

We ensure that systems work better.

**VULKAN**

# RATO S / RATO S+

**TECHNISCHE DATEN** TECHNICAL DATA





08/2022

Das Handsymbol kennzeichnet Seiten, auf denen es eine Veränderung zur Vorgängerversion gibt.  
The hand symbol appears on pages which differ from the previous catalogue version.

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# RATO S / RATO S+

## EIGENSCHAFTEN CHARACTERISTICS

# DREHMOMENT TORQUE

## 12,5 kNm – 800,0 kNm

### EINSATZGEBIETE

#### Elastisch aufgestellte Anlagen, starr aufgestellte Anlagen.

Die hochelastischen RATO S und RATO S+ Kupplungen sind drehelastische Elastomerkupplungen, die radiale, axiale und winklige Verlagerungen der angeschlossenen Maschinen ausgleichen. Die Drehmomentübertragung der Kupplung wird durch die auf Schub beanspruchten Elemente gewährleistet. Durch die verschiedenen zur Verfügung stehenden Drehsteifigkeiten und Dämpfungen ist eine gute Abstimmung des Drehschwingungsverhaltens der Antriebsanlage zu erreichen. Die hochelastischen RATO S und RATO S+ Kupplungen bestehen im Wesentlichen aus dem drehelastischen Teil, dem Membranteil und den Anschlussteilen. Der drehelastische Teil wird durch die Elemente gebildet, die je nach Baugröße und Steifigkeitsniveau ein- oder mehrreihig angeordnet sein können. Die elastischen Elemente sind in mehrere Segmente aufgeteilt.

### PRODUKTVORTEILE

- ➔ Einfache und schnelle Montage der Kupplung dank segmentierter Bauform mit reduzierten Einzelgewichten
- ➔ Segmentanordnung für maximale thermische Belastbarkeit und damit hohe Lebensdauer der Anlage
- ➔ Kompakte Bauform mit innenliegender Nabe für platz- und gewichtsparende Antriebsabmessung, um die Projektkosten zu senken
- ➔ Durch die Erweiterung um die ACOTEC Größen sorgen kleinere Größen mit höherer Leistungsdichte für ein gutes Preis-Leistungsverhältnis

### AREAS OF APPLICATION

#### Flexibly mounted engines, rigidly mounted engines.

The highly-flexible RATO S and RATO S+ couplings are torsionally flexible rubber couplings that compensates radial, axial and angular shaft displacements of the connected machinery. The torque is transmitted by elements loaded in shear. The different torsional stiffnesses and damping factors available provide the possibility to satisfactorily tune the torsional vibration behaviour of the drive system. The essential parts of the coupling are: the torsional flexible element, the membrane package to absorb the axial and angular displacements and the connecting parts to the drive and driven machinery.

### PRODUCT BENEFITS

- ➔ Easy and quick installation of the coupling thanks to the segmented design with reduced weights of the individual segments
- ➔ The segments are arranged for maximum thermal load and therefore long service life of the system
- ➔ Compact design with an internal hub for space-conserving and weight-saving drive dimensions in order to cut down on the project costs
- ➔ With the introduction of the ACOTEC range, smaller sizes with higher power density provide good price/performance ratio

# RATO S / RATO S+

## BAUREIHENÜBERSICHT SUMMARY OF SERIES

### 2100

Baureihe Series  
Seite 12 Page 12



**Zur Verbindung eines Schwungrades mit einer Welle.**

Mit innen liegender Nabe. Hierdurch wird eine deutlich reduzierte Baulänge ermöglicht.

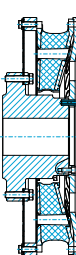
**For connecting a flywheel with a shaft.**

With internal hub arrangement, that ensures a compact coupling design.

Baugruppe Dimension Group	G 2110 – G 6220
Nenn Drehmoment Nominal Torque	12,50 kNm – 500,00 kNm

### 2101

Baureihe Series  
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**Zur Verbindung eines Schwungrades mit einer Welle.**

Mit innen liegender Nabe. Hierdurch wird eine deutlich reduzierte Baulänge ermöglicht. Mit Durchdrehsicherung.

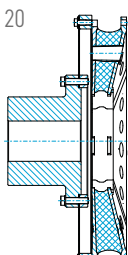
**For connecting a flywheel with a shaft.**

With internal hub arrangement, that ensures a compact coupling design. With torsional limit device.

Baugruppe Dimension Group	G 2110 – G 5820
Nenn Drehmoment Nominal Torque	12,50 kNm – 450,00 kNm

### 2200

Baureihe Series  
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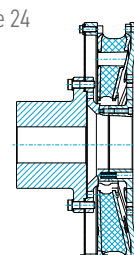
**Zur Verbindung eines Schwungrades mit einer Welle.**

**For connecting a flywheel with a shaft.**

Baugruppe Dimension Group	G 2110 – G 6220
Nenn Drehmoment Nominal Torque	12,50 kNm – 500,00 kNm

### 2201

Baureihe Series  
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**Zur Verbindung eines Schwungrades mit einer Welle.**

Mit Durchdrehsicherung.

**For connecting a flywheel with a shaft.**

With torsional limit device.

Baugruppe Dimension Group	G 2110 – G 5820
Nenn Drehmoment Nominal Torque	12,50 kNm – 450,00 kNm

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## 2300

Baureihe Series

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Zur Verbindung eines Schwungrades mit  
einem Flansch.

For connecting a flywheel with a flange.

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Baugruppe	Dimension Group	G 4610 – G 7310
Nenn Drehmoment	Nominal Torque	180,00 kNm – 800,00 kNm

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# RATO S / RATO S+

## LEISTUNGSDATEN PERFORMANCE DATA

Kupplungstyp Type of Coupling		$T_{KN}$	$T_{Kmax1}$	$T_{Kmax2}$	$\Delta T_{Kmax}$	$T_{KW}$	$P_{KV30}$	$n_{Kmax}^{1)}$	$\Delta K_s$	$\Delta K_r^{(1)}$	$\Delta K_w$	$C_{ax1.0}$	$C_{rdyn}^{2)}$	$C_{tdyn}^{2)}$	$\psi^{2)}$
Größe	Baugruppe	Nennrehmoment	Max. Drehmoment <sub>1</sub>	Max. Drehmoment <sub>2</sub>	Max. Drehmoment Bereich	Wechseldrehmoment	Verlustleistung	Drehzahl	Axialer Kupplungsversatz	Radialer Kupplungsversatz	Winkliger Kupplungsversatz	Axiale Federsteife 1,0 mm	Dyn. Radiale Federsteife	Dyn. Drehfedersteife	Verhältnismäßige Dämpfung
Size	Dimension Group	Nominal Torque	Max. Torque <sub>1</sub>	Max. Torque <sub>2</sub>	Max. Torque Range	Vibratory Torque	Power Loss	Rotational Speed	Axial Coupling Displacement	Radial Coupling Displacement	Angular Coupling Displacement	Axial Stiffness 1,0 mm	Dyn. Radial Stiffness	Dyn. Torsional Stiffness	Relative Damping
G 211Z	G2110	12,5	19,0	56,5	23,0	4,0	0,56	2.100	5,0	5,9	0,5	1,9	3,10	115	0,90
G 211W	G2110	14,0	21,5	63,0	25,5	4,0	0,56	2.100	5,0	4,7	0,5	1,9	3,90	140	1,13
G 211Q	G2110	16,0	25,0	72,0	29,5	4,0	0,56	2.100	5,0	4,2	0,5	1,9	4,80	175	1,13
G 212Z	G2120	12,5	19,0	56,5	23,0	4,0	1,12	1.840	5,0	12,6	0,5	1,9	1,55	58	0,90
G 212W	G2120	14,0	21,5	63,0	25,5	4,0	1,12	1.840	5,0	10,0	0,5	1,9	1,95	70	1,13
G 212Q	G2120	16,0	25,0	72,0	29,5	4,0	1,12	1.840	5,0	9,0	0,5	1,9	2,40	88	1,13
G 231Z	G2310	16,0	24,0	72,0	28,5	5,0	0,60	2.050	5,5	5,9	0,5	1,5	3,40	145	0,90
G 231W	G2310	18,0	27,0	81,0	32,0	5,0	0,60	2.050	5,5	4,7	0,5	1,5	4,30	180	1,13
G 231Q	G2310	20,0	31,0	90,0	37,0	5,0	0,60	2.050	5,5	4,2	0,5	1,5	5,40	220	1,13
G 232Z	G2320	16,0	24,0	72,0	28,5	5,0	1,20	1.600	5,5	13,4	0,5	1,5	1,70	73	0,90
G 232W	G2320	18,0	27,0	81,0	32,0	5,0	1,20	1.600	5,5	10,6	0,5	1,5	2,15	90	1,13
G 232Q	G2320	20,0	31,0	90,0	37,0	5,0	1,20	1.600	5,5	9,4	0,5	1,5	2,70	110	1,13
G 251Z	G2510	18,0	30,0	81,0	35,5	6,3	0,65	1.800	6,0	6,6	0,5	1,1	3,40	180	0,90
G 251W	G2510	22,4	33,5	101,0	40,0	6,3	0,65	1.800	6,0	5,2	0,5	1,1	4,30	225	1,13
G 251Q	G2510	25,0	38,5	112,5	46,5	6,3	0,65	1.800	6,0	4,6	0,5	1,1	5,40	275	1,13
G 252Z	G2520	18,0	30,0	81,0	35,5	6,3	1,30	1.500	6,0	14,4	0,5	1,1	1,70	90	0,90
G 252W	G2520	22,4	33,5	101,0	40,0	6,3	1,30	1.500	6,0	11,4	0,5	1,1	2,15	113	1,13
G 252Q	G2520	25,0	38,5	112,5	46,5	6,3	1,30	1.500	6,0	10,2	0,5	1,1	2,70	138	1,13
G 271Z	G2710	25,0	34,0	112,5	41,0	7,9	0,78	1.700	6,0	7,1	0,5	1,0	3,70	225	0,90
G 271W	G2710	28,0	38,5	126,0	46,0	7,9	0,78	1.700	6,0	5,6	0,5	1,0	4,70	280	1,13
G 271Q	G2710	31,5	44,5	142,0	53,5	7,9	0,78	1.700	6,0	5,0	0,5	1,0	5,90	345	1,13
G 272Z	G2720	25,0	34,0	112,5	41,0	7,9	1,56	1.380	6,0	15,6	0,5	1,0	1,90	113	0,90
G 272W	G2720	28,0	38,5	126,0	46,0	7,9	1,56	1.380	6,0	12,4	0,5	1,0	2,40	140	1,13
G 272Q	G2720	31,5	44,5	142,0	53,5	7,9	1,56	1.380	6,0	11,0	0,5	1,0	3,00	173	1,13
G 291Z	G2910	31,5	43,5	142,0	52,0	10,0	0,99	1.600	6,0	7,7	0,5	1,0	4,30	285	0,90
G 291W	G2910	35,5	49,0	160,0	58,5	10,0	0,99	1.600	6,0	6,1	0,5	1,0	5,40	355	1,13
G 291Q	G2910	40,0	56,5	180,0	68,0	10,0	0,99	1.600	6,0	5,5	0,5	1,0	6,70	440	1,13
G 292Z	G2920	31,5	43,5	142,0	52,0	10,0	1,98	1.310	6,0	17,0	0,5	1,0	2,15	143	0,90
G 292W	G2920	35,5	49,0	160,0	58,5	10,0	1,98	1.310	6,0	13,4	0,5	1,0	2,70	178	1,13
G 292Q	G2920	40,0	56,5	180,0	68,0	10,0	1,98	1.310	6,0	12,0	0,5	1,0	3,35	220	1,13

### Siehe Erläuterung der Technischen Daten

- 1) Der Betriebszustand der Anlage kann eine Korrektur der gegebenen Werte notwendig machen.
- 2) Materialbedingte Steifigkeitstoleranz von +/-15% möglich. Die verhältnismäßige Dämpfung kann eine Toleranz von -45% bis +0% aufweisen.

