

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen Radii, Chamfers | Nennmaß kurz. Schenkel côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|--|--|---|-------------------------------|---|---|--|--------------------|-------------|------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | über plus de above | bis à up to | | über plus de above | bis à up to | | |
| mm | | | | | | | | | | | | |
| 50 | N12 | | 0.5 | 3 | ± 0.1 | ± 0.2 | - | - | | | | |
| 25 | N11 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 3 | 6 | ± 0.1 | ± 0.5 | - | 10 | $\pm 1^\circ$ | | | |
| 12.5 | N10 | | 6 | 30 | ± 0.2 | | 10 | 50 | $\pm 30'$ | 10 | 0.05 | |
| 6.3 | N9 | | 30 | 120 | ± 0.3 | | 50 | 120 | $\pm 20'$ | 10 | 0.1 | 0.4 |
| 3.2 | N8 | | 120 | 400 | ± 0.5 | | 120 | 400 | $\pm 10'$ | 30 | 0.2 | 0.6 |
| 1.6 | N7 | | 400 | 1000 | ± 0.8 | | 400 | - | $\pm 5'$ | 100 | 300 | 0.4 |
| 0.8 | N6 | | | | | | | | | 300 | 1000 | 0.6 |
| 0.4 | N5 | | | | | | | | | 1000 | 3000 | 0.8 |
| 0.2 | N4 | | | | | | | | | | | 0.8 |
| 0.1 | N3 | | | | | | | | | | | |
| 0.05 | N2 | | | | | | | | | | | |
| 0.025 | N1 | | | | | | | | | | | |

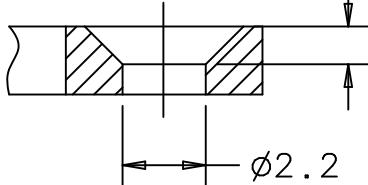
Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. Nous nous réservons tous les droits sur ce document conforme DIN 34. All proprietary rights reserved according to DIN 34.

B

DETAIL B

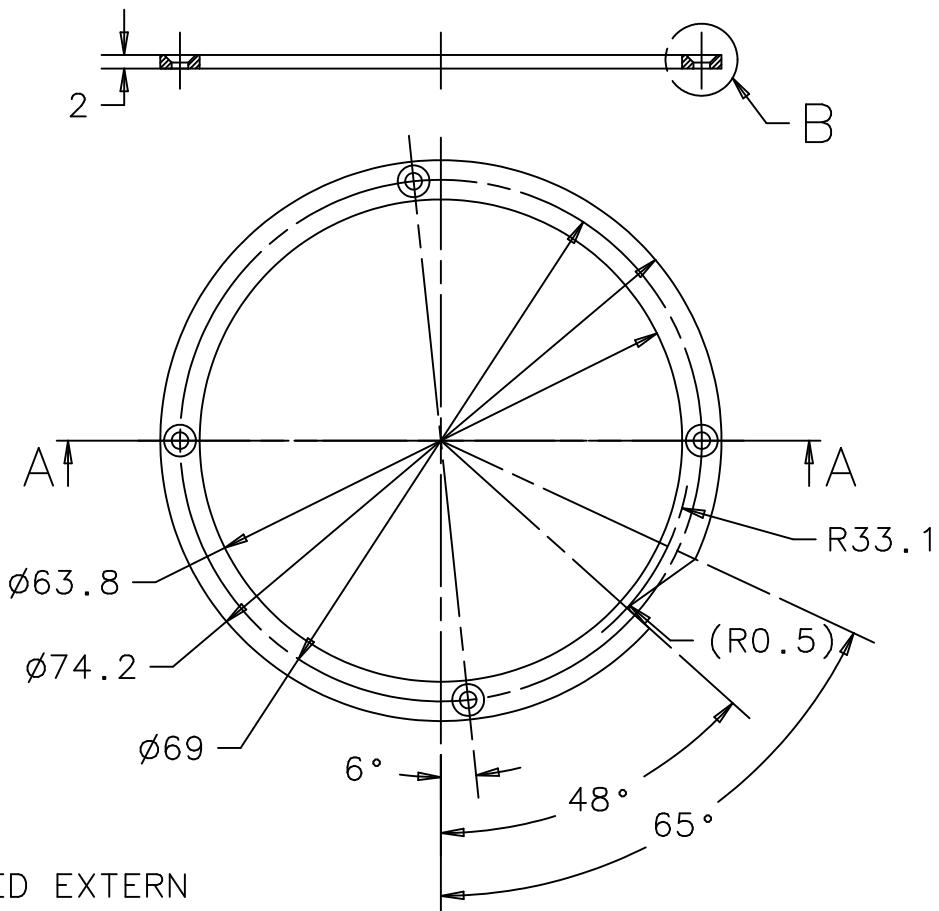
5:1

1 x 45°



SECTION A-A

C



E MANUFACTURED EXTERN

A IN DETAIL B: 1x45° was 1.2x45°;

12.10.03 JANS

| Index | Aenderung Modification Modification | Feld Zone Zone | Datum Date Date | Visum Visa Appr. | Gepr., Norm Checké, Norme Stand. |
|-------|---|----------------------|-----------------------|------------------------|--|
| | | | | | |

| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | Gewicht kg/Poids en kg/Weight kg |
|-------------|----------------------------|-------------------------------------|----------------------------------|
| | | S235JR | |

| Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part |
|------------------------------|--|-----------------------------------|
| | | |

| F Datum/Date Date | 01.04.03 | Name/Nom Name | L.Jans | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
|----------------------|----------|------------------|--------|---------------------|--------------------------|------------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |

KERFRING

ENIGMA

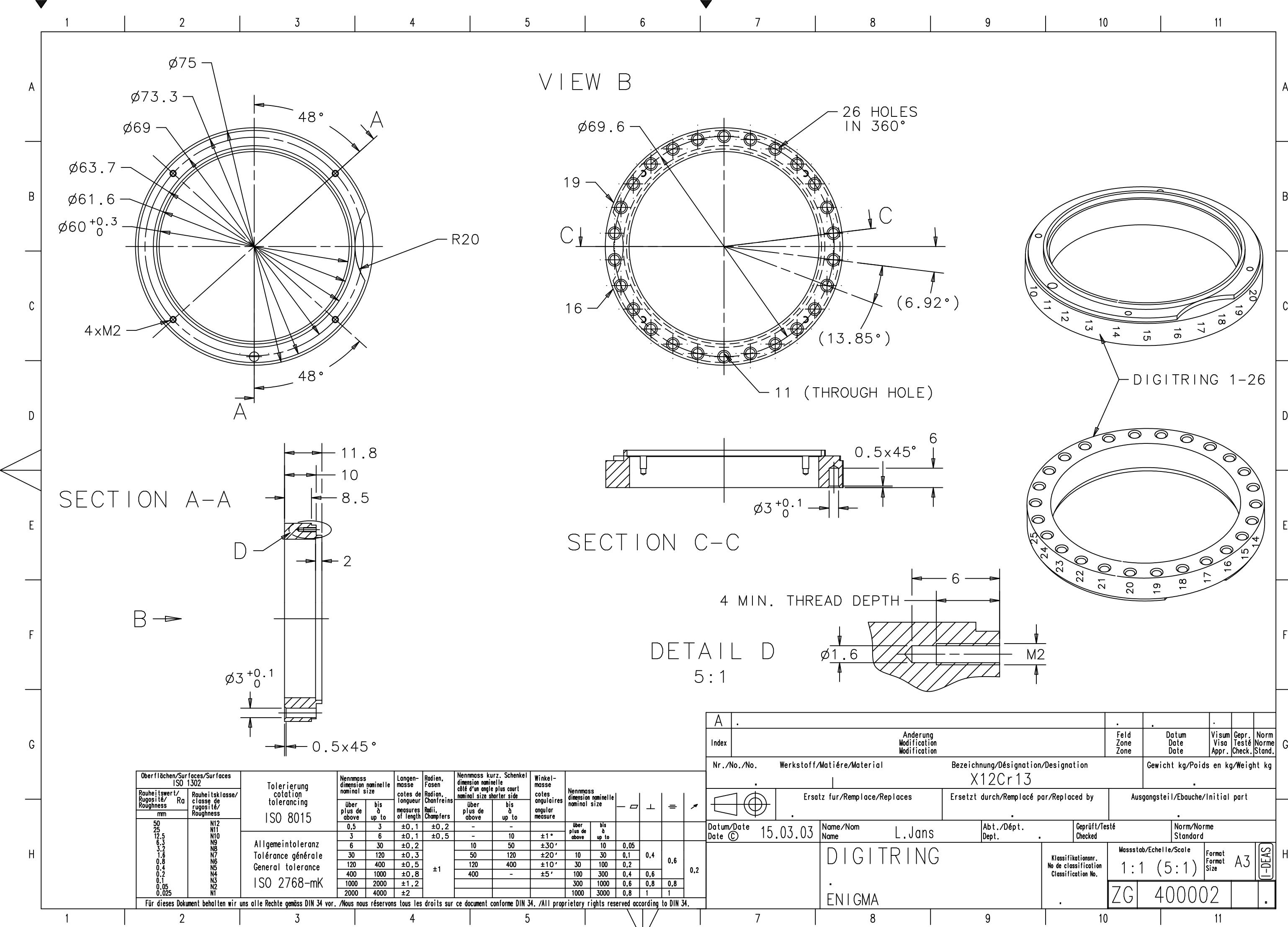
Klassifikationsnr.
No de classification
Classification No.

