5	110,3			
71	11,5-13,0	188,5	345,5	65-150	575	6	160	210	21	673,1	641,4	24x15°	17	8,5	176,5	0,96	3,36	13,6	100,6	114,2			
72	15,0-18,0	236,0	413,0	80-165	605	7	180	235	21	673,1	641,4	24x15°	17	11,0	212,0	1,14	5,52	15,2	148,3	163,5			
75	20,0-25,0	243,0	439,0	90-170	685	10	200	235	24	733,4	692,2	24x15°	19	12,5	233,5	2,16	8,96	25,0	192,8	217,8			

# CENTAX-SEC

## APPENDIX

### VARIANTS

<b>Serie N and G</b>	Ring elements with membrane Segmented elements with membrane with failsafe device	Sizes 35-194 Sizes 276-498 Page APP-7	Page APP-2 Page APP-3 Page APP-10
<b>Serie L</b>	Ring elements with link coupling Segmented elements with link coupling with failsafe device	Sizes 52-184 Sizes 276-284 Page APP-8	Page APP-5 Page APP-6 Page APP-10
<b>Special designs</b>		Page APP-9	Page APP-11

### Explanation of the technical data

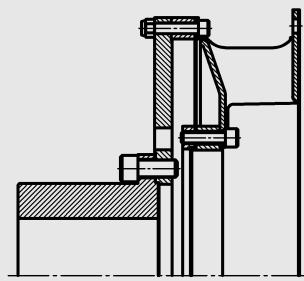
Size destination	Page APP-10
Rubber quality	Page APP-10
Nominal torque	Page APP-10
Maximum torque	Page APP-10
Allowable continuous vibratory torque	Page APP-11
Dynamic torsional stiffness	Page APP-11
Specific torsional stiffness	Page APP-12
Allowable energy loss	Page APP-12
Relative damping	Page APP-13
Axial shaft misalignment	Page APP-13
Axial reaction forces	Page APP-13
Allowable radial shaft misalignment	Page APP-14
Radial reaction force	Page APP-14
Angular misalignment	Page APP-15
Maximum Speed	Page APP-15
Storage of CENTA elements	Page APP-15
Protection of the rubber surface against harmful environmental influences	Page APP-15

# CENTAX-SEC

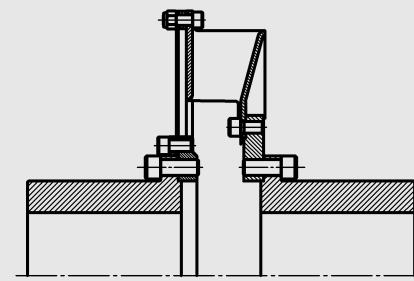
## VARIANTS SERIES N AND G

### RING ELEMENTS WITH MEMBRANE

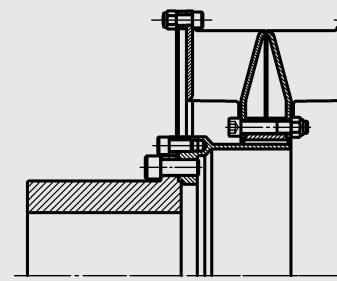
SIZES 35-194



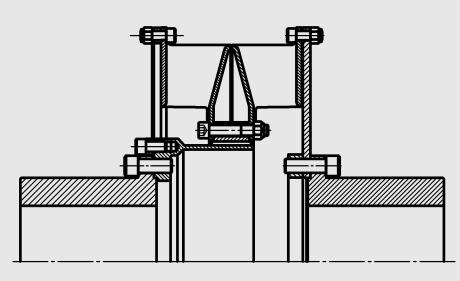
CX-00-NFS



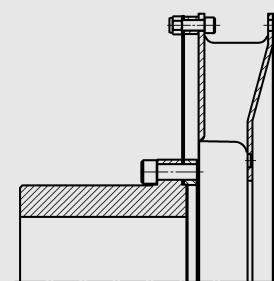
CX-00-GSS1



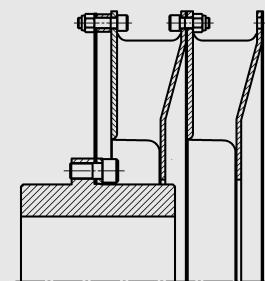
CX-00-GFS2



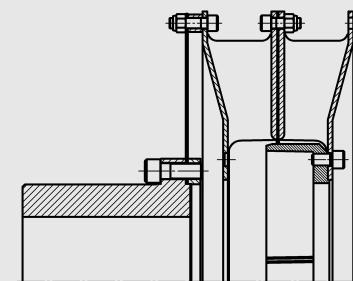
CX-00-GSS2



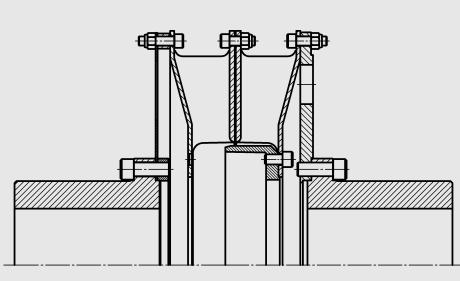
CX-100-GFS1



CX-100-GFS1 Short Hub



CX-100-GFS2 Long Hub



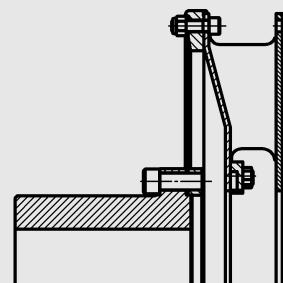
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# CENTAX-SEC