### See Explanation of the Technical Data

- 1) The operating state of the system can make it necessary to correct the values given.
- 2) Material caused stiffness tolerance of +/-15% possible. The relative damping can be subject to a tolerance of -45% to +0%.



Kupplungstyp Type of Coupling		$T_{KN}$	$T_{Kmax1}$	$T_{Kmax2}$	$\Delta T_{Kmax}$	$T_{KW}$	$P_{KV30}$	$n_{Kmax}^{1)}$	$\Delta K_s$	$\Delta K_r^{(1)}$	$\Delta K_w$	$C_{ax1.0}$	$C_{rdyn}^{2)}$	$C_{Tdyn}^{2)}$	$\psi^{2)}$
Größe	Baugruppe	Nennrehmoment	Max. Drehmoment <sub>1</sub>	Max. Drehmoment <sub>2</sub>	Max. Drehmoment Bereich	Wechsel-drehmoment	Verlustleistung	Drehzahl	Axialer Kupplungsversatz	Radialer Kupplungsversatz	Winkliger Kupplungsversatz	Axiale Federsteife 1,0 mm	Dyn. Radiale Federsteife	Dyn. Drehfedersteife	Verhältnismäßige Dämpfung
Size	Dimension Group	Nominal Torque	Max. Torque <sub>1</sub>	Max. Torque <sub>2</sub>	Max. Torque Range	Vibratory Torque	Power Loss	Rotational Speed	Axial Coupling Displacement	Radial Coupling Displacement	Angular Coupling Displacement	Axial Stiffness 1,0 mm	Dyn. Radial Stiffness	Dyn. Torsional Stiffness	Relative Damping
G 311Z	G3110	40,0	54,5	180,0	65,0	12,5	1,12	1.410	7,0	8,8	0,5	0,9	4,20	320	0,90
G 311W	G3110	45,0	61,0	202,5	73,5	12,5	1,12	1.410	7,0	7,0	0,5	0,9	5,30	405	1,13
G 311Q	G3110	50,0	70,5	225,0	85,0	12,5	1,12	1.410	7,0	6,2	0,5	0,9	6,60	500	1,13
G 312Z	G3120	40,0	54,5	180,0	65,0	12,5	2,24	1.250	7,0	18,6	0,5	0,9	2,10	160	0,90
G 312W	G3120	45,0	61,0	202,5	73,5	12,5	2,24	1.250	7,0	14,8	0,5	0,9	2,65	203	1,13
G 312Q	G3120	50,0	70,5	225,0	85,0	12,5	2,24	1.250	7,0	13,2	0,5	0,9	3,30	250	1,13
G 331Z	G3310	50,0	68,5	225,0	82,0	15,8	1,32	1.350	7,0	9,3	0,5	0,8	4,60	425	0,90
G 331W	G3310	56,0	77,0	252,0	92,5	15,8	1,32	1.350	7,0	7,5	0,5	0,8	5,70	505	1,13
G 331Q	G3310	63,0	89,0	283,5	107,0	15,8	1,32	1.350	7,0	6,6	0,5	0,8	7,20	640	1,13
G 332Z	G3320	50,0	68,5	225,0	82,0	15,8	2,64	1.210	7,0	19,8	0,5	0,8	2,30	213	0,90
G 332W	G3320	56,0	77,0	252,0	92,5	15,8	2,64	1.210	7,0	15,8	0,5	0,8	2,85	253	1,13
G 332Q	G3320	63,0	89,0	283,5	107,0	15,8	2,64	1.210	7,0	14,0	0,5	0,8	3,60	320	1,13
G 341Z	G3410	63,0	87,0	283,5	104,5	20,0	1,47	1.250	7,0	9,6	0,5	0,7	5,20	535	0,90
G 341W	G3410	71,0	97,5	319,5	117,0	20,0	1,47	1.250	7,0	7,7	0,5	0,7	6,50	640	1,13
G 341Q	G3410	80,0	113,0	360,0	135,5	20,0	1,47	1.250	7,0	6,9	0,5	0,7	8,10	800	1,13
G 342Z	G3420	63,0	87,0	283,5	104,5	20,0	2,94	1.250	7,0	19,2	0,5	0,7	2,60	268	0,90
G 342W	G3420	71,0	97,5	319,5	117,0	20,0	2,94	1.250	7,0	15,4	0,5	0,7	3,25	320	1,13
G 342Q	G3420	80,0	113,0	360,0	135,5	20,0	2,94	1.250	7,0	13,8	0,5	0,7	4,05	400	1,13
G 381W	G3810	100,0	123,0	450,0	148,0	25,0	1,48	690	9,0	13,8	0,5	1,6	3,70	600	1,13
G 381T	G3810	125,0	146,0	562,5	175,5	31,3	1,48	690	9,0	12,5	0,5	1,6	4,50	750	1,13
G 461W	G4610	180,0	222,0	810,0	266,0	50,0	2,67	800	12,0	8,6	0,5	1,8	14,60	3.200	1,13
G 461T	G4610	200,0	263,0	900,0	315,5	50,0	2,67	800	12,0	7,7	0,5	1,8	18,30	4.000	1,13
G 4J1S	G4J10	180,0	220,0	810,0	275,0	53,0	1,97	800	12,0	13,4	0,5	1,8	6,80	1.300	0,75
G 4J1M	G4J10	210,0	265,0	945,0	320,0	55,0	1,97	800	12,0	10,4	0,5	1,8	9,40	1.800	0,90
G 4J1H	G4J10	225,0	295,0	1.012,5	355,0	55,0	1,97	800	12,0	9,4	0,5	1,8	11,50	2.200	0,90
G 4J1X	G4J10	225,0	325,0	1.012,5	390,0	55,0	1,97	800	12,0	7,5	0,5	1,8	14,40	2.750	1,13
G 4J2S	G4J20	180,0	220,0	810,0	275,0	53,0	3,95	690	12,0	28,8	0,5	1,8	3,40	650	0,75
G 4J2M	G4J20	210,0	265,0	945,0	320,0	55,0	3,95	690	12,0	22,4	0,5	1,8	4,70	900	0,90
G 4J2H	G4J20	225,0	295,0	1.012,5	355,0	55,0	3,95	690	12,0	20,2	0,5	1,8	5,70	1.100	0,90
G 4J2X	G4J20	225,0	325,0	1.012,5	390,0	55,0	3,95	690	12,0	16,0	0,5	1,8	7,20	1.375	1,13

**Siehe Erläuterung der Technischen Daten**

- 1) Der Betriebszustand der Anlage kann eine Korrektur der gegebenen Werte notwendig machen.
- 2) Materialbedingte Steifigkeitstoleranz von +/-15% möglich. Die verhältnismäßige Dämpfung kann eine Toleranz von -45% bis +0% aufweisen.

**See Explanation of the Technical Data**

- 1) The operating state of the system can make it necessary to correct the values given.
- 2) Material caused stiffness tolerance of +/-15% possible. The relative damping can be subject to a tolerance of -45% to +0%.

# RATO S / RATO S+

## LEISTUNGSDATEN PERFORMANCE DATA

Kupplungstyp Type of Coupling		$T_{KN}$	$T_{Kmax1}$	$T_{Kmax2}$	$\Delta T_{Kmax}$	$T_{KW}$	$P_{KV30}$	$n_{Kmax}^{1)}$	$\Delta K_s$	$\Delta K_c^{(1)}$	$\Delta K_w$	$C_{ax1.0}$	$C_{rdyn}^{2)}$	$C_{tdyn}^{2)}$	$\psi^{2)}$
		[kNm]	[kNm]	[kNm]	[kNm]	[kNm]	[kW]	[1/min]	[mm]	[mm]	[°]	[kN/mm]	[kN/mm]	[kNm/rad]	[-]
Größe	Baugruppe	Nenn Drehmoment	Max. Drehmoment <sub>1</sub>	Max. Drehmoment <sub>2</sub>	Max. Drehmoment Bereich	Wechsel-drehmoment	Verlustleistung	Drehzahl	Axialer Kupplungsversatz	Radialer Kupplungsversatz	Winkliger Kupplungsversatz	Axiale Federsteife 1,0 mm	Dyn. Radiale Federsteife	Dyn. Drehfedersteife	Verhältnismäßige Dämpfung
Size	Dimension Group	Nominal Torque	Max. Torque <sub>1</sub>	Max. Torque <sub>2</sub>	Max. Torque Range	Vibratory Torque	Power Loss	Rotational Speed	Axial Coupling Displacement	Radial Coupling Displacement	Angular Coupling Displacement	Axial Stiffness 1,0 mm	Dyn. Radial Stiffness	Dyn. Torsional Stiffness	Relative Damping
G 491W	G4910	224,0	277,0	1.008,0	332,5	62,5	2,95	750	13,0	8,8	0,5	1,3	16,40	4,000	1,13
G 491T	G4910	250,0	329,0	1.125,0	394,5	62,5	2,95	750	13,0	7,9	0,5	1,3	20,50	5,000	1,13
G 5B1S	G5B10	230,0	285,0	1.035,0	345,0	65,0	2,04	750	13,0	12,9	0,5	1,3	8,10	1,800	0,75
G 5B1M	G5B10	250,0	330,0	1.125,0	400,0	70,0	2,04	750	13,0	10,5	0,5	1,3	10,10	2,250	0,90
G 5B1H	G5B10	280,0	370,0	1.260,0	440,0	70,0	2,04	750	13,0	9,5	0,5	1,3	12,40	2,750	0,90
G 5B1X	G5B10	290,0	410,0	1.305,0	485,0	70,0	2,04	750	13,0	7,6	0,5	1,3	15,30	3,400	1,13
G 5B2S	G5B20	230,0	285,0	1.035,0	345,0	65,0	4,08	690	13,0	27,0	0,5	1,3	4,00	900	0,75
G 5B2M	G5B20	250,0	330,0	1.125,0	400,0	70,0	4,08	690	13,0	22,0	0,5	1,3	5,00	1.125	0,90
G 5B2H	G5B20	280,0	370,0	1.260,0	440,0	70,0	4,08	690	13,0	19,8	0,5	1,3	6,20	1.375	0,90
G 5B2X	G5B20	290,0	410,0	1.305,0	485,0	70,0	4,08	690	13,0	16,0	0,5	1,3	7,60	1.700	1,13
G 531W	G5310	250,0	310,0	1.125,0	372,0	62,5	1,95	600	14,0	15,0	0,5	1,0	4,70	1.500	1,13
G 531T	G5310	315,0	367,5	1.417,5	441,0	78,8	1,95	600	14,0	13,7	0,5	1,0	5,70	1.890	1,13
G 541W	G5410	280,0	349,5	1.260,0	419,0	78,8	3,15	700	14,0	8,8	0,5	1,0	19,00	5,040	1,13
G 541T	G5410	315,0	414,5	1.417,5	497,0	78,8	3,15	700	14,0	7,8	0,5	1,0	23,80	6,300	1,13
G 5G1S	G5G10	290,0	360,0	1.305,0	435,0	80,0	2,29	700	14,0	13,5	0,5	1,0	8,90	2.300	0,75
G 5G1M	G5G10	310,0	415,0	1.395,0	500,0	85,0	2,29	700	14,0	11,1	0,5	1,0	10,80	2.800	0,90
G 5G1H	G5G10	345,0	465,0	1.552,5	555,0	85,0	2,29	700	14,0	10,0	0,5	1,0	13,40	3.465	0,90
G 5G1X	G5G10	360,0	510,0	1.620,0	615,0	85,0	2,29	700	14,0	8,0	0,5	1,0	16,60	4.300	1,13
G 5G2S	G5G20	290,0	360,0	1.305,0	435,0	80,0	4,59	690	14,0	27,2	0,5	1,0	4,40	1.150	0,75
G 5G2M	G5G20	310,0	415,0	1.395,0	500,0	85,0	4,59	690	14,0	22,4	0,5	1,0	5,40	1.400	0,90
G 5G2H	G5G20	345,0	465,0	1.552,5	555,0	85,0	4,59	690	14,0	20,2	0,5	1,0	6,70	1.732	0,90
G 5G2X	G5G20	360,0	510,0	1.620,0	615,0	85,0	4,59	690	14,0	16,2	0,5	1,0	8,30	2.150	1,13
G 572W	G5720	400,0	445,0	1.800,0	550,0	100,0	3,73	690	16,0	14,8	0,5	2,0	8,00	2.280	1,13
G 572T	G5720	400,0	500,0	1.800,0	600,0	100,0	3,73	690	16,0	13,2	0,5	2,0	10,00	2.850	1,13
G 572Y	G5720	420,0	570,0	1.890,0	700,0	105,0	3,73	690	16,0	11,6	0,5	2,0	13,00	3.565	1,13

### Siehe Erläuterung der Technischen Daten

- 1) Der Betriebszustand der Anlage kann eine Korrektur der gegebenen Werte notwendig machen.
- 2) Materialbedingte Steifigkeitstoleranz von +/-15% möglich. Die verhältnismäßige Dämpfung kann eine Toleranz von -45% bis +0% aufweisen.