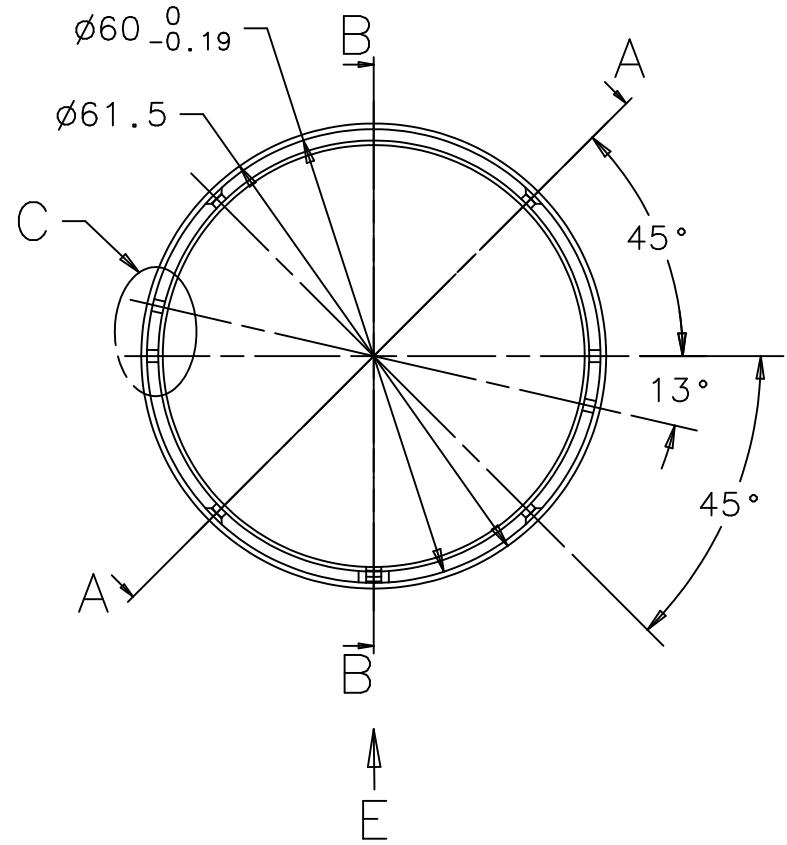
Massstab/Echelle/Scale
1:1 (5:1)

Format
Format
Size
A4

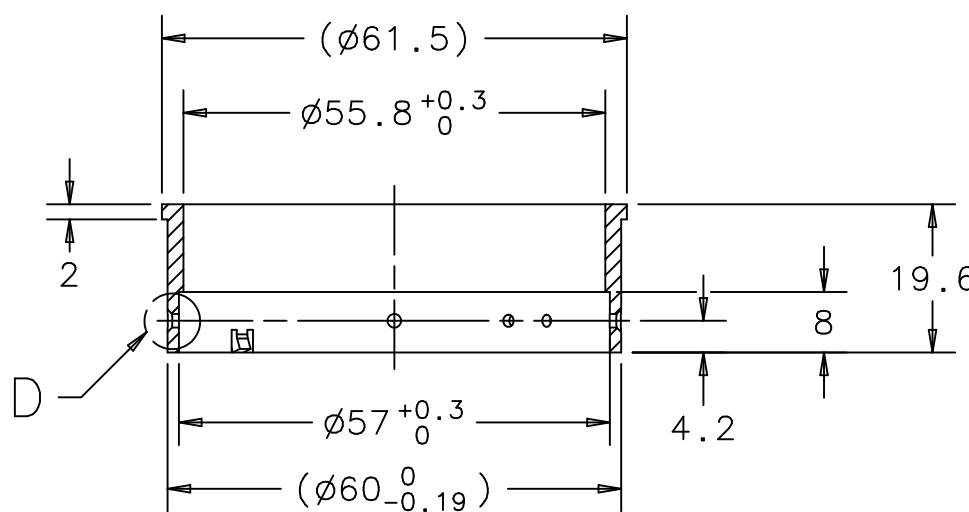
ZG 400001

DEAS



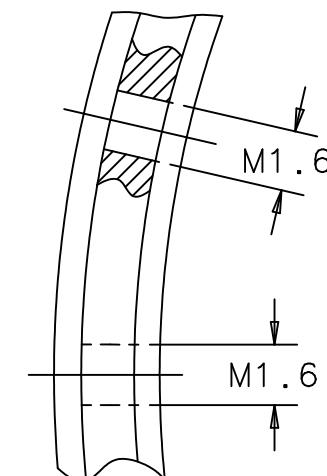


SECT A
ROTATED



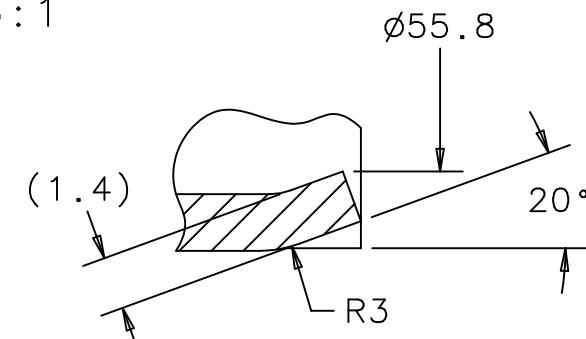
DETAILS

5 : 1

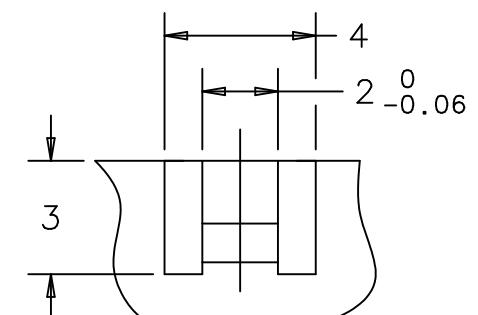


SECT B

5:

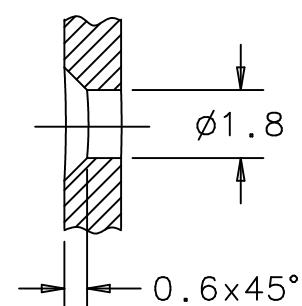


VIEW E
5:1



DETAIL D
5:1

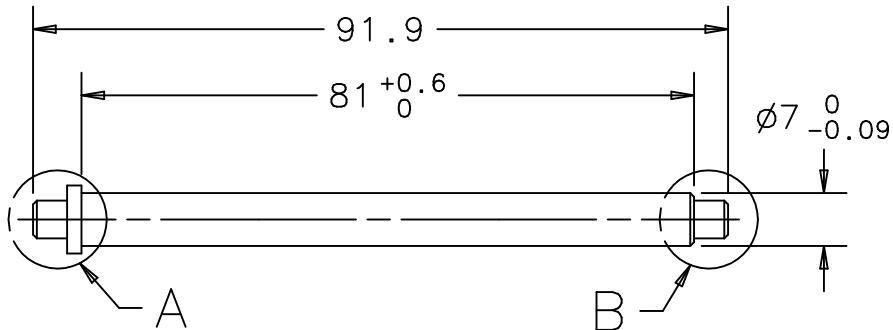
5 : 1



| | | | | | | | |
|----------------------|--|---|--------|--|---|--------------------------|--------------------------|
| B | IN DETAIL D: 0.6x45 was 1x45°; | | | . | 12.10.03 | JANS | |
| A | IN VIEW E R0.25 REMOVED; 4 WAS 3; | | | . | 30.04.03 | JANS | |
| Index | Anderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. | Gepr. Testé Check. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation S235JR | | | Gewicht kg/Poids en kg/Weight kg 0.054 | | |
| | Ersatz fur/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | | | Ausgangsteil/Ebauche/Initial part | | |
| Datum/Date Date ④ | 01.04.03 | Name/Nom Name | L.Jans | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| BUSHING | | ENIGMA | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 1:1 (5:1) | Format Format Size | A3 |
| ZG | 400003 | | | | | | B |

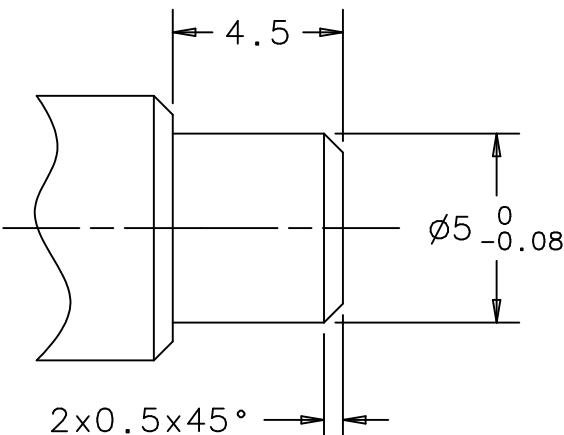
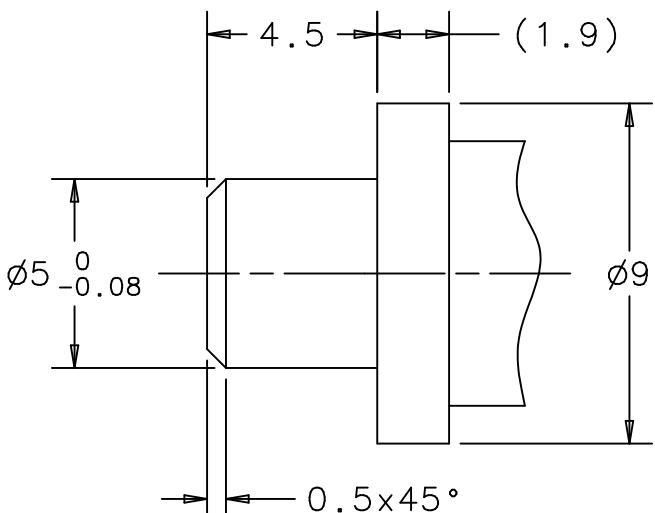
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominale nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen, Radion, Chanfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominale côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominale nominal size | — □ — ⊥ = ↗ | |
|--|---|--|---|---|---|--|---|---|---------------|-----|
| Rauheitswert/ Raugewert/ Rauigkeit Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | über plus de above | bis à up to | | | |
| mm | | | | | | | | | | |
| 50 | N12 | | 0.5 | 3 | ± 0.1 | ± 0.2 | — | — | | |
| 25 | N11 | | 3 | 6 | ± 0.1 | ± 0.5 | — | 10 | $\pm 1^\circ$ | |
| 12.5 | N10 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 6 | 30 | ± 0.2 | | 10 | 50 | $\pm 30'$ | |
| 6.3 | N9 | | 30 | 120 | ± 0.3 | | 50 | 120 | $\pm 20'$ | |
| 3.2 | N8 | | 120 | 400 | ± 0.5 | | 120 | 400 | $\pm 10'$ | |
| 1.6 | N7 | | 400 | 1000 | ± 0.8 | | 400 | — | $\pm 5'$ | |
| 0.8 | N6 | | 1000 | 2000 | ± 1.2 | | | 300 | 1000 | 0.6 |
| 0.4 | N5 | | 2000 | 4000 | ± 2 | | | 300 | 1000 | 0.8 |
| 0.2 | N4 | | | | | | | 1000 | 3000 | 0.8 |
| 0.1 | N3 | | | | | | | | 1 | 1 |
| 0.05 | N2 | | | | | | | | | |
| 0.025 | N1 | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.



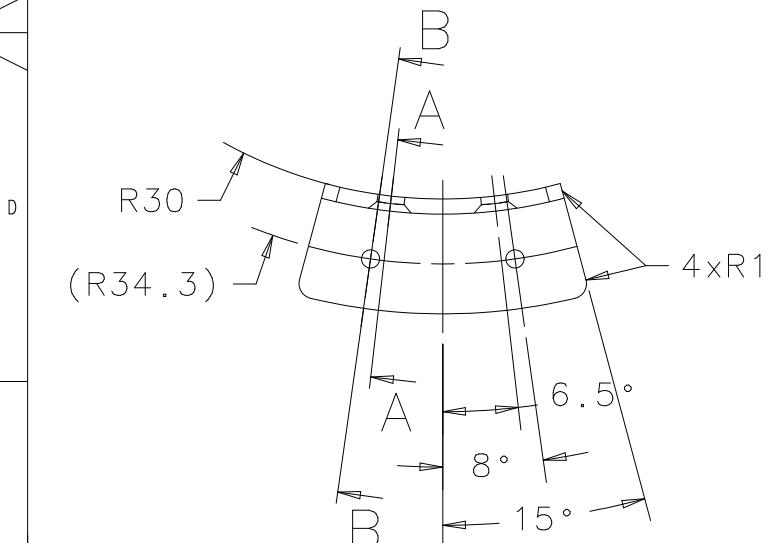
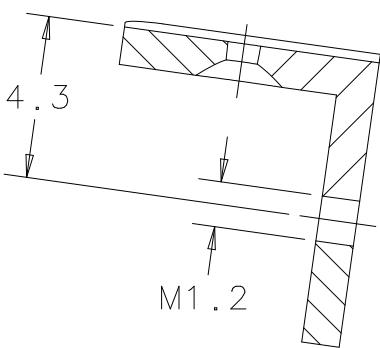
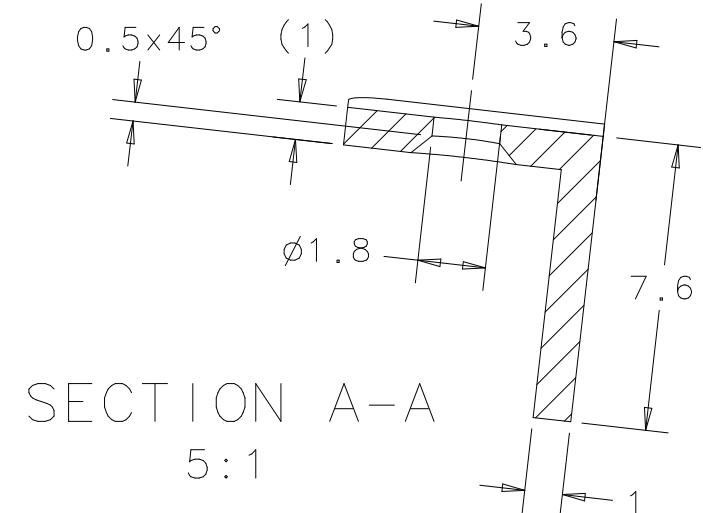
DETAIL A
M 5:1