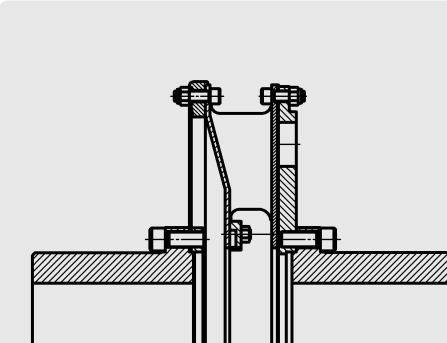
## VARIANTS SERIES G

### RING ELEMENTS WITH MEMBRANE

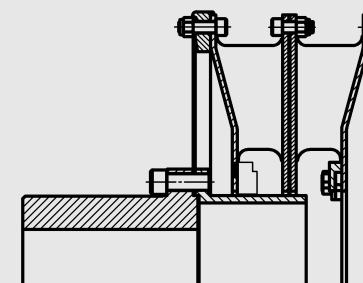
SIZES 276-498



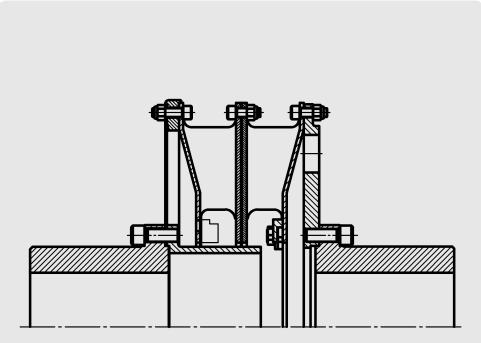
CX-200-GFS1 Hub 300  
CX-400-GFS1 Hub 300



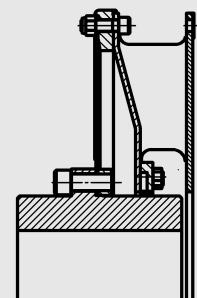
CX-200-GSS1 Hub 300  
CX-400-GSS1 Hub 300



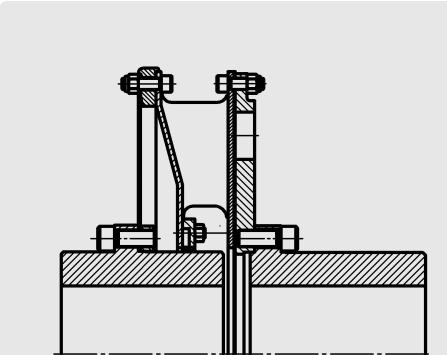
CX-200-GFS2 Hub 300  
CX-400-GFS2 Hub 300



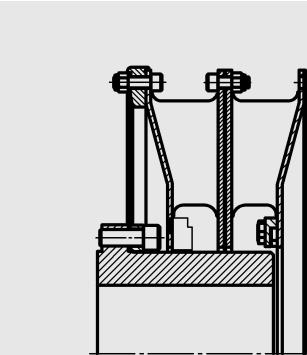
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CX-400-GSS2 Hub 300



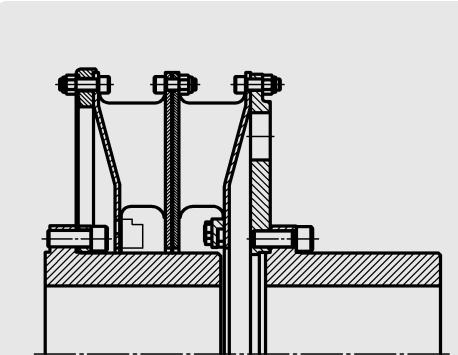
CX-200-GFS1 Hub 250  
CX-400-GFS1 Hub 250



CX-200-GSS1 Hub 250  
CX-400-GSS1 Hub 250



CX-200-GFS2 Hub 350  
CX-400-GFS2 Hub 350



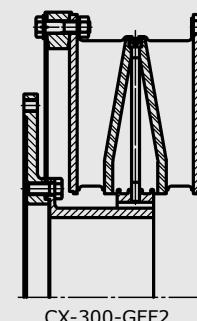
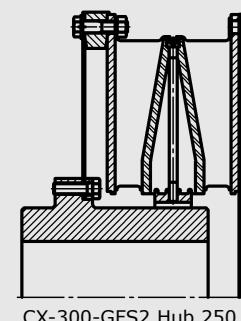
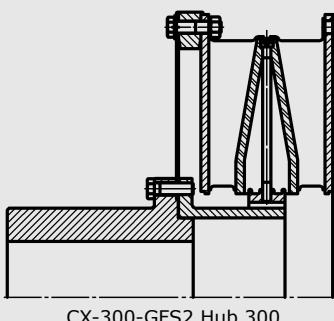
CX-200-GSS2 Hub 350  
CX-400-GSS2 Hub 350