### See Explanation of the Technical Data

- 1) The operating state of the system can make it necessary to correct the values given.
- 2) Material caused stiffness tolerance of +/-15% possible. The relative damping can be subject to a tolerance of -45% to +0%.

Kupplungstyp Type of Coupling		$T_{KN}$	$T_{Kmax1}$	$T_{Kmax2}$	$\Delta T_{Kmax}$	$T_{KW}$	$P_{KV30}$	$n_{Kmax}^{1)}$	$\Delta K_s$	$\Delta K_r^{(1)}$	$\Delta K_w$	$C_{ax1.0}$	$C_{rdyn}^{2)}$	$C_{Tdyn}^{2)}$	$\psi^{2)}$
Größe	Baugruppe	Nennrehmoment	Max. Drehmoment <sub>1</sub>	Max. Drehmoment <sub>2</sub>	Max. Drehmoment Bereich	Wechsel-drehmoment	Verlustleistung	Drehzahl	Axialer Kupplungsversatz	Radialer Kupplungsversatz	Winkliger Kupplungsversatz	Axiale Federsteife 1,0 mm	Dyn. Radiale Federsteife	Dyn. Drehfedersteife	Verhältnismäßige Dämpfung
Size	Dimension Group	Nominal Torque	Max. Torque <sub>1</sub>	Max. Torque <sub>2</sub>	Max. Torque Range	Vibratory Torque	Power Loss	Rotational Speed	Axial Coupling Displacement	Radial Coupling Displacement	Angular Coupling Displacement	Axial Stiffness 1,0 mm	Dyn. Radial Stiffness	Dyn. Torsional Stiffness	Relative Damping
G 581Z	G5810	315,0	435,0	1.417,5	521,5	100,0	2,20	650	15,0	12,6	0,5	1,7	8,80	2.835	0,90
G 581W	G5810	380,0	565,0	1.710,0	678,0	100,0	2,20	650	15,0	8,9	0,5	1,7	13,80	4.400	1,13
G 581Y	G5810	450,0	576,0	2.025,0	690,0	100,0	2,20	650	15,0	8,0	0,5	1,7	17,20	5.500	1,13
G 582Z	G5820	315,0	435,0	1.417,5	521,5	100,0	4,40	650	15,0	25,2	0,5	1,7	4,40	1.418	0,90
G 582W	G5820	380,0	565,0	1.710,0	678,0	100,0	4,40	650	15,0	17,8	0,5	1,7	6,90	2.200	1,13
G 582Y	G5820	450,0	576,0	2.025,0	690,0	100,0	4,40	650	15,0	16,0	0,5	1,7	8,60	2.750	1,13
G 601Z	G6010	315,0	424,0	1.417,5	508,5	100,0	2,48	650	15,0	9,9	-	-	16,00	5.100	0,90
G 601W	G6010	355,0	479,0	1.597,5	575,0	100,0	2,48	650	15,0	7,9	-	-	20,00	6.400	1,13
G 601T	G6010	400,0	568,0	1.800,0	682,0	100,0	2,48	650	15,0	7,0	-	-	25,00	8.000	1,13
G 621Z	G6210	355,0	470,0	1.597,5	564,0	90,0	2,32	600	15,0	13,5	0,5	1,7	8,70	3.600	0,90
G 621W	G6210	400,0	531,5	1.800,0	637,5	100,0	2,32	600	15,0	11,5	0,5	1,7	9,60	4.000	1,13
G 621T	G6210	500,0	640,0	2.250,0	756,5	125,0	2,32	600	15,0	10,3	0,5	1,7	12,00	5.000	1,13
G 622Z	G6220	355,0	470,0	1.597,5	564,0	90,0	4,64	600	15,0	27,0	0,5	1,7	4,35	1.800	0,90
G 622W	G6220	400,0	531,5	1.800,0	637,5	100,0	4,64	600	15,0	23,0	0,5	1,7	4,80	2.000	1,13
G 622T	G6220	500,0	640,0	2.250,0	756,5	125,0	4,64	600	15,0	20,6	0,5	1,7	6,00	2.500	1,13
G 651Z	G6510	400,0	530,5	1.800,0	637,0	125,0	2,76	610	17,0	10,3	-	-	17,60	6.400	0,90
G 651W	G6510	450,0	600,0	2.025,0	719,5	125,0	2,76	610	17,0	8,2	-	-	22,00	8.000	1,13
G 651T	G6510	500,0	711,5	2.250,0	853,5	125,0	2,76	610	17,0	7,3	-	-	27,50	10.000	1,13
G 681W	G6810	500,0	669,5	2.250,0	803,5	125,0	2,52	550	18,0	12,2	-	-	10,00	5.000	1,13
G 681T	G6810	630,0	794,0	2.835,0	953,0	157,0	2,52	550	18,0	10,9	-	-	12,50	6.300	1,13
G 701Z	G7010	500,0	668,0	2.250,0	801,5	157,0	3,04	550	18,0	11,1	-	-	18,40	8.000	0,90
G 701W	G7010	560,0	755,0	2.520,0	906,0	157,0	3,04	550	18,0	8,8	-	-	23,00	10.080	1,13
G 701T	G7010	630,0	895,5	2.835,0	1.074,5	157,0	3,04	550	18,0	7,9	-	-	28,80	12.600	1,13
G 731W	G7310	630,0	851,0	2.835,0	1.021,5	157,0	2,68	500	18,0	12,6	-	-	11,00	6.300	1,13
G 731T	G7310	800,0	1.008,5	3.600,0	1.210,0	200,0	2,68	500	18,0	10,5	-	-	16,00	8.000	1,13

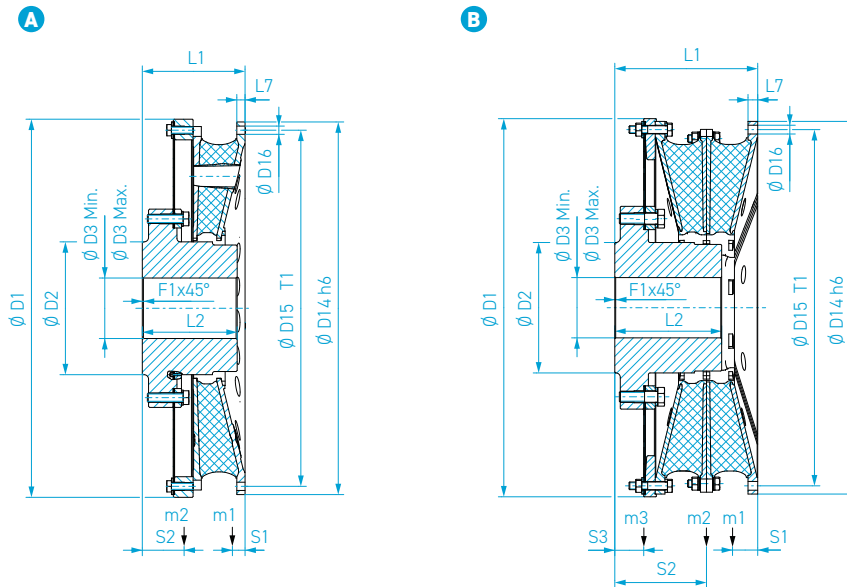
**Siehe Erläuterung der Technischen Daten**

- 1) Der Betriebszustand der Anlage kann eine Korrektur der gegebenen Werte notwendig machen.
- 2) Materialbedingte Steifigkeitstoleranz von +/-15% möglich. Die verhältnismäßige Dämpfung kann eine Toleranz von -45% bis +0% aufweisen.

**See Explanation of the Technical Data**

- 1) The operating state of the system can make it necessary to correct the values given.
- 2) Material caused stiffness tolerance of +/-15% possible. The relative damping can be subject to a tolerance of -45% to +0%.

### GEOMETRISCHE DATEN GEOMETRIC DATA



Baugruppe  
Dimension Group

Abbildung  
Figure

Abmessungen  
Dimension

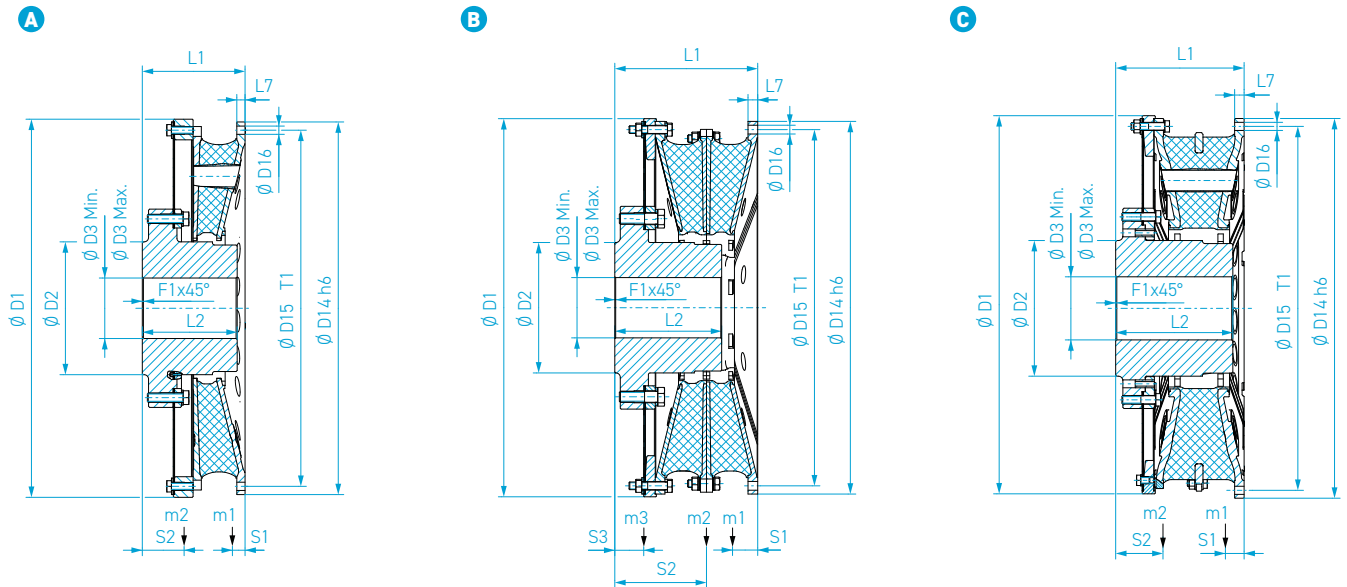
		$D_1$	$D_2$	$D_3$		$D_{14}$	$D_{15}$	$T_1$	$D_{16}$	$L_1$	$L_2$	$L_7$	$F_1$
		[mm]	[mm]	[mm] Min.	[mm] Max.	[mm]	[mm]	[-] Teilung / holes	[mm]	[mm]	[mm]	[mm]	[mm]
G 2110	A	645,0	224,0	80,0	160,0	635,0	608,0	32	14,0	183,8	160,0	15,4	1,6
G 2120	B	645,0	224,0	80,0	160,0	635,0	608,0	32	14,0	246,8	185,0	15,4	1,6
G 2310	A	690,0	238,0	110,0	170,0	680,0	650,0	32	16,0	192,8	170,0	17,7	1,6
G 2320	B	690,0	238,0	110,0	170,0	680,0	650,0	32	16,0	260,8	195,0	17,7	1,6
G 2510	A	740,0	259,0	110,0	185,0	730,0	700,0	32	16,0	224,9	200,0	19,0	2,0
G 2520	B	740,0	259,0	110,0	185,0	730,0	700,0	32	16,0	299,7	225,0	19,0	2,0
G 2710	A	800,0	280,0	100,0	200,0	790,0	755,0	32	17,5	233,7	205,0	17,0	2,0
G 2720	B	800,0	280,0	100,0	200,0	790,0	755,0	32	17,5	314,0	235,0	17,0	2,0
G 2910	A	870,0	308,0	110,0	220,0	860,0	820,0	32	20,0	243,0	215,0	19,0	2,0
G 2920	B	870,0	308,0	110,0	220,0	860,0	820,0	32	20,0	332,3	250,0	19,0	2,0
G 3110	A	935,0	329,0	115,0	235,0	920,0	880,0	32	20,0	266,1	245,0	22,0	3,0
G 3120	B	935,0	329,0	115,0	235,0	920,0	880,0	32	20,0	370,5	285,0	22,0	3,0
G 3310	A	1.010,0	357,0	150,0	255,0	995,0	950,0	32	22,0	278,6	255,0	22,0	3,0
G 3320	B	1.010,0	357,0	150,0	255,0	995,0	950,0	32	22,0	388,3	300,0	22,0	3,0
G 3410	A	1.085,0	385,0	160,0	275,0	1.070,0	1.025,0	32	24,0	287,6	265,0	24,0	3,0
G 3420	B	1.085,0	385,0	160,0	275,0	1.070,0	1.025,0	32	24,0	407,9	310,0	24,0	3,0