DETAIL B
M 5:1



| | | | | | | | |
|------------------------------|--|--|--------|----------------------|--|-------------------------------------|--|
| A | . | | | | | | |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Check | Gepr., Norm Norme Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | |
| | | S235JR | | | 0.027 | | |
| Ersatz für/Remplace/Replaces | | Ersetzt durch/Remplacé par/Replaced by | | | Ausgangsteil/Ebauche/Initial part | | |
| Datum/Date Date | 09.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| F | | ROLL SHAFT ENIGMA | | | Klassifikationsnr. No de classification Classification No. | Massstab/Echelle/Scale 1:1 (5:1) | Format Format Size A4 DEAS |
| ZG | 400004 | | | | | | |

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radius, Fasen Radion, Chamfreins Radii, Chamfers | Nennmaß kurz, Schenkel côte d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|---|--|---|---|---|---|--|--|-------------|--------------------|-------------|
| Rauheitswert/ Raugosité/ Roughness mm | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to |
| 50 25 12.5 6.3 3.2 1.6 0.8 0.4 0.2 0.1 0.05 0.025 | N12 N11 N10 N9 N8 N7 N6 N5 N4 N3 N2 N1 | | 3 6 30 120 400 1000 2000 | 3 6 30 120 400 1000 2000 | 0.5 ±0.1 ±0.2 ±0.5 ±0.3 ±0.5 ±1.2 ±2 | 10 50 120 400 - | ±1° ±30' ±20' ±10' ±5' | 10 30 100 300 1000 3000 | 0.05 0.1 0.2 0.4 0.6 0.8 0.8 | 0.4 0.6 | 0.2 | |
| Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34. | | | | | | | | | | | | |

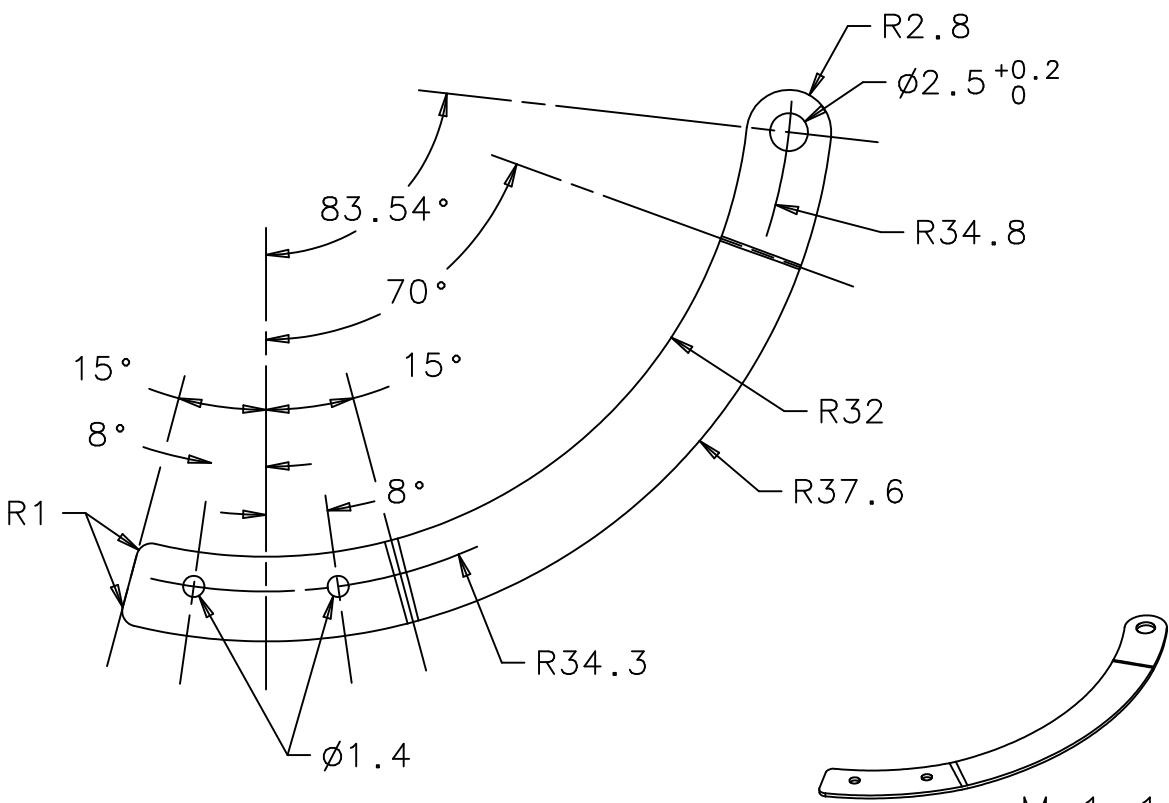


| | | | | | | | |
|----------------------|--|---|--------|--|---|------------------------|-------------------------|
| A | IN SECT B R2 REMOVED | | | 30.04.03 | JANS | | |
| Index | Anderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Check | Gepr., Norm Norm Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation S235JR | | | Gewicht kg/Poids en kg/Weight kg 0.002 | | |
| | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | | | Ausgangsteil/Ebauche/Initial part | | |
| Datum/Date Date ② | 25.03.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| F | BRACKET ENIGMA | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 2:1 (5:1) | Format Format Size | A4 DEAS |
| ZG | 400005 | | | | | | A |

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen Radion, Chanfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | — □ — ⊥ = ↗ | |
|--|---|--|--|---|--|---|---|--|---------------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | über plus de above | bis à up to | | | |
| mm | | | | | | | | | | |
| 50 | N12 | | 0.5 | 3 | $\pm 0,1$ | $\pm 0,2$ | - | - | | |
| 25 | N11 | | 3 | 6 | $\pm 0,1$ | $\pm 0,5$ | - | 10 | $\pm 1^\circ$ | |
| 12.5 | N10 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 6 | 30 | $\pm 0,2$ | | 10 | 50 | $\pm 30'$ | |
| 6.3 | N9 | | 30 | 120 | $\pm 0,3$ | | 50 | 120 | $\pm 20'$ | |
| 3.2 | N8 | | 120 | 400 | $\pm 0,5$ | | 120 | 400 | $\pm 10'$ | |
| 1.6 | N7 | | 400 | 1000 | $\pm 0,8$ | | 400 | - | $\pm 5'$ | |
| 0.8 | N6 | | 1000 | 2000 | $\pm 1,2$ | | | 300 | 1000 | 0,6 |
| 0.4 | N5 | | 2000 | 4000 | ± 2 | | | 300 | 1000 | 0,8 |
| 0.2 | N4 | | | | | | | 1000 | 3000 | 0,8 |
| 0.1 | N3 | | | | | | | | 1 | 1 |
| 0.05 | N2 | | | | | | | | | |
| 0.025 | N1 | | | | | | | | | |

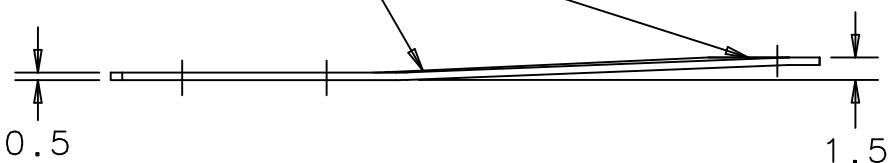
Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

B



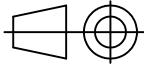
D

STOCK FLOW FREE IN REGION OF BEND RADIUS



E

CLAMP DIMENSIONS ACCORDING TO POST ASSEMBLY POSITION EXTERN MANUFACTURED

| | | | | | | | |
|--|--|-------------------------------------|--|--|------------------------------------|--------------------------|-------------------|
| A | . | . | . | . | . | . | |
| Index | Änderung Modification Modification | | | Feld Zone | Datum Date Date | Visum Visa Appr. Check. | Gepr. Norm Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | |
| | | 38Si7 | | | 0.001 | | |
|  | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part | | | |
| Datum/Date Date | 06.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| <p>CLAMP ENIGMA</p> | | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 2:1 (1:1) | Format Format Size A4 | IDEAS |
| ZG | 400006 | | | | | | |