# CENTAX-SEC

## VARIANTS SERIES G

### SEGMENTED ELEMENTS WITH MEMBRANE

SIZES 391-394

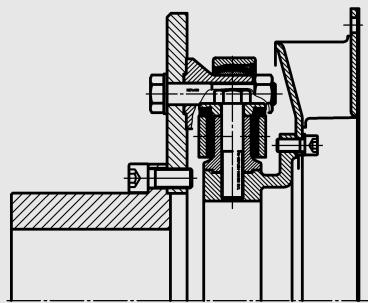


# CENTAX-SEC

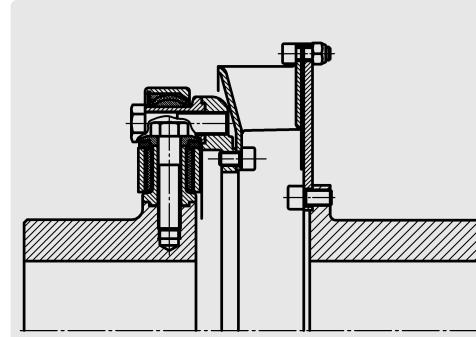
## VARIANTS SERIES NL AND L

### RING ELEMENTS WITH LINK COUPLING

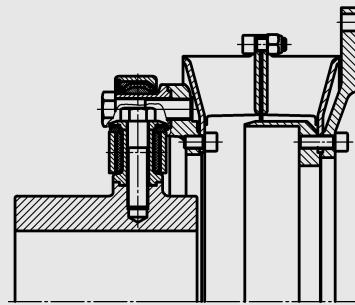
SIZES 52-184



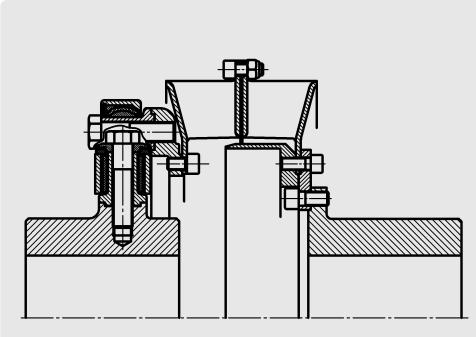
CX-00-NL



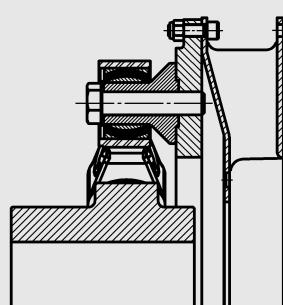
CX-00-LSS1



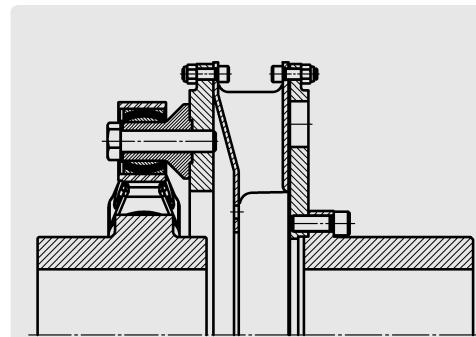
CX-00-LFS2



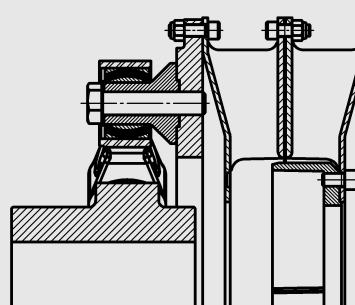
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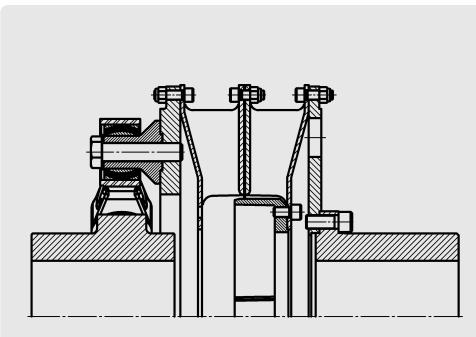
CX-100-LFS1



CX-100-LSS1



CX-100-LFS2



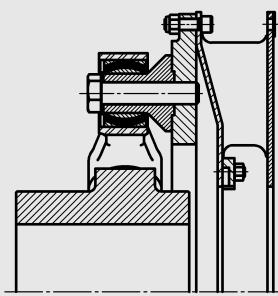
CX-100-LSS2

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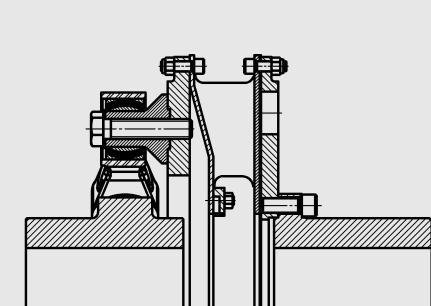
## VARIANTS SERIES L

### SEGMENTED ELEMENTS WITH LINK COUPLING

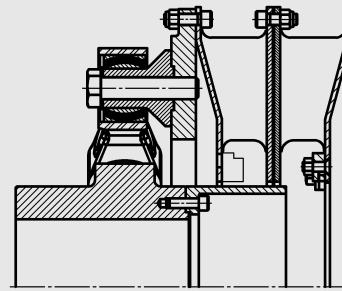
SIZES 276-284



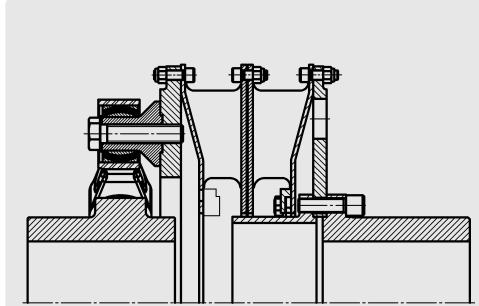
CX-200-LFS1 Hub 200



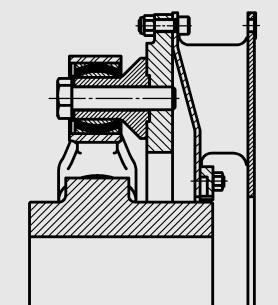
CX-200-LSS1 Hub 200



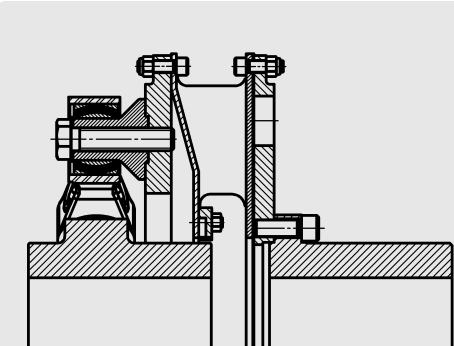
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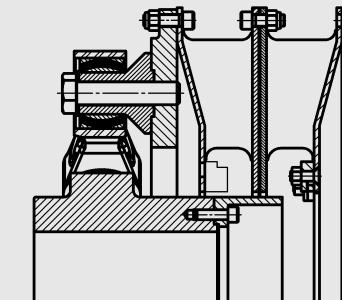
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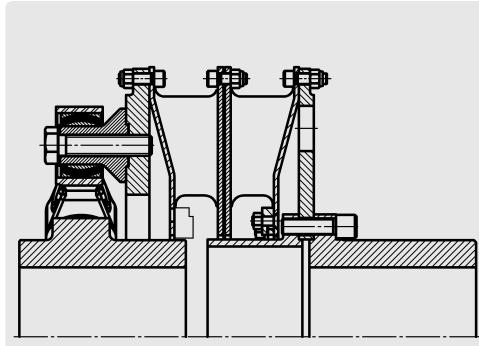
CX-200-LFS1 Hub 250