Massenträgheitsmomente Mass moments of inertia			Masse Mass			Schwerpunktsabstand Distance to center of gravity			Anmerkungen Notes
J <sub>1</sub>	J <sub>2</sub>	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	
[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[kg]	[mm]	[mm]	[mm]	
1,5	4,4	-	23,8	115,5	-	24,0	71,0	-	<p>Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nabenbohrung (∅ D3 min).</p> <p>All masses, focal points and mass moments of inertia refer to min. hub bore (∅ D3 min).</p>
1,5	2,1	4,4	23,8	36,1	124,2	24,0	159,0	75,0	
2,1	6,0	-	30,0	132,0	-	24,0	76,0	-	
2,1	3,1	6,1	30,0	47,0	142,0	24,0	167,0	78,0	
3,1	8,6	-	39,0	178,0	-	26,0	94,0	-	
3,1	4,5	8,9	39,0	61,0	190,0	26,0	196,0	96,0	
4,2	13,4	-	46,0	233,0	-	27,0	93,0	-	
4,2	7,2	12,9	46,0	80,0	245,0	27,0	204,0	96,0	
6,5	19,6	-	59,0	288,0	-	29,0	97,0	-	
6,4	10,9	20,8	59,0	102,0	314,0	29,0	214,0	103,0	
9,5	26,8	-	75,0	358,0	-	31,0	107,0	-	
9,5	15,5	28,2	75,0	128,0	392,0	31,0	239,0	114,0	
13,5	38,8	-	92,0	427,0	-	34,0	112,0	-	
13,5	22,4	40,5	92,0	158,0	466,0	34,0	248,0	119,0	
19,3	55,2	-	113,0	521,0	-	37,0	113,0	-	
19,3	34,1	57,2	113,0	203,0	566,0	37,0	259,0	121,0	



# RATO S / RATO S+ BAUREIHE SERIES 2100

## GEOMETRISCHE DATEN GEOMETRIC DATA



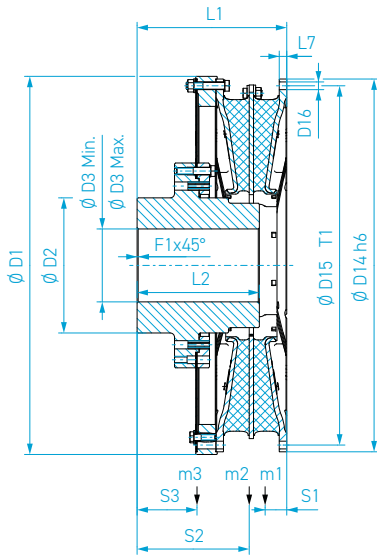
Baugruppe  
Dimension Group

Abbildung  
Figure

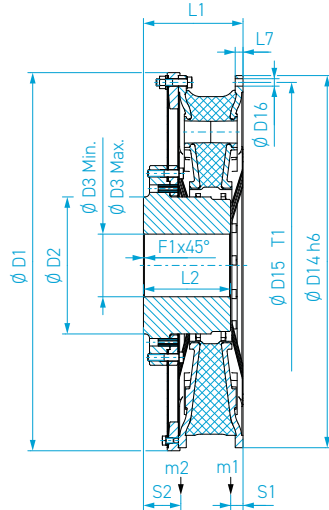
Abmessungen  
Dimension

		$D_1$	$D_2$	$D_3$		$D_{14}$	$D_{15}$	$T_1$	$D_{16}$	$L_1$	$L_2$	$L_7$	$F_1$
		[mm]	[mm]	[mm] Min.	[mm] Max.	[mm]	[mm]	[-] Teilung / holes	[mm]	[mm]	[mm]	[mm]	[mm]
G 3610	A	1.175,0	413,0	170,0	295,0	1.160,0	1.110,0	32	26,0	340,5	315,0	26,0	4,0
G 3810	C	1.255,0	448,0	200,0	320,0	1.240,0	1.190,0	32	26,0	430,0	385,0	32,0	4,0
G 4J10	A	1.480,0	518,0	230,0	370,0	1.460,0	1.395,0	32	33,0	441,7	410,0	33,0	5,0
G 4J20	B	1.480,0	518,0	230,0	370,0	1.460,0	1.395,0	32	33,0	621,9	480,0	33,0	5,0
G 5B10	A	1.585,0	560,0	250,0	400,0	1.565,0	1.500,0	32	33,0	439,6	400,0	32,0	5,0
G 5B20	B	1.585,0	560,0	250,0	400,0	1.565,0	1.500,0	32	33,0	655,0	500,0	32,0	5,0
G 5310	C	1.710,0	602,0	280,0	430,0	1.685,0	1.615,0	32	36,0	570,0	520,0	42,0	5,0
G 5G10	A	1.710,0	602,0	280,0	430,0	1.685,0	1.615,0	32	36,0	472,9	425,0	35,0	5,0
G 5G20	B	1.710,0	602,0	280,0	430,0	1.685,0	1.615,0	32	36,0	688,6	520,0	35,0	5,0
G 5720	D	1.763,0	630,0	340,0	450,0	1.738,0	1.675,0	32	36,0	697,8	570,0	35,0	5,0
G 5810	A	1.815,0	655,0	300,0	470,0	1.790,0	1.726,0	32	34,0	449,7	410,0	35,0	5,0
G 5820	B	1.815,0	655,0	300,0	470,0	1.790,0	1.726,0	32	34,0	693,0	570,0	35,0	5,0
G 6210	E	1.970,0	700,0	320,0	500,0	1.940,0	1.870,0	32	38,0	508,8	445,0	40,0	5,0
G 6220	F	1.970,0	700,0	320,0	500,0	1.940,0	1.870,0	32	38,0	843,8	625,0	40,0	5,0

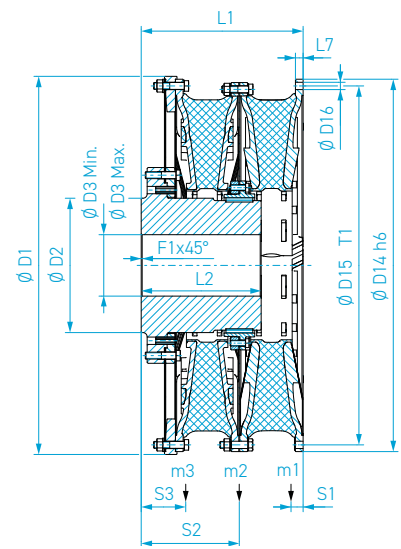
D



E



F



Massenträgheitsmomente  
Mass moments of inertia

Masse  
Mass

Schwerpunktsabstand  
Distance to center of gravity

Anmerkungen  
Notes

$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$S_1$	$S_2$	$S_3$
[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[kg]	[mm]	[mm]	[mm]
28,7	75,4	-	143,0	651,0	-	40,0	140,0	-
63,0	141,0	-	274,0	990,0	-	59,0	160,0	-
96,6	277,0	-	306,0	1.392,0	-	56,0	174,0	-
96,6	164,8	293,0	306,0	536,0	1.540,0	56,0	392,0	183,0
132,8	330,3	-	371,0	1.463,0	-	61,0	175,0	-
130,4	233,5	384,6	359,0	650,0	1.763,0	60,0	411,0	198,0
286,8	638,0	-	677,0	2.357,0	-	83,0	210,0	-
190,4	484,0	-	457,0	1.836,0	-	65,0	189,0	-
190,4	332,8	540,4	457,0	810,0	2.133,0	65,0	429,0	202,0
206,0	194,2	742,0	463,0	462,0	2.501,0	49,0	533,0	307,0
214,0	771,0	-	475,0	2.370,0	-	63,0	174,0	-
214,0	436,0	900,0	475,0	938,0	2.915,0	63,0	449,0	214,0
403,0	1.157,0	-	738,0	2.978,0	-	63,0	184,0	-
403,0	946,0	1.183,0	738,0	1.807,0	3.361,0	63,0	511,0	224,0

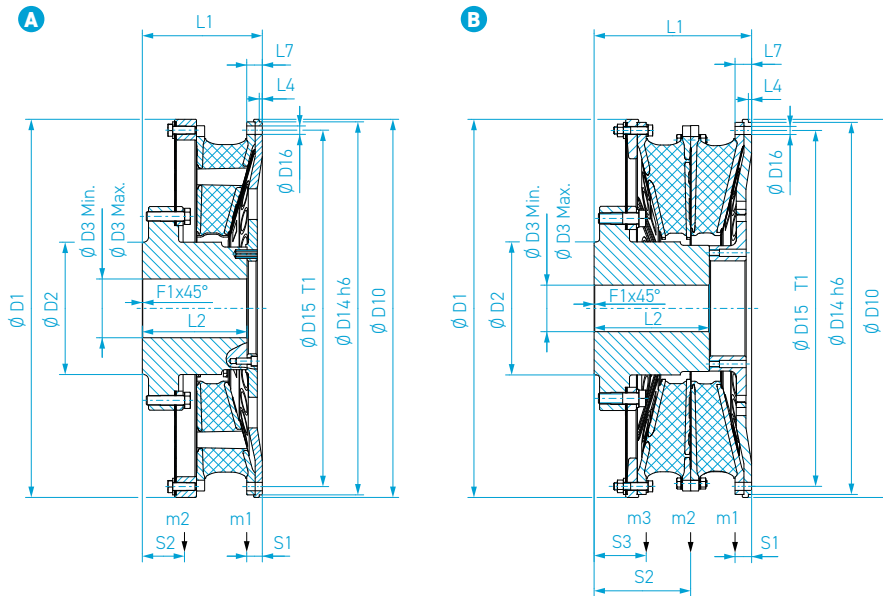
Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nebenbohrung (Ø D3 min).