1

2

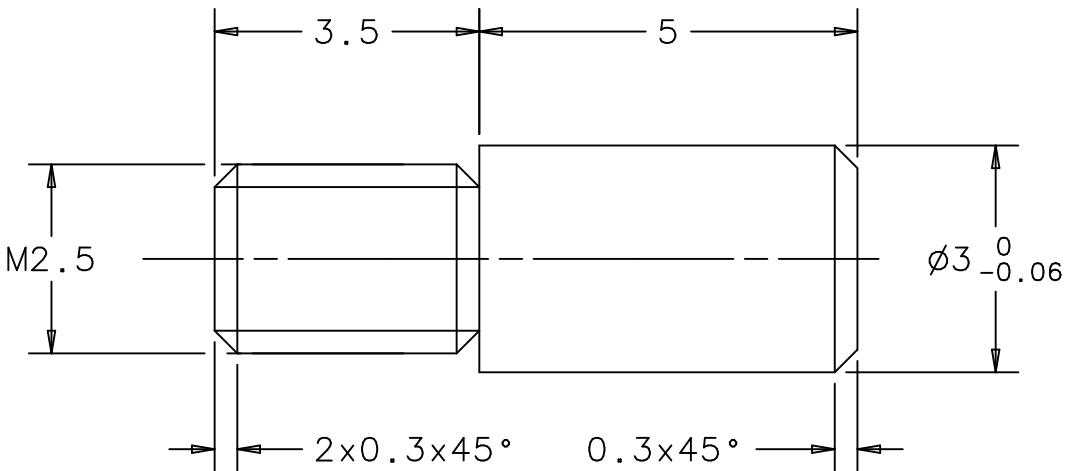
3

4

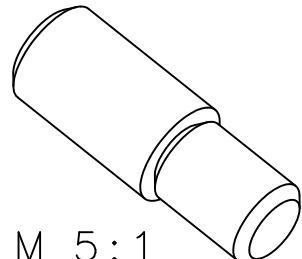
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langenmasse cotes de longueur measures of length | Radien, Fasen Radion, Chanfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkelmasse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|---|--|--|--|---|--|--|--------------------|-------------|------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | = | | | |
| mm | | | | | | | | | | | | |
| 50 | N12 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 0,5 | 3 | ±0,1 | ±0,2 | - | - | Über plus de above | bis à up to | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | 10 | 0,05 | 0,4 |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 10 | 0,1 | |
| 3,2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 0,2 | |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 |
| 0,8 | N6 | | | | | | | | | 300 | 1000 | 0,6 |
| 0,4 | N5 | | | | | | | | | 1000 | 3000 | 0,8 |
| 0,2 | N4 | | | | | | | | | | | 0,8 |
| 0,1 | N3 | | | | | | | | | | | |
| 0,05 | N2 | | | | | | | | | | | |
| 0,025 | N1 | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

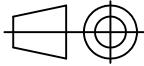
B



D



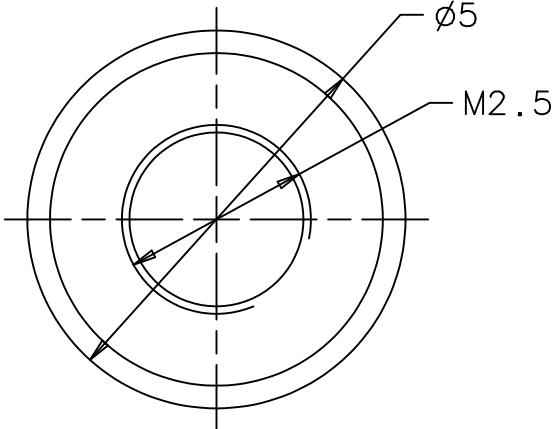
E

| | | | | | | |
|--|--|-------------------------------------|--|--|-------------------------------------|---|
| A | . | . | . | . | . | . |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Check. Norm Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | |
| . | S235JR | | | | 0.0004 | |
|  | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | | Ausgangsteil/Ebauche/Initial part | |
| Datum/Date Date | 08.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
| | | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 10:1 (5:1) | Format Format Size A4 IDEAS |
| | | PIN ENIGMA | | | ZG 400007 | |

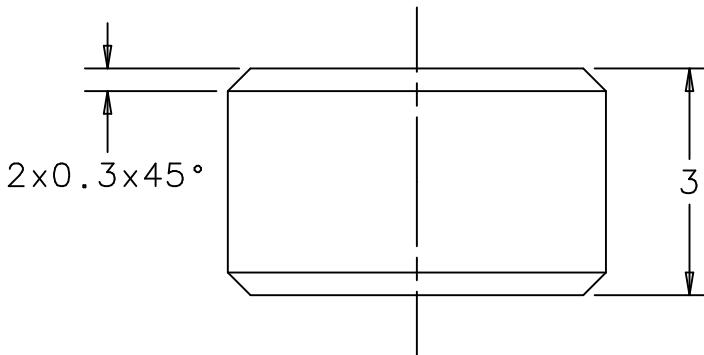
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radius, Fasen Radion, Chanfreins | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|--|--|---|----------------------------------|---|---|--|------|------|------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | | | | |
| mm | | | | | | | | | | | | |
| 50 | N12 | | 0,5 | 3 | ±0,1 | ±0,2 | - | - | | | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | |
| 12,5 | N10 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | 10 | 0,05 | |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 10 | 0,1 | 0,4 |
| 3,2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 0,2 | 0,6 |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 |
| 0,8 | N6 | | | | | | | | | 300 | 1000 | 0,6 |
| 0,4 | N5 | | | | | | | | | 1000 | 3000 | 0,8 |
| 0,2 | N4 | | | | | | | | | | | 0,8 |
| 0,1 | N3 | | | | | | | | | | | |
| 0,05 | N2 | | | | | | | | | | | |
| 0,025 | N1 | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