CX-200-LSS1 Hub 250



CX-200-LFS2 Hub 250

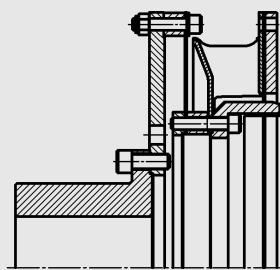


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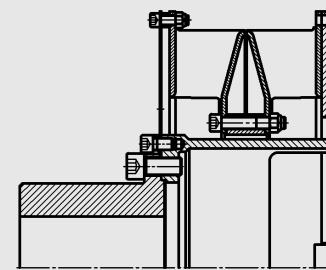
# CENTAX-SEC

## VARIANTS SERIES N AND G

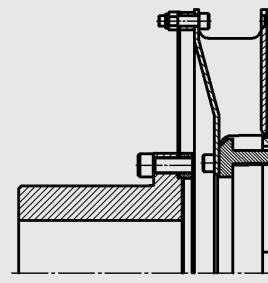
WITH FAILSAFE DEVICE



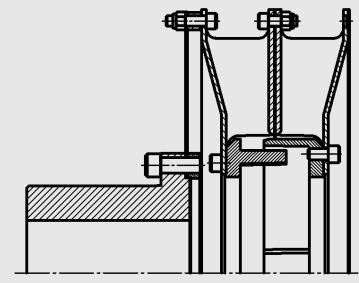
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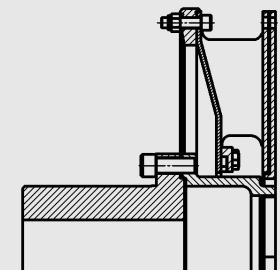
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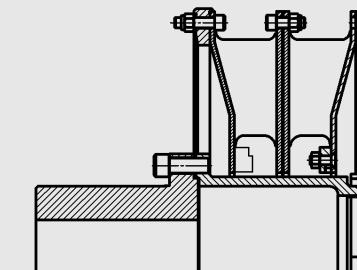
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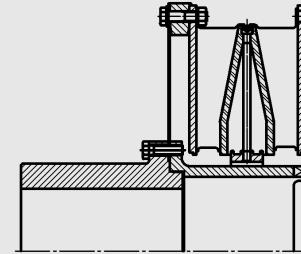
CX-100-GFS2



CX-200-GFS1  
CX-400-GFS1



CX-200-GFS2  
CX-400-GFS2

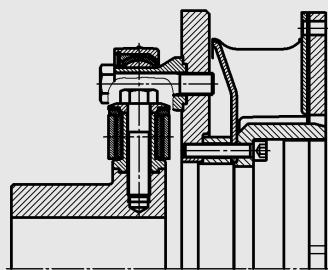


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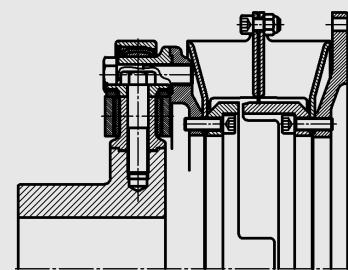
# CENTAX-SEC

## VARIANTS SERIES NL AND L

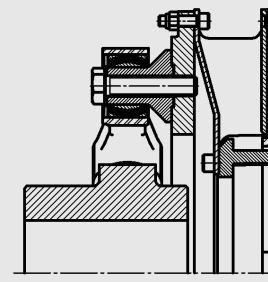
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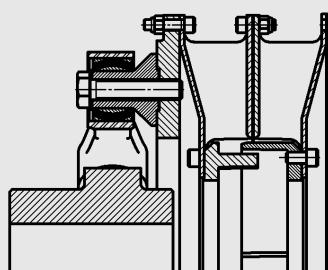
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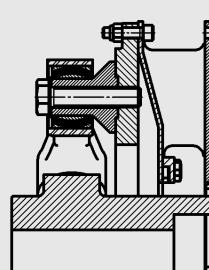
CX-00-LFS2