All masses, focal points and mass moments of inertia refer to min. hub bore (Ø D3 min).



# RATO S / RATO S+ BAUREIHE SERIES 2101

## GEOMETRISCHE DATEN GEOMETRIC DATA



Baugruppe Dimension Group	Abbildung Figure	Abmessungen Dimension													
		$D_1$	$D_2$	$D_3$	$D_{10}$	$D_{14}$	$D_{15}$	$T_1$	$D_{16}$	$L_1$	$L_2$	$L_4$	$L_7$	$F_1$	
		[mm]	[mm]	[mm] Min. Max.	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
G 2110	A	645,0	224,0	80,0 160,0	645,0	635,0	608,0	32	14,0	197,0	160,0	6,0	29,0	1,6	
G 2120	B	645,0	224,0	80,0 160,0	645,0	635,0	608,0	32	14,0	260,0	185,0	6,0	29,0	1,6	
G 2310	A	690,0	238,0	110,0 170,0	690,0	680,0	650,0	32	16,0	207,0	170,0	6,0	32,0	1,6	
G 2320	B	690,0	238,0	110,0 170,0	690,0	680,0	650,0	32	16,0	275,0	195,0	6,0	32,0	1,6	
G 2510	A	740,0	259,0	110,0 185,0	740,0	730,0	700,0	32	16,0	240,0	200,0	6,0	34,0	2,0	
G 2520	B	740,0	259,0	110,0 185,0	740,0	730,0	700,0	32	16,0	315,2	225,0	6,0	34,0	2,0	
G 2710	A	800,0	280,0	100,0 200,0	800,0	790,0	755,0	32	17,5	250,0	205,0	6,0	33,0	2,0	
G 2720	B	800,0	280,0	100,0 200,0	800,0	790,0	755,0	32	17,5	330,0	235,0	6,0	33,0	2,0	
G 2910	A	870,0	308,0	110,0 220,0	870,0	860,0	820,0	32	20,0	260,0	215,0	6,0	36,0	2,0	
G 2920	B	870,0	308,0	110,0 220,0	870,0	860,0	820,0	32	20,0	349,6	250,0	6,0	36,0	2,0	
G 3110	A	935,0	329,0	115,0 235,0	935,0	920,0	880,0	32	20,0	285,0	245,0	8,0	41,0	3,0	
G 3120	B	935,0	329,0	115,0 235,0	935,0	920,0	880,0	32	20,0	389,5	285,0	8,0	41,0	3,0	
G 3310	A	1.010,0	357,0	150,0 255,0	1.010,0	995,0	950,0	32	22,0	300,0	255,0	8,0	43,0	3,0	
G 3320	B	1.010,0	357,0	150,0 255,0	1.010,0	995,0	950,0	32	22,0	409,6	300,0	8,0	43,0	3,0	

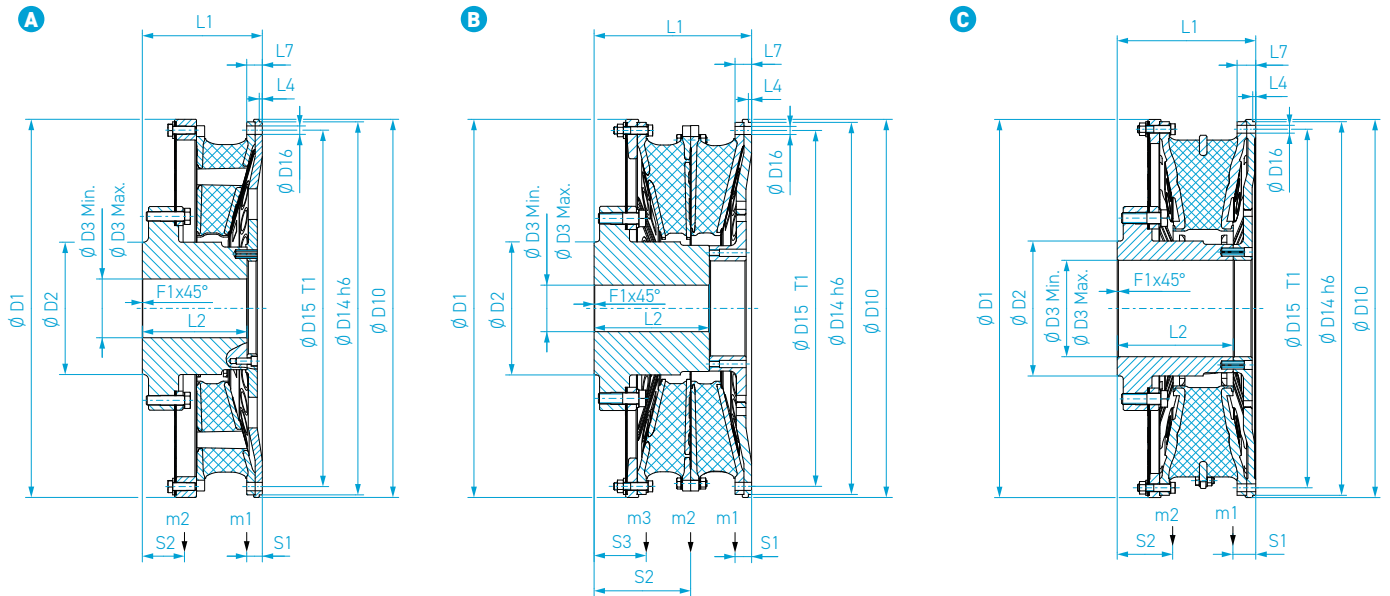


Massenträgheitsmomente Mass moments of inertia			Masse Mass			Schwerpunktsabstand Distance to center of gravity			Anmerkungen Notes
$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$S_1$	$S_2$	$S_3$	
[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[kg]	[mm]	[mm]	[mm]	
3,2	4,1	-	50,0	120,0	-	25,0	69,0	-	Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nabenbohrung (Ø D3 min).  All masses, focal points and mass moments of inertia refer to min. hub bore (Ø D3 min).
3,2	2,1	3,8	50,0	37,0	130,0	25,0	159,0	85,0	
4,6	5,5	-	62,0	140,0	-	26,0	76,0	-	
4,6	3,1	5,3	62,0	47,0	155,0	26,0	168,0	89,0	
6,5	8,1	-	76,0	185,0	-	28,0	93,0	-	
6,5	4,5	7,9	76,0	61,0	205,0	28,0	197,0	108,0	
8,7	12,8	-	87,0	239,0	-	29,0	91,0	-	
8,7	7,2	10,7	87,0	80,0	246,0	29,0	204,0	109,0	
14,0	18,0	-	116,0	294,0	-	32,0	95,0	-	
14,0	10,9	18,0	116,0	102,0	319,0	32,0	214,0	113,0	
19,0	25,0	-	143,0	362,0	-	35,0	107,0	-	
19,0	15,5	29,0	140,0	128,0	423,0	33,0	239,0	132,0	
30,0	36,0	-	183,0	442,0	-	37,0	112,0	-	
30,0	22,4	35,0	183,0	158,0	493,0	37,0	249,0	137,0	



# RATO S / RATO S+ BAUREIHE SERIES 2101

## GEOMETRISCHE DATEN GEOMETRIC DATA



Baugruppe  
Dimension Group

Abbildung  
Figure

Abmessungen  
Dimension

		D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>		D <sub>10</sub>	D <sub>14</sub>	D <sub>15</sub>	T <sub>1</sub>	D <sub>16</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>4</sub>	L <sub>7</sub>	F <sub>1</sub>
		[mm]	[mm]	[mm] Min.	[mm] Max.	[mm]	[mm]	[mm]	[-] Teilung / holes	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
G 3410	A	1.085,0	385,0	160,0	275,0	1.085,0	1.070,0	1.025,0	32	24,0	310,0	265,0	8,0	46,0	3,0
G 3420	B	1.085,0	385,0	160,0	275,0	1.085,0	1.070,0	1.025,0	32	24,0	430,0	310,0	8,0	46,0	3,0
G 3810	C	1.255,0	448,0	200,0	320,0	1.255,0	1.240,0	1.190,0	32	26,0	460,0	385,0	10,0	62,0	4,0
G 4J10	A	1.480,0	518,0	230,0	370,0	1.480,0	1.460,0	1.395,0	32	33,0	469,7	410,0	12,0	61,0	5,0
G 4J20	B	1.480,0	518,0	230,0	370,0	1.480,0	1.460,0	1.395,0	32	33,0	649,7	480,0	12,0	61,0	5,0
G 5B10	A	1.585,0	560,0	250,0	400,0	1.585,0	1.565,0	1.500,0	32	33,0	470,0	400,0	12,0	62,0	5,0
G 5B20	B	1.585,0	560,0	250,0	400,0	1.585,0	1.565,0	1.500,0	32	33,0	685,2	500,0	12,0	62,0	5,0
G 5310	C	1.710,0	602,0	215,0	430,0	1.710,0	1.685,0	1.615,0	32	36,0	590,0	520,0	12,0	84,0	5,0
G 5G10	A	1.710,0	602,0	280,0	430,0	1.710,0	1.685,0	1.615,0	32	36,0	505,0	435,0	12,0	67,0	5,0
G 5G20	B	1.710,0	602,0	280,0	430,0	1.710,0	1.685,0	1.615,0	32	36,0	720,6	520,0	12,0	67,0	5,0
G 5810	A	1.815,0	655,0	300,0	470,0	1.815,0	1.940,0	1.870,0	32	36,0	509,0	410,0	-	60,0	5,0
G 5820	B	1.815,0	655,0	300,0	470,0	1.815,0	1.940,0	1.870,0	32	36,0	753,0	570,0	-	60,0	5,0

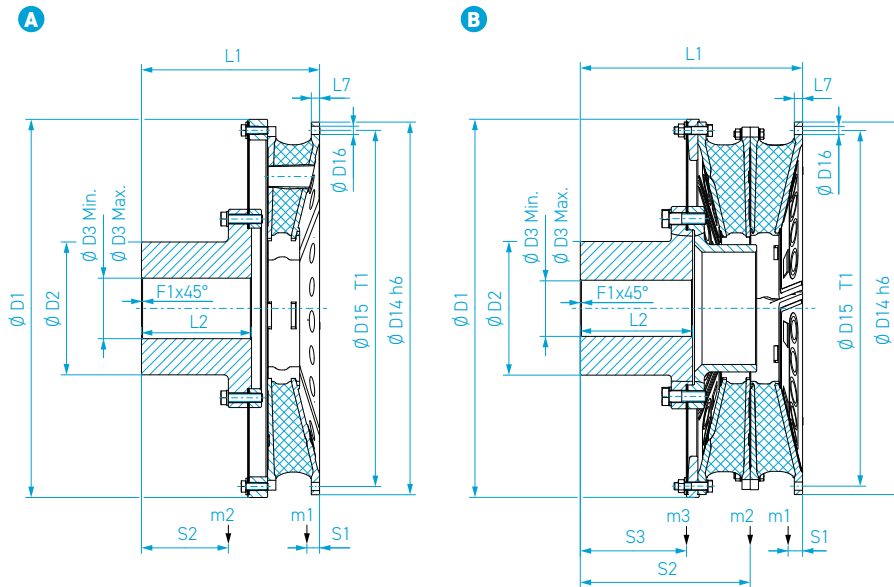
Massenträgheitsmomente Mass moments of inertia			Masse Mass			Schwerpunktsabstand Distance to center of gravity			Anmerkungen Notes
J <sub>1</sub>	J <sub>2</sub>	J <sub>3</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	
[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[kg]	[mm]	[mm]	[mm]	
44,0	51,0	-	223,0	529,0	-	39,0	135,0	-	
44,0	34,1	51,0	223,0	203,0	601,0	39,0	259,0	142,0	
96,0	127,0	-	414,0	1.008,0	-	58,0	117,0	-	
183,6	285,6	-	546,0	1.488,0	-	59,0	189,0	-	
183,8	166,6	267,9	547,0	543,0	1.578,0	59,0	391,0	217,0	
262,0	316,0	-	658,0	1.508,0	-	61,0	171,0	-	
262,0	226,5	339,0	658,0	641,0	1.921,0	61,0	411,0	235,0	
452,0	532,0	-	1.037,0	2.401,0	-	82,0	210,0	-	
365,3	506,0	-	807,0	1.998,0	-	64,0	209,0	-	
374,0	332,8	491,0	829,0	810,0	2.384,0	64,0	429,0	241,0	
641,0	636,0	-	1.146,0	2.354,0	-	53,0	154,0	-	
641,0	435,8	669,0	1.146,0	938,0	2.770,0	53,0	450,0	206,0	

Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nabenbohrung (Ø D3 min).