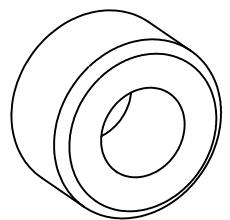
B



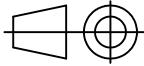
C

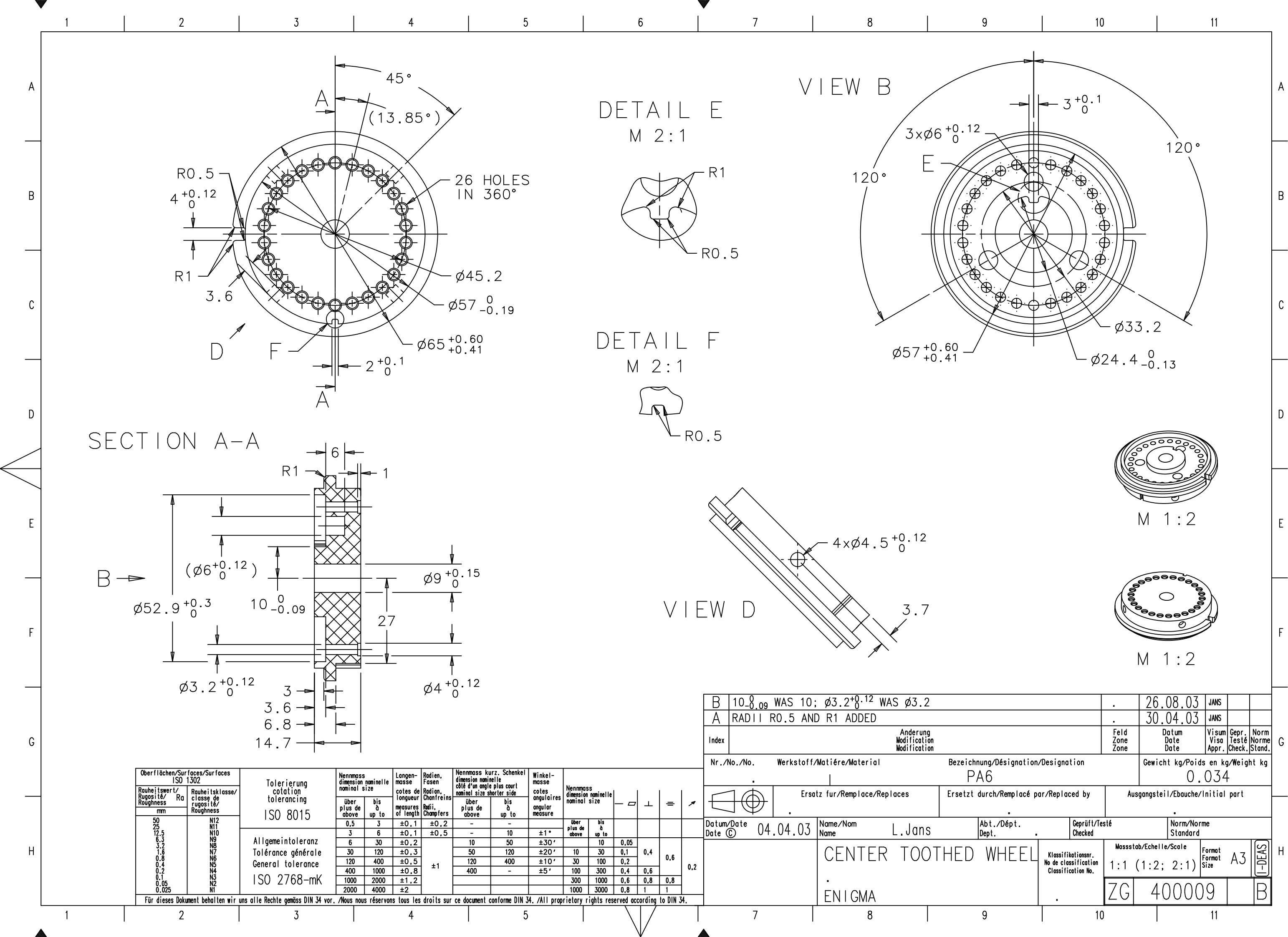


D



M 5 : 1

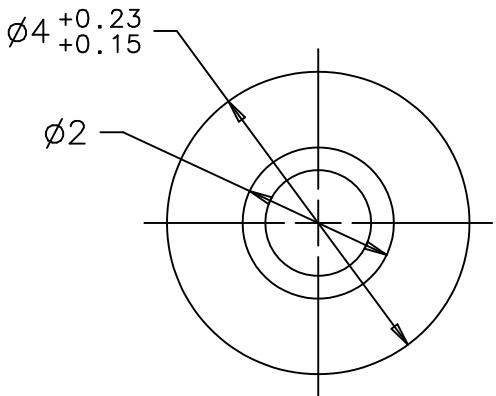
| | | | | | | |
|--|--|-------------------------------------|--|--|-------------------------------------|--|
| A | . | | | | | |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Checké Norme Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | |
| | | S235JR | | | | |
|  | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | | Ausgangsteil/Ebauche/Initial part | |
| Datum/Date Date | 08.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
| | | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 10:1 (5:1) | Format Format Size A4 IDEAS |
| | | CAP ENIGMA | | | ZG 400008 | |



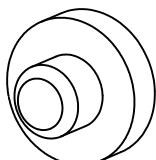
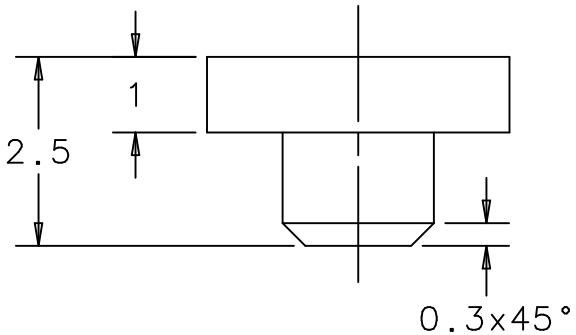
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radius, Fasen Radion, Chantfreins | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|--|--|---|-----------------------------------|---|---|--|--------------------|-------------|------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | = | | | |
| mm | | | | | | | | | | | | |
| 50 | N12 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 0,5 | 3 | ±0,1 | ±0,2 | - | - | Über plus de above | bis à up to | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | 10 | 0,05 | 0,4 |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 10 | 0,1 | |
| 3,2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 0,2 | |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 |
| 0,8 | N6 | | | | | | | | | 300 | 1000 | 0,6 |
| 0,4 | N5 | | | | | | | | | 1000 | 3000 | 0,8 |
| 0,2 | N4 | | | | | | | | | | | 0,8 |
| 0,1 | N3 | | | | | | | | | | | |
| 0,05 | N2 | | | | | | | | | | | |
| 0,025 | N1 | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

B



C



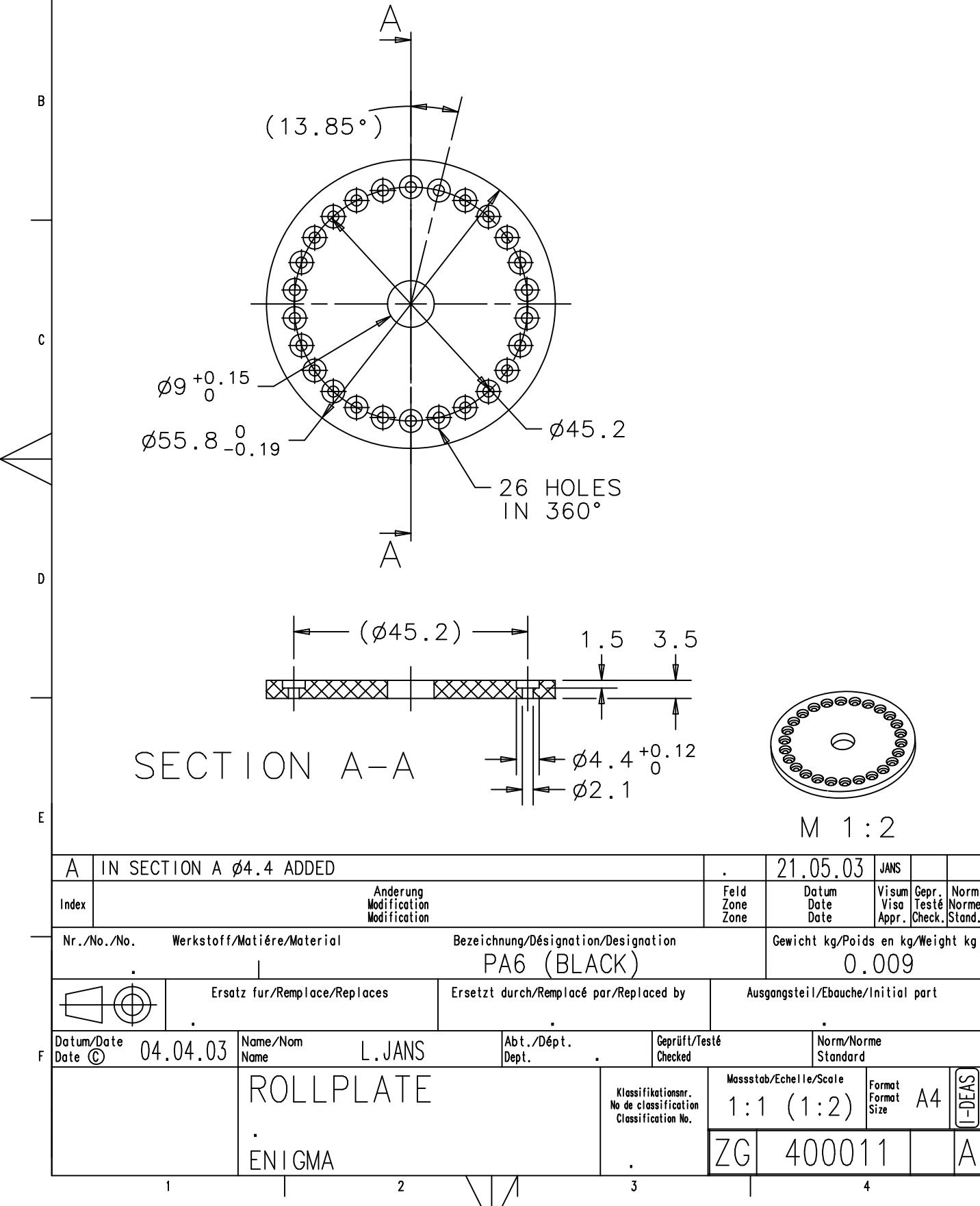
D

M 5:1

| | | | | | | | | |
|--------------------|--|-------------------------------------|--|-----------------------------------|--|---|-----------------------|-------|
| A | . | . | . | . | . | . | | |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Check. Norm Stand. | | |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | | |
| | | CuZn40 | | | | | | |
| | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part | | | | |
| Datum/Date Date | 04.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | | |
| F | | CONTACT DIE ENIGMA | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 10:1 (5:1) | Format Format Size | A4 |
| | | | | | ZG | 400010 | | IDEAS |