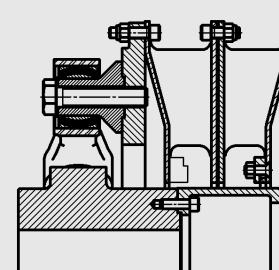
CX-100-LFS1



CX-100-LFS2



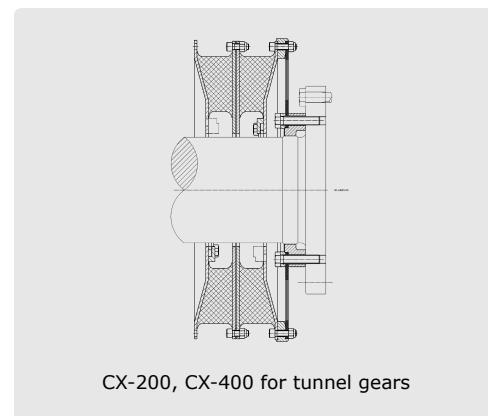
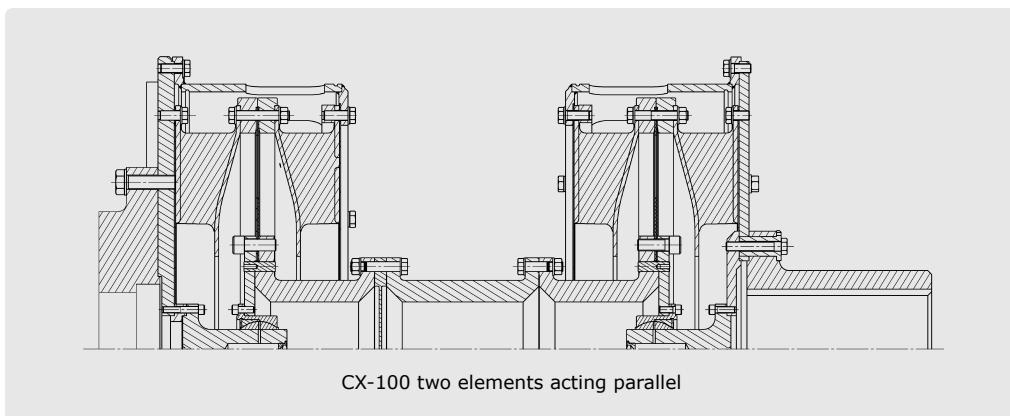
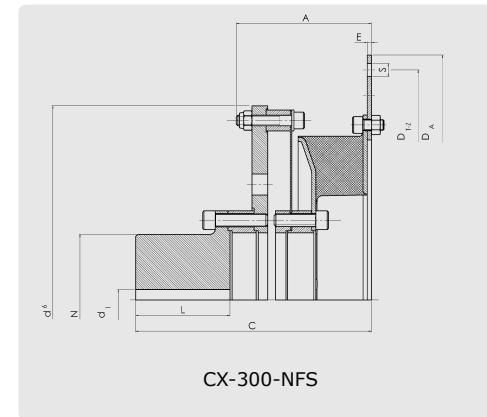
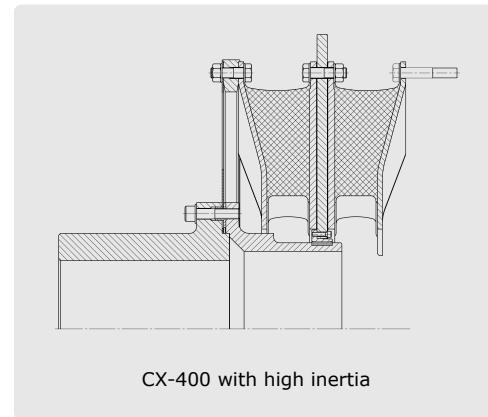
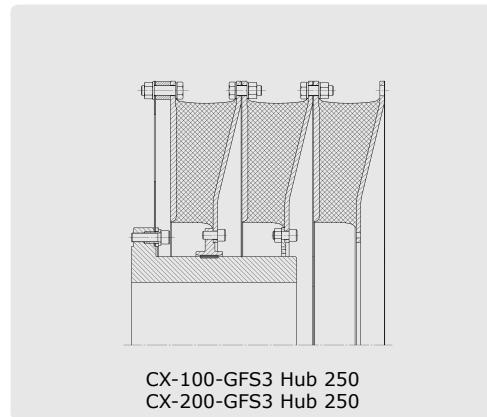
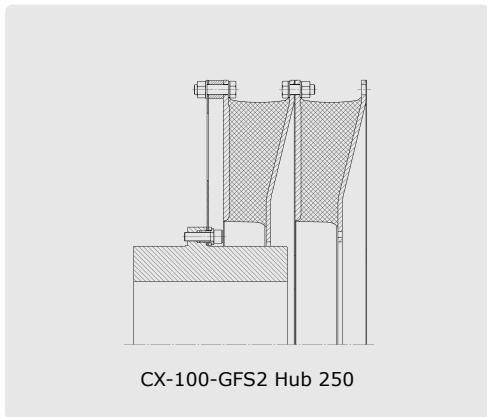
CX-200-LFS1



CX-200-LFS2

# CENTAX-SEC VARIANTS

## SPECIAL DESIGNS



# CENTAX-SEC

## EXPLANATION OF THE TECHNICAL DATA

### 1. SIZE DESIGNATION

The size is a spontaneously selected number, which designates the nominal size of the rubber element.

### 2. RUBBER QUALITY

This figure approximately states the nominal shore hardness of the rubber element in Shore A. The nominal value and the effective value may deviate from this.

### 3. NOMINAL TORQUE

The nominal torque of the coupling is the torque which can be transmitted continuously over the entire speed range, unless other operating conditions (e.g. high temperature or certain tough applications) demand a reduction.

The working torque [ $T_L$ ] which is to be transmitted continuously or over a prolonged period, must therefore be smaller or not more than equal to the nominal torque.

$$T_L = \frac{P}{n} \cdot 9550$$

$$T_L \leq T_{KN}$$

$P$  = power to be transmitted in kW  
 $n$  = number of revolutions per minute  
 $T_L$  = torque to be transmitted  
 $T_{KN}$  = nominal torque of the coupling

### 4. MAXIMUM TORQUE

This maximum torque [ $T_{Kmax}$ ] of the coupling may occur occasionally, totally up to 1000 times.

For more frequent peaks (e.g. engaging of clutches) which may occur up to 50000 times, the following then applies::

$$T_{Kmax1} = 0,5 \cdot T_{Kmax}$$

For very rare, extraordinary conditions, (e.g. short circuit, wrong synchronisation) the following then applies:

$$T_{Kmax2} = 1,5 \cdot T_{Kmax}$$

The maximum range for torsional vibrations from peak to peak is [ $\Delta T_{max}$ ] (e.g. passing through resonances, stop manoeuvres).

$$\Delta T_{max} = 0,6 \cdot T_{Kmax}$$

#### REMARK:

It is anticipated, that those temporary peak torques do not create a substantial temperature rise in the flexible rubber element.