All masses, focal points and mass moments of inertia refer to min. hub bore (Ø D3 min).



### GEOMETRISCHE DATEN GEOMETRIC DATA



Baugruppe  
Dimension Group

Abbildung  
Figure

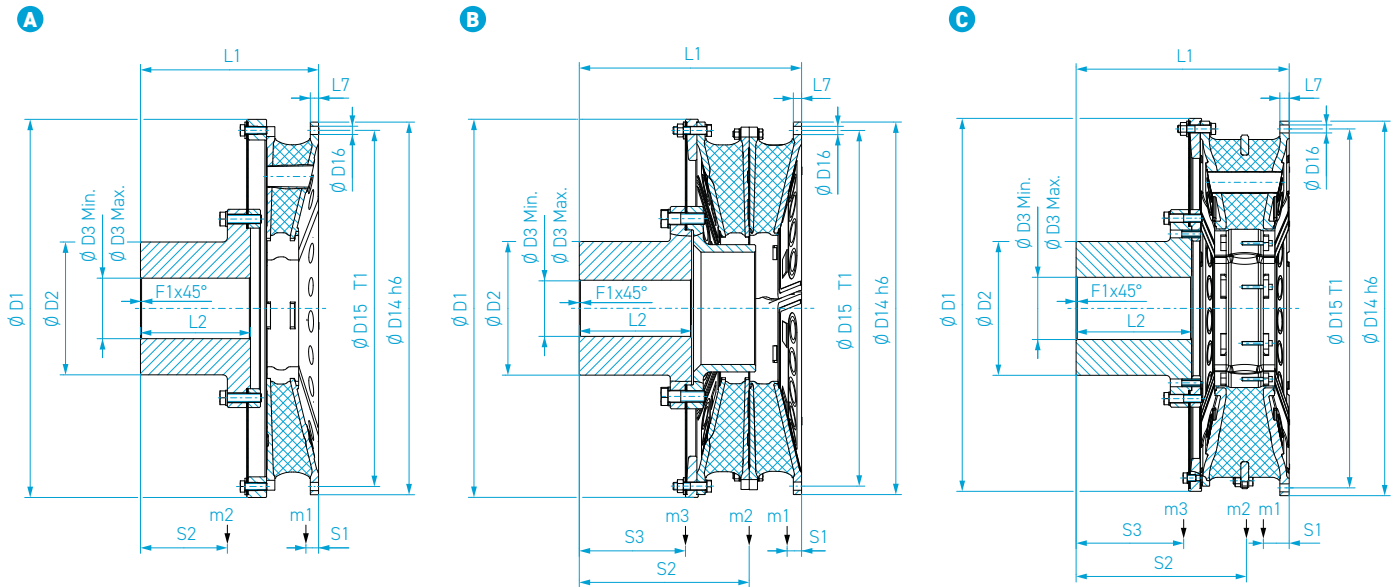
Abmessungen  
Dimension

		$D_1$	$D_2$	$D_3$		$D_{14}$	$D_{15}$	$T_1$	$D_{16}$	$L_1$	$L_2$	$L_7$	$F_1$
		[mm]	[mm]	[mm] Min.	[mm] Max.	[mm]	[mm]	[-] Teilung / holes	[mm]	[mm]	[mm]	[mm]	[mm]
G 2110	A	645,0	224,0	80,0	160,0	635,0	608,0	32	14,0	307,8	185,0	15,4	1,6
G 2120	B	645,0	224,0	80,0	160,0	635,0	608,0	32	14,0	368,5	185,0	15,4	1,6
G 2310	A	690,0	238,0	110,0	170,0	680,0	650,0	32	16,0	323,3	195,0	17,7	1,6
G 2320	B	690,0	238,0	110,0	170,0	680,0	650,0	32	16,0	390,5	195,0	17,7	1,6
G 2510	A	740,0	259,0	110,0	185,0	730,0	700,0	32	16,0	364,9	225,0	19,0	2,0
G 2520	B	740,0	259,0	110,0	185,0	730,0	700,0	32	16,0	439,0	225,0	19,0	2,0
G 2710	A	800,0	280,0	100,0	200,0	790,0	755,0	32	17,5	386,8	235,0	17,0	2,0
G 2720	B	800,0	280,0	100,0	200,0	790,0	755,0	32	17,5	465,0	235,0	17,0	2,0
G 2910	A	870,0	308,0	110,0	220,0	860,0	820,0	32	20,0	410,1	250,0	19,0	2,0
G 2920	B	870,0	308,0	110,0	220,0	860,0	820,0	32	20,0	498,4	250,0	19,0	2,0
G 3110	A	935,0	329,0	115,0	235,0	920,0	880,0	32	20,0	458,7	285,0	22,0	3,0
G 3120	B	935,0	329,0	115,0	235,0	920,0	880,0	32	20,0	561,0	285,0	22,0	3,0
G 3310	A	1.010,0	357,0	150,0	255,0	995,0	950,0	32	22,0	486,7	300,0	22,0	3,0
G 3320	B	1.010,0	357,0	150,0	255,0	995,0	950,0	32	22,0	593,8	300,0	22,0	3,0

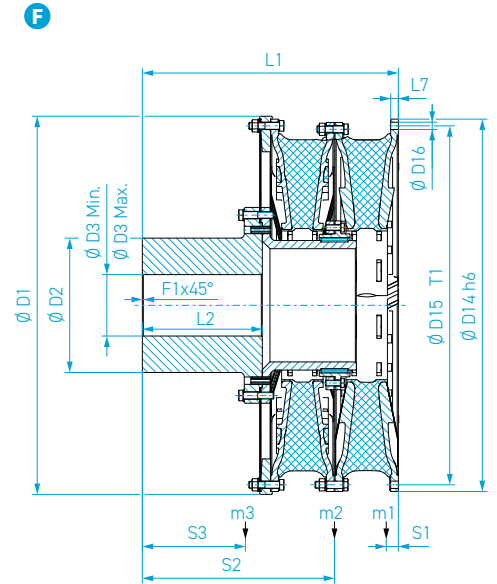
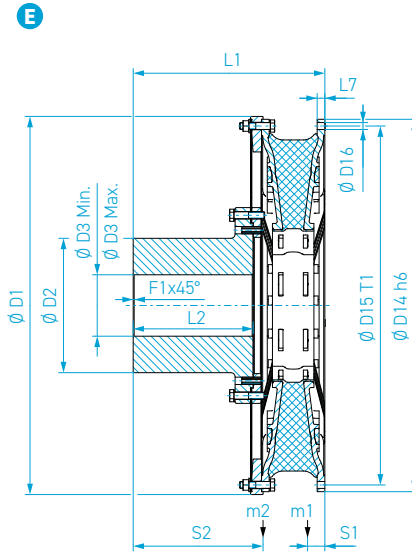
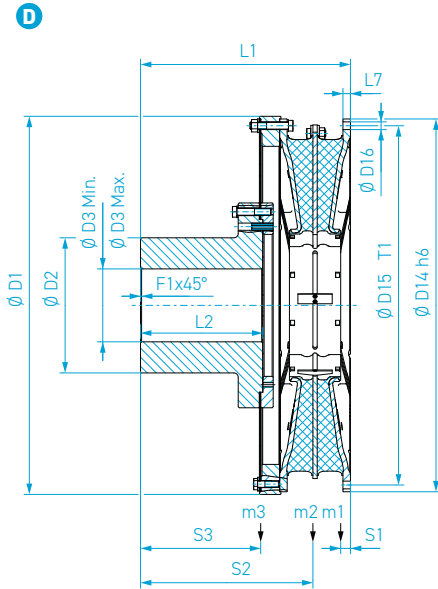
Massenträgheitsmomente Mass moments of inertia			Masse Mass			Schwerpunktsabstand Distance to center of gravity			Anmerkungen Notes
$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$S_1$	$S_2$	$S_3$	
[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[kg]	[mm]	[mm]	[mm]	
1,5	4,4	-	23,8	122,4	-	24,0	153,0	-	Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nabenbohrung (Ø D3 min).  All masses, focal points and mass moments of inertia refer to min. hub bore (Ø D3 min).
1,5	2,1	4,4	23,8	36,1	131,6	24,0	280,0	155,0	
2,1	6,0	-	30,0	138,0	-	24,0	164,0	-	
2,1	3,1	6,1	30,0	47,0	150,0	24,0	297,0	166,0	
3,1	8,7	-	39,0	185,0	-	26,0	184,0	-	
3,1	4,5	9,1	39,0	61,0	208,0	26,0	336,0	188,0	
4,2	13,5	-	46,0	245,0	-	27,0	194,0	-	
4,2	7,2	13,2	46,0	80,0	259,0	27,0	355,0	195,0	
6,4	19,9	-	59,0	308,0	-	29,0	205,0	-	
6,4	10,9	20,3	59,0	102,0	333,0	29,0	380,0	209,0	
9,5	27,1	-	75,0	382,0	-	31,0	229,0	-	
9,5	15,5	28,8	75,0	128,0	418,0	31,0	429,0	234,0	
15,0	36,0	-	97,0	447,0	-	35,0	225,0	-	
13,5	22,4	41,4	92,0	158,0	500,0	34,0	454,0	251,0	



### GEOMETRISCHE DATEN GEOMETRIC DATA



Baugruppe Dimension Group	Abbildung Figure	Abmessungen Dimension										
		D <sub>1</sub> [mm]	D <sub>2</sub> [mm]	D <sub>3</sub> [mm] Min. Max.	D <sub>14</sub> [mm]	D <sub>15</sub> [mm]	T <sub>1</sub> [-] Teilung / holes	D <sub>16</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>7</sub> [mm]	F <sub>1</sub> [mm]
G 3410	A	1.085,0	385,0	160,0 275,0	1.070,0	1.025,0	32	24,0	507,7	310,0	24,0	3,0
G 3420	B	1.085,0	385,0	160,0 275,0	1.070,0	1.025,0	32	24,0	624,4	310,0	24,0	3,0
G 3810	C	1.255,0	448,0	200,0 320,0	1.240,0	1.190,0	32	26,0	699,6	385,0	32,0	4,0
G 4J10	A	1.480,0	518,0	230,0 370,0	1.460,0	1.395,0	32	33,0	779,7	480,0	33,0	5,0
G 4J20	B	1.480,0	518,0	230,0 370,0	1.460,0	1.395,0	32	33,0	958,2	480,0	33,0	5,0
G 5B10	A	1.585,0	560,0	250,0 400,0	1.565,0	1.500,0	32	33,0	808,8	500,0	32,0	5,0
G 5B20	B	1.585,0	560,0	250,0 400,0	1.565,0	1.500,0	32	33,0	1.013,0	500,0	32,0	5,0
G 5310	C	1.710,0	602,0	280,0 430,0	1.685,0	1.615,0	32	36,0	958,8	520,0	42,0	5,0
G 5G10	A	1.710,0	602,0	280,0 430,0	1.685,0	1.615,0	32	36,0	847,8	520,0	35,0	5,0
G 5G20	B	1.710,0	602,0	280,0 430,0	1.685,0	1.615,0	32	36,0	1.063,4	520,0	35,0	5,0
G 5720	D	1.763,0	630,0	340,0 450,0	1.738,0	1.675,0	32	36,0	978,8	570,0	35,0	5,0
G 5810	A	1.815,0	655,0	300,0 470,0	1.790,0	1.726,0	32	34,0	893,6	570,0	35,0	5,0
G 5820	B	1.815,0	655,0	300,0 470,0	1.790,0	1.726,0	32	34,0	1.136,8	570,0	35,0	5,0
G 6210	E	1.970,0	700,0	250,0 500,0	1.940,0	1.870,0	32	36,0	998,8	625,0	40,0	5,0
G 6220	F	1.970,0	700,0	250,0 500,0	1.940,0	1.870,0	32	36,0	1.333,8	625,0	40,0	5,0