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen- masse cotes de longueur measures of length | Radien, Fasen Radii, Chamfers | Nennmaß kurz. Schenkel côte d'un angle plus court nominal size shorter side | Winkel- masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | |
|---|--|--|--|---|--|--|---|--|---------------|------|------|
| Rauheitswert/ Rugosité/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | über plus de above | bis à up to | - | □ | + | = |
| mm | mm | | | | | | | | | | |
| 50 | N12 | | 0.5 | 3 | ± 0.1 | ± 0.2 | - | - | | | |
| 25 | N11 | | 3 | 6 | ± 0.1 | ± 0.5 | - | 10 | $\pm 1^\circ$ | | |
| 12.5 | N10 | Allgemeintoleranz Tolérance générale General tolerance | 6 | 30 | ± 0.2 | | 10 | 50 | $\pm 30'$ | 10 | 0,05 |
| 6.3 | N9 | | 30 | 120 | ± 0.3 | | 50 | 120 | $\pm 20'$ | 30 | 0,1 |
| 3.2 | N8 | | 120 | 400 | ± 0.5 | | 120 | 400 | $\pm 10'$ | 100 | 0,2 |
| 1.6 | N7 | | 400 | 1000 | ± 0.8 | | 400 | - | $\pm 5'$ | 100 | 0,4 |
| 0.8 | N6 | | | | | | | | | 300 | 0,6 |
| 0.4 | N5 | | | | | | | | | 1000 | 0,8 |
| 0.2 | N4 | | | | | | | | | 3000 | 0,8 |
| 0.1 | N3 | | | | | | | | | 1000 | 1 |
| 0.05 | N2 | | | | | | | | | 3000 | 1 |
| 0.025 | N1 | | | | | | | | | | 1 |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

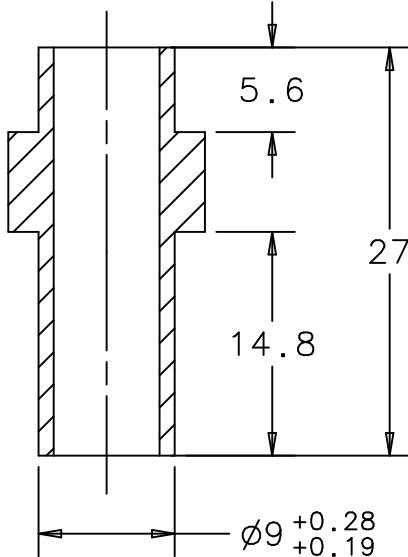


| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen Radion, Chanfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | — □ — ⊥ = ↗ |
|--|---|--|--|---|--|---|---|--|-------------------|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | |
| mm | | | | | | | | | |
| 50 | N12 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 0.5 | 3 | $\pm 0,1$ | $\pm 0,2$ | - | - | |
| 25 | N11 | | 3 | 6 | $\pm 0,1$ | $\pm 0,5$ | - | 10 | $\pm 1^\circ$ |
| 12.5 | N10 | | 6 | 30 | $\pm 0,2$ | | 10 | 50 | $\pm 30'$ |
| 6.3 | N9 | | 30 | 120 | $\pm 0,3$ | | 50 | 120 | $\pm 20'$ |
| 3.2 | N8 | | 120 | 400 | $\pm 0,5$ | | 120 | 400 | $\pm 10'$ |
| 1.6 | N7 | | 400 | 1000 | $\pm 0,8$ | | 400 | - | $\pm 5'$ |
| 0.8 | N6 | | 1000 | 2000 | $\pm 1,2$ | | | | 300 1000 0,6 0,8 |
| 0.4 | N5 | | 2000 | 4000 | ± 2 | | | | 1000 3000 0,8 1 1 |
| 0.2 | N4 | | | | | | | | |
| 0.1 | N3 | | | | | | | | |
| 0.05 | N2 | | | | | | | | |
| 0.025 | N1 | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

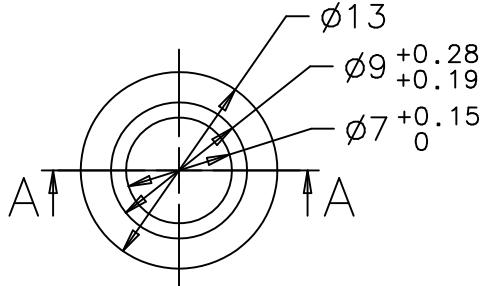
SECTION A-A

B



C

D



E



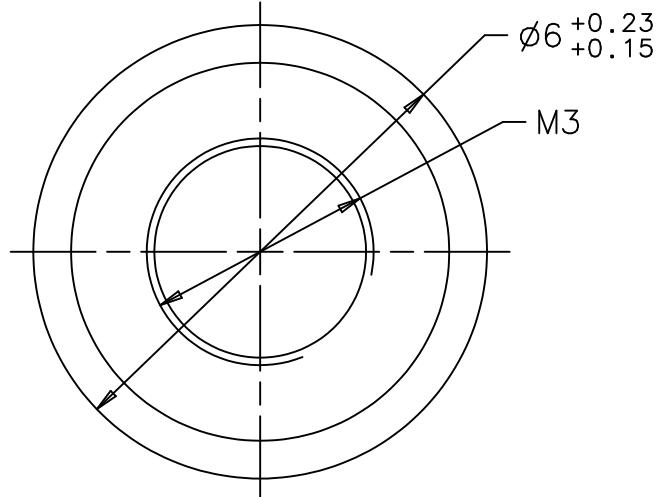
M 1 : 1

| | | | | | | | |
|-------------------------------|--|-------------------------------------|--|--|------------------------------------|--------------------------|------------------------------|
| A | . | . | . | . | . | . | |
| Index | Änderung Modification Modification | | | Feld Zone | Datum Date | Visum Visa Appr. | Gepr., Norm Checké Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | |
| . | | S235JR | | | . | | |
| | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part | | | |
| Datum/Date Date ① 04.04.03 | | Name/Nom Name L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | | |
| | | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 2:1 (1:1) | Format Format Size A4 | IDEAS |
| | | STEEL BUSHING ENIGMA | | | ZG 400012 | | |
| 1 | 2 | 3 | 4 | | | | |

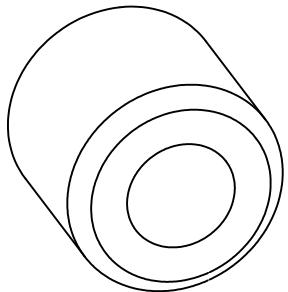
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|---|--|---|-------------------------------|---|---|--|--------------------|-------------|------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | | | | |
| mm | | | | | | | | | | | | |
| 50 | N12 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 0,5 | 3 | ±0,1 | ±0,2 | - | - | über plus de above | bis à up to | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | 10 | 0,05 | 0,4 |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 10 | 0,1 | |
| 3,2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 0,2 | |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 |
| 0,8 | N6 | | 1000 | 2000 | ±1,2 | | | | | 300 | 1000 | 0,6 |
| 0,4 | N5 | | 2000 | 4000 | ±2 | | | | | 1000 | 3000 | 0,8 |
| 0,2 | N4 | | | | | | | | | | | 0,8 |
| 0,1 | N3 | | | | | | | | | | | |
| 0,05 | N2 | | | | | | | | | | | |
| 0,025 | N1 | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