Governor hunting is not considered as an acceptable working condition and it should be avoided.

# CENTAX-SEC

## EXPLANATION OF THE TECHNICAL DATA

### 5. ALLOWABLE CONTINUOUS VIBRATORY TORQUE (ACVT)

The allowable continuous vibratory torque is the amplitude of the continuously allowable periodic torque fluctuation with a basic load up to the value  $[T_{KN}]$  up to a frequency of 10 Hz, and a maximum ambient temperature of 30°C.

The value for the allowable continuous vibratory torque is a value for the mechanical strength of the rubber element. This value is of course limited and, where relevant, reduced by the ambient temperature and the effective frequency of the vibratory torque.

These influences are nowadays taken into consideration in the calculation of the allowable power loss (section 8) and do not have to be taken into account in this case.

### 6. DYNAMIC TORSIONAL STIFFNESS

The dynamic torsional stiffness is the relationship of the torque to the torsional angle under dynamic loads.

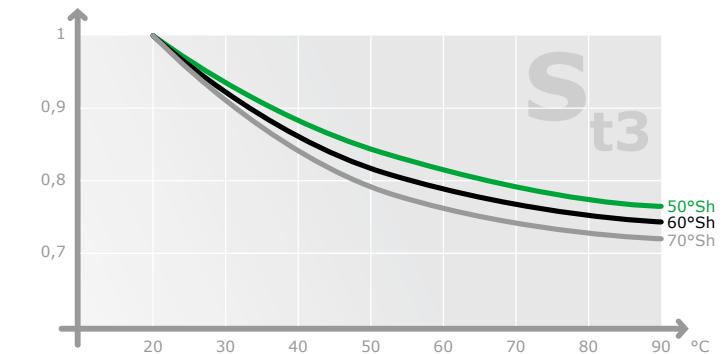
The torsional stiffness is constant in CENTAX couplings, i.e. the characteristics is straight or linear, it does not change with the torque.

Due to the physical properties of the material rubber, the dynamic torsional stiffness of a coupling is widely depending on the following influences:

- a) Temperature  
Higher temperature reduces the dynamic torsional stiffness

- b) Frequency of vibration  
Higher frequencies increase the dynamic torsional stiffness. That means, that the dynamic torsional stiffness is higher than the static stiffness. Typically:  $C_{Tdyn} \approx 1,3 C_{stat}$ .

- c) Amplitude of vibratory torque  
Higher amplitudes reduce the dynamic torsional stiffness, therefore small amplitudes result in higher dynamic stiffness.



For CENTAX couplings, the torsional stiffness is measured on our own test rigs and specified with the following marginal conditions:

preload:	$0,5 \cdot T_{KN}$
vibratory torque:	$\pm 0,25 \cdot T_{KN}$
frequency:	10 Hz
ambient temperature: $t_u = 20^\circ\text{C}$	

Tolerances in the rubber quality can mean that the dynamic torsional stiffness will deviate by  $\pm 15\%$  from the catalog value.

In an ambient temperature of more than 30°C, the torsional stiffness will decrease. The following then applies:

$$C_{Tdyn\ red} = C_{Tdyn} \cdot S_{t3}$$

In addition to the usual torsional vibration analysis (TVA) using the nominal values for dynamic torsional stiffness, the selection of the coupling should be checked for safety reasons with the following criteria, due to the above mentioned influences.

An additional TVA with higher dynamic torsional stiffness of  $C_{Tdyn\ a} = 1,4 \cdot C_{Tdyn}$  should be made for working conditions with small vibratory amplitudes.

Under working conditions with high power loss, the temperature in the rubber of the coupling will rise and thereby the dynamic torsional stiffness will be reduced. For this case we recommend a TVA to be run with reduced dynamic torsional stiffness  $C_{Tdyn\ red} = 0,75 \cdot C_{Tdyn}$ .

At the same time the higher temperature will reduce the relative damping [ $\Psi$ ] (please also refer to item 9). Therefore we recommend to also run the TVA with a reduced damping  $\Psi_{red} = 0,7 \cdot \Psi$ .

With these limits for  $[C_{Tdyn\ a}]$ ,  $[C_{Tdyn\ red}]$  and  $[\Psi_{red}]$  a realistic check of the coupling selection will be achieved, which will usually result in a coupling with high reliability. The same criteria should be applied when critically checking the behaviour of the engine governor.

# CENTAX-SEC

## EXPLANATION OF THE TECHNICAL DATA

### 7. SPECIFIC TORSIONAL STIFFNESS $C_{TDY}$ / $T_{KN}$

This quotient states the relative or specific torsional stiffness, namely the relationship of the dynamic torsional stiffness to the nominal torque. The smaller this value, the more torsionally soft, relatively speaking, is the coupling. Couplings with values from 10-30 are described as "torsionally flexible". Couplings with values smaller than 10 are described as "torsionally highly flexible".

Using this value, the torsional stiffness of different couplings can be compared and the level of torsional stiffnesses assessed.