Massenträgheitsmomente  
Mass moments of inertia

Masse  
Mass

Schwerpunktsabstand  
Distance to center of gravity

Anmerkungen  
Notes

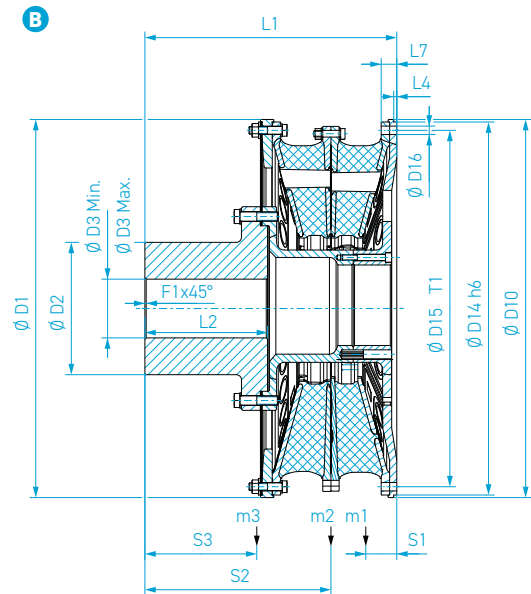
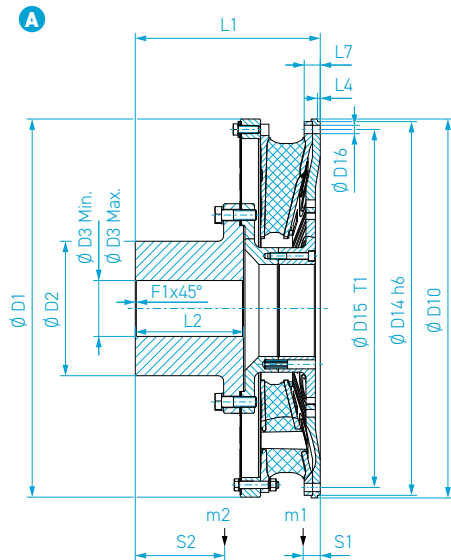
$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$S_1$	$S_2$	$S_3$
[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[kg]	[mm]	[mm]	[mm]
19,3	55,4	-	1130	547,0	-	37,0	255,0	-
19,3	34,1	58,4	1130	203,0	607,0	37,0	475,0	262,0
63,0	143,0	-	276,0	1.006,0	-	59,0	330,0	-
97,8	283,4	-	311,0	1.508,0	-	57,0	391,0	-
97,8	166,6	301,0	311,0	543,0	1.670,0	57,0	728,0	400,0
132,8	343,2	-	371,0	1.671,0	-	61,0	402,0	-
130,4	233,5	392,4	359,0	650,0	1.889,0	60,0	769,0	419,0
286,8	640,0	-	677,0	2.377,0	-	83,0	453,0	-
190,4	504,5	-	457,0	2.056,0	-	65,0	422,0	-
190,4	332,8	551,0	457,0	810,0	2.282,0	65,0	804,0	438,0
206,0	194,5	745,0	463,0	466,0	2.549,0	49,0	814,0	483,0
214,0	793,0	-	474,0	2.713,0	-	63,0	466,0	-
214,0	436,0	910,0	475,0	938,0	3.060,0	63,0	893,0	495,0
397,0	1.049,0	-	728,0	3.255,0	-	63,0	504,0	-
397,0	927,0	1.480,0	728,0	1.792,0	4.309,0	63,0	982,0	570,0

Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nabenbohrung (Ø D3 min).

All masses, focal points and mass moments of inertia refer to min. hub bore (Ø D3 min).



### GEOMETRISCHE DATEN GEOMETRIC DATA



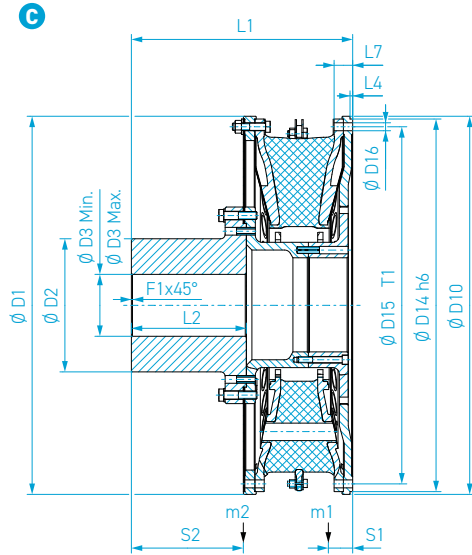
Baugruppe  
Dimension Group

Abbildung  
Figure

Abmessungen  
Dimension

		D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>		D <sub>10</sub>	D <sub>14</sub>	D <sub>15</sub>	T <sub>1</sub>	D <sub>16</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>4</sub>	L <sub>7</sub>	F <sub>1</sub>
		[mm]	[mm]	[mm] Min.	[mm] Max.	[mm]	[mm]	[mm]	[-] Teilung / holes	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
G 2110	A	645,0	224,0	80,0	160,0	645,0	635,0	608,0	32	14,0	321,0	185,0	6,0	29,0	1,6
G 2310	A	690,0	238,0	110,0	170,0	690,0	680,0	650,0	32	16,0	337,5	195,0	6,0	32,0	2,0
G 2510	A	740,0	259,0	110,0	185,0	740,0	730,0	700,0	32	16,0	380,1	225,0	6,0	34,0	2,0
G 2710	A	800,0	280,0	100,0	200,0	800,0	790,0	755,0	32	17,5	403,0	235,0	6,0	33,0	2,0
G 2910	A	870,0	308,0	110,0	220,0	870,0	860,0	820,0	32	20,0	427,0	250,0	6,0	36,0	2,0
G 3110	A	935,0	329,0	115,0	235,0	935,0	920,0	880,0	32	20,0	478,0	285,0	8,0	41,0	3,0
G 3310	A	1.010,0	357,0	150,0	255,0	1.010,0	995,0	950,0	32	22,0	507,7	300,0	8,0	43,0	3,0
G 3410	A	1.085,0	385,0	160,0	275,0	1.085,0	1.070,0	1.025,0	32	24,0	530,0	310,0	8,0	46,0	3,0
G 3810	C	1.255,0	448,0	200,0	320,0	1.255,0	1.240,0	1.190,0	32	26,0	729,6	385,0	10,0	62,0	4,0
G 4J10	A	1.480,0	518,0	230,0	370,0	1.480,0	1.460,0	1.395,0	32	33,0	808,0	480,0	12,0	61,0	5,0
G 4J20	B	1.480,0	518,0	230,0	370,0	1.480,0	1.460,0	1.395,0	32	33,0	986,0	480,0	12,0	61,0	5,0
G 5B10	A	1.585,0	560,0	250,0	400,0	1.585,0	1.565,0	1.500,0	32	33,0	839,0	500,0	12,0	62,0	5,0
G 5B20	B	1.585,0	560,0	250,0	400,0	1.585,0	1.565,0	1.500,0	32	33,0	1.043,0	500,0	12,0	62,0	5,0
G 5310	C	1.710,0	602,0	280,0	430,0	1.710,0	1.685,0	1.615,0	32	36,0	1.000,8	520,0	12,0	84,0	5,0
G 5G10	A	1.710,0	602,0	280,0	430,0	1.710,0	1.685,0	1.615,0	32	36,0	880,0	520,0	12,0	67,0	5,0
G 5G20	B	1.710,0	602,0	280,0	430,0	1.710,0	1.685,0	1.615,0	32	36,0	1.095,5	520,0	12,0	67,0	5,0
G 5810	A	1.815,0	655,0	300,0	470,0	1.940,0	1.940,0	1.870,0	32	36,0	954,0	570,0	-	60,0	5,0
G 5820	B	1.815,0	655,0	300,0	470,0	1.940,0	1.940,0	1.870,0	32	36,0	1.197,0	570,0	-	60,0	5,0





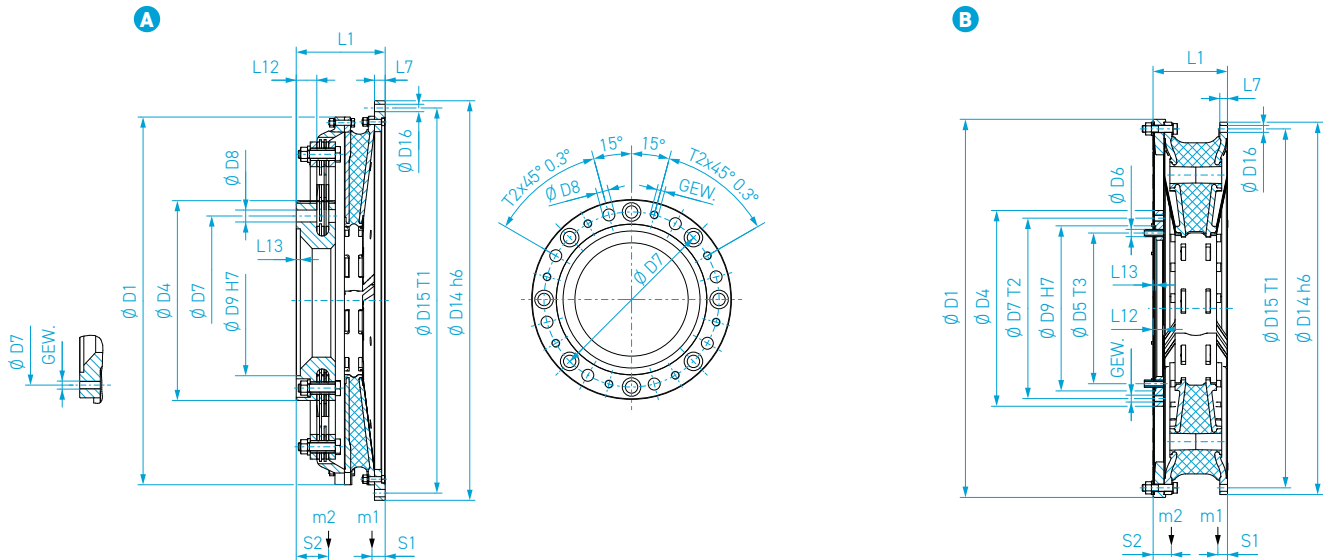
Massenträgheitsmomente Mass moments of inertia			Masse Mass			Schwerpunktsabstand Distance to center of gravity			Anmerkungen Notes
$J_1$	$J_2$	$J_3$	$m_1$	$m_2$	$m_3$	$S_1$	$S_2$	$S_3$	
[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[kg]	[mm]	[mm]	[mm]	
3,2	4,3	-	50,0	140,0	-	25,0	159,0	-	
4,6	5,7	-	62,0	163,0	-	26,0	167,0	-	
6,2	8,9	-	78,0	205,0	-	28,0	193,0	-	
8,7	13,0	-	87,0	276,0	-	29,0	200,0	-	
12,8	20,9	-	109,4	354,7	-	31,0	223,0	-	
20,0	27,0	-	143,0	430,0	-	35,0	241,0	-	
28,0	42,0	-	174,0	531,0	-	36,0	270,0	-	
39,0	59,0	-	213,0	644,0	-	38,0	280,0	-	
96,0	135,0	-	414,0	1.157,0	-	58,0	346,0	-	
191,0	282,0	-	548,0	1.744,0	-	56,0	401,0	-	
184,5	166,6	314,6	547,0	543,0	1.858,0	57,0	728,0	447,0	
262,0	344,0	-	658,0	1.984,0	-	61,0	420,0	-	
256,0	226,5	414,0	663,0	641,0	2.146,0	60,0	769,0	474,0	
452,0	291,0	-	1.037,0	2.626,0	-	67,0	414,0	-	
374,0	497,0	-	829,0	2.453,0	-	64,0	440,0	-	
374,0	332,8	500,0	829,0	810,0	2.547,0	64,0	804,0	474,0	
641,0	673,0	-	1.146,0	2.928,0	-	53,0	439,0	-	
641,0	435,8	689,0	1.146,0	938,0	3.014,0	53,0	894,0	474,0	

Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nabenbohrung (Ø D3 min).