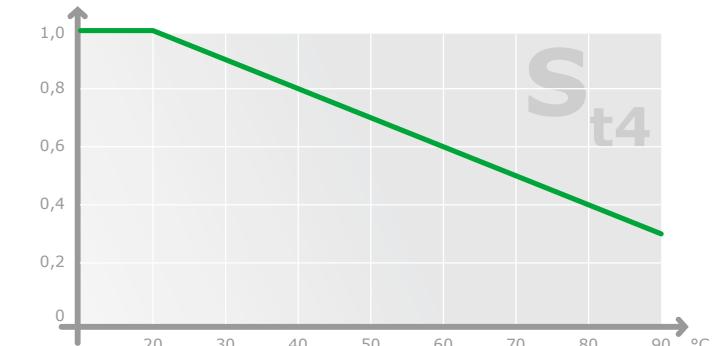
### 8. ALLOWABLE ENERGY LOSS

Due to torsional vibrations and misalignments, energy is converted into heat by damping in the CENTAX coupling, thus increasing the internal temperature of the coupling. The allowable power loss is the amount of damping work which is continuously converted into heat which the coupling can dissipate to the environment without the maximum allowable temperature of the coupling being exceeded (thermal balance).

The allowable power loss depends, among other factors, on the design of the coupling (i.e. rubber volume, surface area, internal ventilation) and in particular, on the temperature gradient in relation to the ambient temperature [ $t_u$ ].

The sum total of power losses from the various dynamic misalignments (radial and angular) and the periodic torsional vibrations must be smaller than the allowable total power loss [ $P_{KV}$ ] of the coupling.

$$P_{KV} \geq (P_{VTW} + P_{V\Delta K_r} + P_{V\Delta W}) \cdot \frac{1}{S_{t4}}$$



Since significant misalignment should not be anticipated with flange mounted units, the power loss then results only from the various orders of torsional vibrations. It is calculated by the following formula:

$$P_{VTW} = \sum \frac{n \cdot \Psi}{4\pi^2 + \Psi^2} \cdot \frac{T_{Wi}^2 \cdot i \cdot n}{C_{TDY}} \cdot \frac{\pi}{30}$$

$P_{VTW}$  = power loss due to vibrations  
 $T_{Wi}$  = altering torque of the order  $i$  [kNm]  
 $C_{TDY}$  = dynamic torsional stiffness of the coupling (kNm/rad)  
 $\Psi$  = relative damping  
 $i$  = ordinal number  
 $n$  = number of revolutions [rpm]

For independently mounted units, it is possible that further power losses occur due to misalignment.

$P_{V\Delta K_r}$  = power loss due to radial misalignment.

This power loss is approximately proportional to the radial misalignment [ $\Delta K_r$ ] the speed [rpm] and the damping [ $\Psi$ ]. Further information on this power loss is available on request.

$P_{V\Delta W}$  = power loss due to angular misalignment.

This power loss is approximately proportional to the angular misalignment [ $\Delta K_r$ ] and the speed [rpm]. If such misalignment is absorbed in the rubber, due to elastic deformation, then the corresponding power loss must be taken into account.

In the couplings described here, the angular misalignment is mainly absorbed by the Link or Membrane coupling, and the resulting power loss is dissipated through the surface of these parts, thus it does not have to be taken into account in the energy balance for the rubber element.

A significant dynamic load due to axial misalignment (axial vibrations) should only occur very rarely, thus it is not considered in this case.

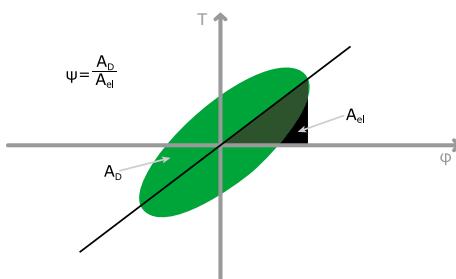
However, it would easily be absorbed by the link coupling or the membrane.

# CENTAX-SEC

## EXPLANATION OF THE TECHNICAL DATA

### 9. RELATIVE DAMPING

The relative damping is the relationship of the damping work to the elastic deformation during a period of vibration.



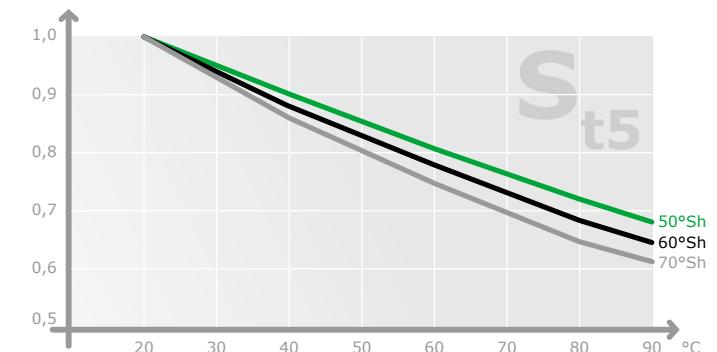
The larger this value [ $\Psi$ ] is, the smaller is the increase of the continuous vibratory torque in or near the resonance. For the resonance factor [ $V_R$ ] (magnification factor), the simplified formula will apply:

$$V_R = \frac{2\pi}{\psi}$$

The relative damping factor is decreased by higher temperature in accordance with the diagram.

$$\Psi_{red} = \Psi \cdot S_{t5}$$

Tolerances in the rubber quality can mean that the relative damping will deviate by  $\pm 20\%$  from the catalog value.



### 10. AXIAL SHAFT MISALIGNMENT

The coupling is allowed to deviate from this middle position by the specified amount in both directions. Such axial misalignment can result from heat expansion, installation faults, foundation changes and shaft displacement. Furthermore the axial length of the rubber element changes itself slightly: it is shortened by the centrifugal force and it is elongated by the torque. If the sum total of the axial misalignment and the internal change of length to be anticipated in any direction, is greater than the permissible value and the axial misalignment in the opposite direction is correspondingly smaller, then this situation can be compensated for, at the time of installation by recalculating the initial installation position.

### 11. AXIAL REACTION FORCES

#### 11.1 Type CX-G with membrane

When the coupling is installed in the middle position, the membrane system is free of axial reaction forces.

In the range of approx. 30% of the axial misalignment [ $\Delta K_A$ ] the membranes show an approximate linear axial characteristic. Upon axial misalignment within this range a proportional axial reaction force results. Out of this range nonproportional axial forces dependant of the coupling size will occur. Please ask CENTA for these values.

#### 11.2 Type CX-L with link coupling

When the coupling is installed in the middle position, the link system is free of axial reaction forces.

Due to the linear characteristic of the link coupling, the calculated reaction force is proportional to the axial misalignment. The data for the reaction force are shown in the relevant technical tables.

$$F_{AX} = \Delta K_A \cdot C_{ka}$$

This calculated reaction force is only applicable immediately after installation. Rubber tends to have a permanent set, so after 3 days the force is decreased by about 20%.

The axial reaction force will furthermore be reduced by about 10% due to temperature increase.

**Important:** It must be checked, whether the bearings of the shafts are able to bear the axial reacting forces.

# CENTAX-SEC

## EXPLANATION OF THE TECHNICAL DATA

### 12. ALLOWABLE RADIAL SHAFT MISALIGNMENT

This value specifies the maximum radial misalignment that is permissible on a continuous basis. However, such a misalignment produces a power loss in the coupling (see point 8) and reaction forces (see section 13), which have an effect on the adjacent bearings. For these reasons, the actual radial misalignment should be kept as low as possible. The specified value for the permissible radial shaft misalignment relates to a speed of 600 rpm. For other speeds, the speed [rpm] factor should be used in accordance with the diagram.

$$\Delta W_r \leq \Delta K_r \cdot S_n$$

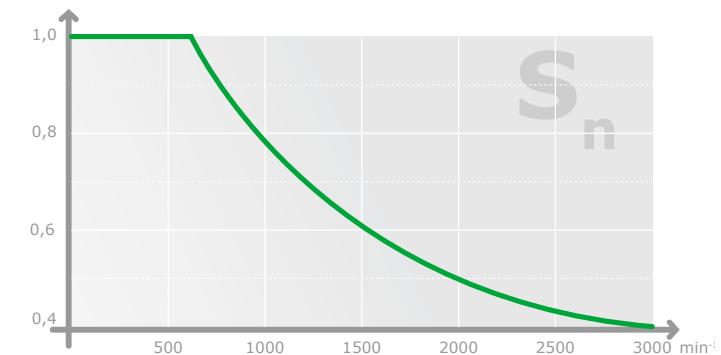
The actual shaft misalignment may occasionally and briefly rise to double the value of the continuously permissible shaft misalignment, e.g. during starting or shut down of flexibly mounted engines, or in heavy seas, etc.

Here the speed factor does not have to be taken into account.

$$\Delta W_{r\ max} = 2 \cdot \Delta K_r$$

However for the 2 element series with failsafe device:

$$\Delta W_{r\ max} = 1 \cdot \Delta K_r$$



### 13. RADIAL REACTION FORCE

When radial misalignment of the coupling occurs, a radial reaction force [ $F_r$ ] results.

$$F_r = C_{r\ dyn} \cdot \Delta W_r$$

The value [ $C_{r\ dyn}$ ] applies to rotating shafts and for a coupling temperature of 50° C. At higher temperatures the radial stiffness is also reduced according to the temperature factor [ $S_{t3}$ ], as shown in the diagram on App-11.

$$F_{r\ red} = C_{r\ dyn} \cdot \Delta W_r \cdot S_{t3}$$

**Important:** If there is significant radial misalignment, a check should be made to ensure that the bearings of the coupled shafts can withstand the radial reaction forces of the couplings.

# CENTAX-SEC

## EXPLANATION OF THE TECHNICAL DATA

### 14. ANGULAR MISALIGNMENT

#### 14.1 Type CX-G with membrane

The max. allowable angular misalignment

$\Delta W_w = 0.5$  degrees which equals 0.0087 radian or 8.8 mm/m.

However, in order to achieve a long lifetime, we recommend to keep this value lower, as low as possible.

#### 14.2 Type CX-L with Link coupling

For all sizes the maximum allowable angular misalignment [ $\Delta W_w$ ] is 1.0 degrees which equals 0.0176 radian or 17.6 mm/m.

The continuous allowable value is 0.5 degrees which is 50%, but in order to achieve a long lifetime for the rubber bearings the angular misalignment should be kept to the minimum that is reasonable.

If there is a combination of the different kinds of misalignment, then the max. allowable value for the individual misalignment has to be reduced. Please consult us.

### 15. Maximum Speed [ $n_{max}$ ] (rpm)

This maximum speed [ $n_{max}$ ] is the absolutely highest allowable speed for short time, e.g. during over-speed of the motor. The continuously allowable speed is:

$$n_{cont} \leq 0,9 \cdot n_{max}.$$

### 16. STORAGE OF CENTAX ELEMENTS

Should rubber elements be stored during the construction time, or as spare parts over a longer period, the following has to be considered:

- storage in dry, dark rooms with as little thermal fluctuation as possible

#### The following has to be avoided:

- direct influence of sun and artificial light sources with UV share
  - storage near to Ozone producing electrical or other equipment
  - sprinkling with oils, fat, greases, fuels, anaerobic adhesives and chemicals
- The elements have to be stored in horizontal position, never standing upright. The elements may be stacked.

### 17. PROTECTION OF THE RUBBER SURFACE AGAINST HARMFUL ENVIRONMENTAL INFLUENCES

Should the elements be subject to harmful environmental influences (i.e. intensive supply of ozoniferous air, sprinkling with fuels etc.) they can be coated by a flexible polymer film on the surface. This coating is applied by a paint-brush and can be touched up or renewed when necessary.

This surface protection is also recommended for spare elements, which have to be stored for a longer period of time.





CENTA is the leading producer of flexible couplings for rail, industrial, marine and power generating applications. Worldwide.

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