All masses, focal points and mass moments of inertia refer to min. hub bore (Ø D3 min).

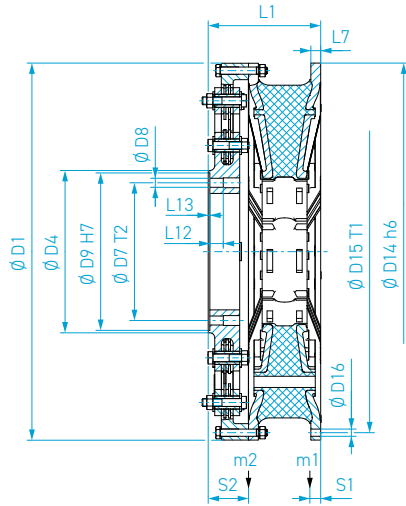


### GEOMETRISCHE DATEN GEOMETRIC DATA



Baugruppe Dimension Group	Abbildung Figure	Abmessungen Dimension													
		D <sub>1</sub> [mm]	D <sub>4</sub> [mm]	D <sub>5</sub> [mm]	T <sub>3</sub> [-] Teilung / holes	D <sub>6</sub> [mm]	D <sub>7</sub> [mm]	T <sub>2</sub> [-] Teilung / holes	GEW. [mm]	D <sub>8</sub> [mm]	D <sub>9</sub> [mm]	D <sub>14</sub> [mm]	D <sub>15</sub> [mm]	T <sub>1</sub> [-] Teilung / holes	D <sub>16</sub> [mm]
G 4610	A	1.480,0	770,0	-	-	-	675,0	8	M30	48,0	580,0	1.460,0	1.395,0	32	33,0
G 4910	A	1.585,0	830,0	-	-	-	725,0	8	M33	48,0	620,0	1.565,0	1.500,0	32	33,0
G 5410	A	1.710,0	895,0	-	-	-	785,0	8	M36	53,0	675,0	1.685,0	1.615,0	32	36,0
G 6010	A	1.790,0	970,0	-	-	-	850,0	8	M39	58,0	730,0	1.940,0	1.870,0	32	36,0
G 6210	B	1.970,0	1.020,0	785,0	24	38,0	940,0	24	M36	-	860,0	1.940,0	1.870,0	32	36,0
G 6510	A	1.930,0	1.045,0	-	-	-	915,0	8	M42	63,0	785,0	2.100,0	2.020,0	32	39,0
G 6810	B	2.115,0	1.150,0	880,0	24	38,3	1.060,0	24	M36	-	970,0	2.085,0	2.010,0	32	38,0
G 7010	A	2.070,0	1.130,0	-	-	-	990,0	8	M45	68,0	850,0	2.250,0	2.165,0	32	42,0
G 7310	C	2.300,0	960,0	-	-	-	840,0	48	-	55,0	960,0	2.300,0	2.210,0	48	42,0

C



Abmessungen Dimension		Massenträgheitsmomente Mass moments of inertia				Masse Mass		Schwerpunktsabstand Distance to center of gravity		Anmerkungen Notes
L <sub>1</sub>	L <sub>7</sub>	L <sub>12</sub>	L <sub>13</sub>	J <sub>1</sub>	J <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	
[mm]	[mm]	[mm]	[mm]	[kgm <sup>2</sup> ]	[kgm <sup>2</sup> ]	[kg]	[kg]	[mm]	[mm]	
350,0	12,0	110,0	20,0	100,0	228,0	288,0	932,0	47,0	130,0	Alle Massen, Schwerpunkte und Massenträgheitsmomente beziehen sich auf min. Nabenbohrung (Ø D3 min).  All masses, focal points and mass moments of inertia refer to min. hub bore (Ø D3 min).
373,5	12,0	110,0	20,0	136,0	327,0	343,0	1.154,0	51,0	138,0	
395,5	12,0	110,0	20,0	197,0	465,0	425,0	1.415,0	54,0	145,0	
431,9	52,0	100,0	20,0	422,0	660,0	690,0	1.706,0	63,0	153,0	
387,8	40,0	54,6	7,2	396,8	881,0	727,5	1.463,5	63,0	74,0	
462,9	60,0	110,0	20,0	630,0	924,0	866,0	2.060,0	69,0	161,0	
457,8	40,0	60,5	7,2	523,2	1.284,9	840,0	1.828,0	76,0	93,0	
486,0	58,5	110,0	20,0	803,0	1.314,0	970,0	2.538,0	72,0	169,0	
686,0	60,0	80,0	10,0	2.454,3	5.128,3	3.415,0	6.814,0	118,0	248,0	



# RATO S / RATO S+

## ERLÄUTERUNGEN DES PRODUKTCODES EXPLANATIONS OF THE PRODUCT CODE

Alle VULKAN Produkte sind mit einem Produktcode gekennzeichnet. Dieser Code setzt sich aus verschiedenen Parameter-Angaben zusammen und ermöglicht es, unsere Produkte eindeutig zu identifizieren.

All VULKAN products are identified by a product code. This code consists of several parameters and it enables the clear identification of all products.

### PRODUKTCODE BEISPIEL RATO S

Hier haben wir den Code am Beispiel einer RATO S (G 381T), Größe 38, 1-reihig, Elementsteifigkeit T, Baureihe 2100 entschlüsselt dargestellt.

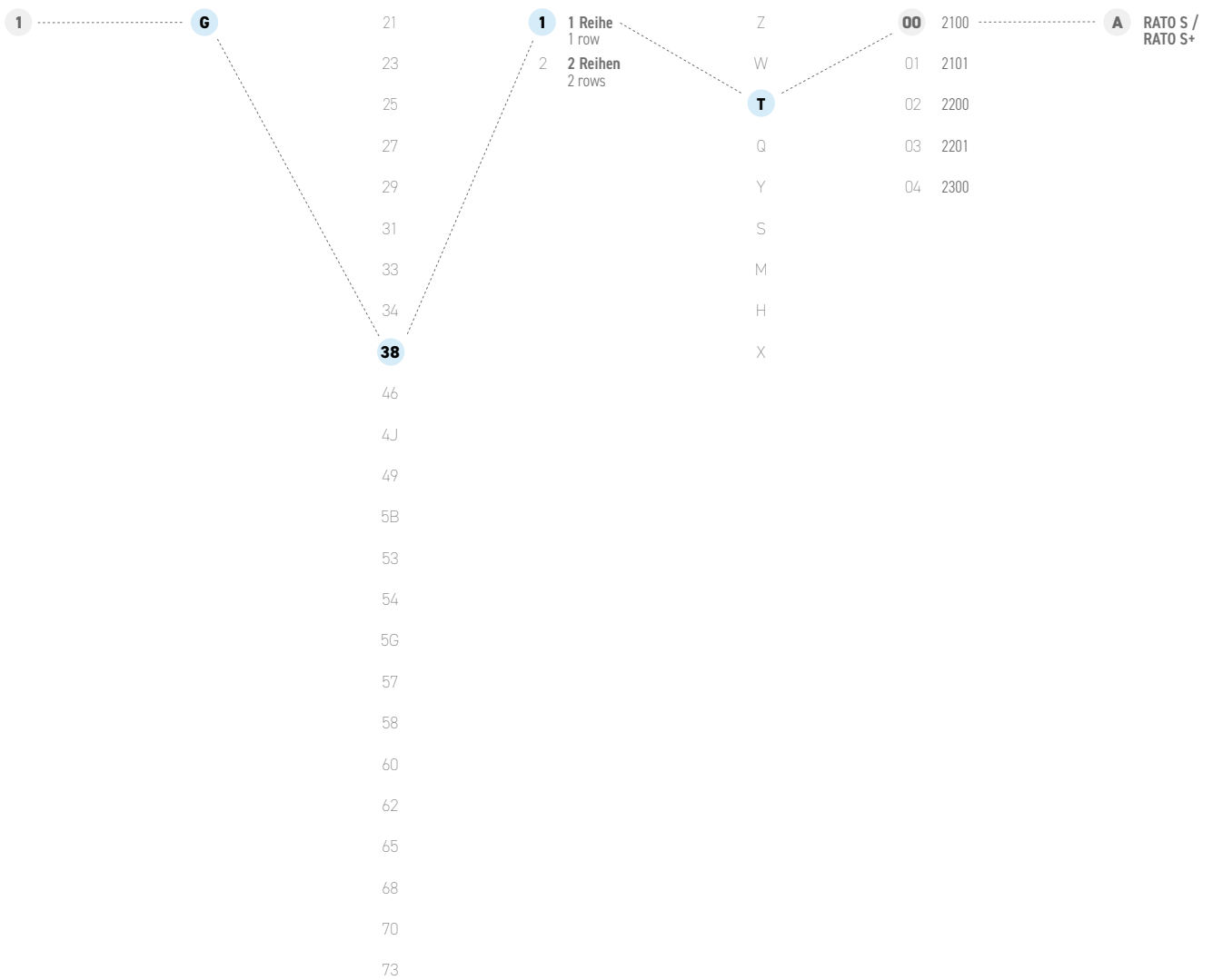
LEISTUNGSDATEN PERFORMANCE DATA			
Kupplungstyp Type of Coupling		$T_{KN}$	$T_{Kmax1}$
		[kNm]	[kNm]
Größe Size	Baugruppe Dimension Group	Nennrehmoment Nominal Torque	Max. Drehmoment, Max. Torque
G 381T	G 3810	125,00	146,00

Auszug aus den Leistungsdaten.  
Für vollständige Daten siehe Seite 08 ff.  
Excerpt from performance data.  
Complete data see page 08 ff.

### PRODUCT CODE EXAMPLE RATO S

We have decoded here the product code of a RATO S (G 381T), Size 38, 1 row, Element stiffness T, Series 2100.

Komplettkupplung Complete coupling	Produktfamilie Product family	Größenbezeichnung Size code	Elementreihen Element rows	Elementsteifigkeit Element stiffness	Baureihe Series	Kennzeichen Key
1	G	38	1	T	00	A



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Die enthaltenen technischen Daten sind nur gültig bei Einsatz in definierten Anwendungsgebieten. Diese umfassen:

- Haupt- und Nebenantriebe auf Schiffen
- Generatorsätze auf Schiffen
- Antriebe für stationäre Energieerzeugung mit Diesel- oder Gasmotoren

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- Main propulsion and auxiliary drives on ships
- Generator sets on ships
- Drives for stationary energy production with diesel or gas engines

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VULKAN torsional vibration analysis usually only consider the pure mechanical mass-elastic system. Being a component manufacturer exclusively, VULKAN assumes no system responsibility with the analysis of the torsional vibration system (stationary, transiently)! The accuracy of the analysis depends on the exactness of the used data and the data VULKAN is provided with, respectively.

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