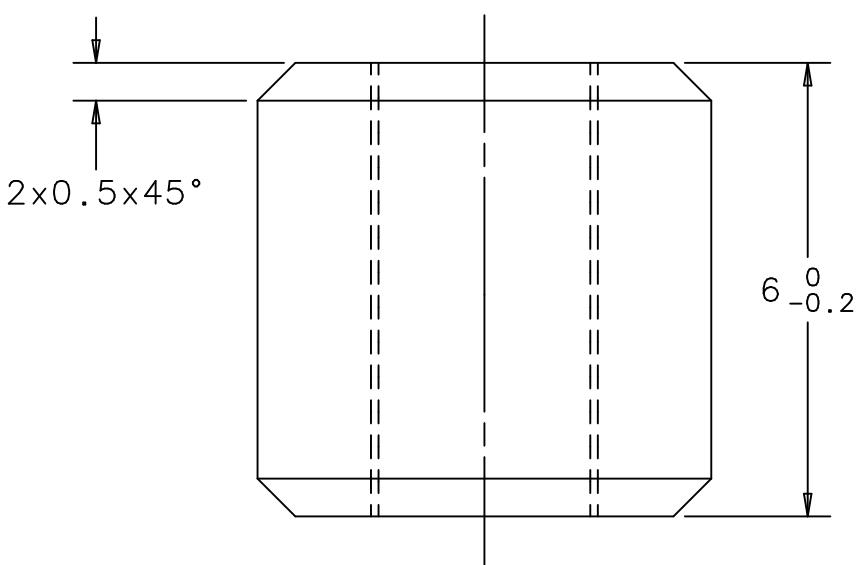
B



C



D

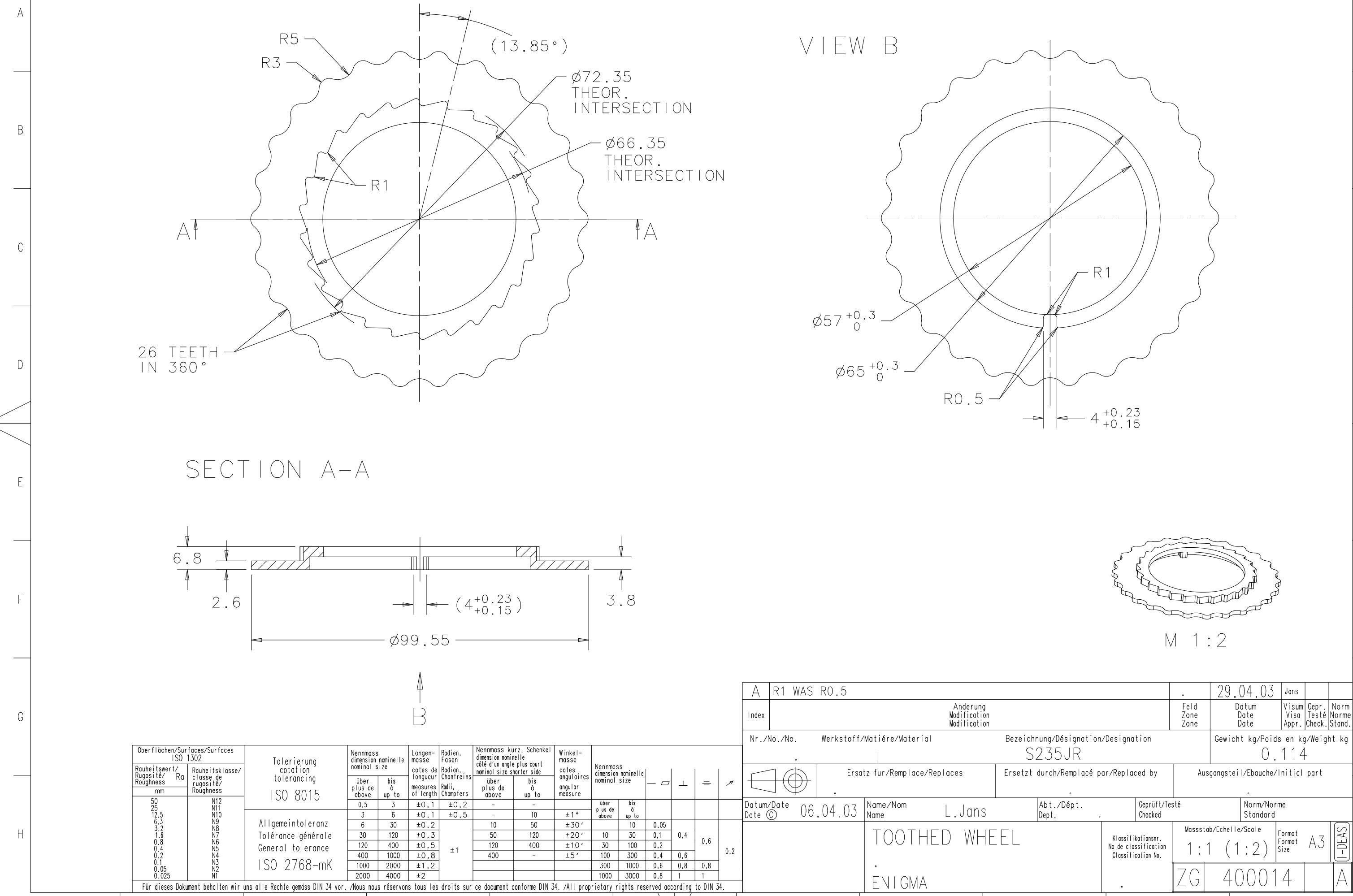


M 5 : 1

E

| | | | | | | | |
|--------------------|--|-------------------------------------|--|-----------------------------------|--|---|-----------------------|
| A | . | . | . | . | . | . | |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Check. Norm Stand. | |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | |
| | S235JR | | | | | | |
| | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part | | | |
| Datum/Date Date | 06.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| | | | | | Klassifikationsnr. No de classification Classification No. | Massstab/Echelle/Scale 10:1 (5:1) | Format Format Size |
| | | THREAD BUSHING ENIGMA | | | ZG | 400013 | A4 IDEAS |

1 2 3 4 5 6 7 8 9 10 11



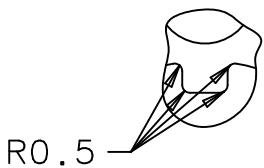
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen, Radion, Chamfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | — □ — ⊥ = ↗ |
|--|---|--|--|---|---|---|---|--|---------------|
| Rauheitswert/ Raugosigkeit/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | über plus de above | bis à up to | | |
| mm | | | | | | | | | |
| 50 | N12 | | 0.5 | 3 | ± 0.1 | ± 0.2 | — | — | |
| 25 | N11 | | 3 | 6 | ± 0.1 | ± 0.5 | — | 10 | |
| 12.5 | N10 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 6 | 30 | ± 0.2 | | 10 | 50 | $\pm 1^\circ$ |
| 6.3 | N9 | | 30 | 120 | ± 0.3 | | 50 | 120 | $\pm 30'$ |
| 3.2 | N8 | | 120 | 400 | ± 0.5 | | 120 | 400 | $\pm 10'$ |
| 1.6 | N7 | | 400 | 1000 | ± 0.8 | | 400 | — | $\pm 5'$ |
| 0.8 | N6 | | 1000 | 2000 | ± 1.2 | | 300 | 1000 | 100 |
| 0.4 | N5 | | 2000 | 4000 | ± 2 | | 300 | 1000 | 300 |
| 0.2 | N4 | | | | | | 1000 | 3000 | 1000 |
| 0.1 | N3 | | | | | | 3000 | 1000 | 3000 |
| 0.05 | N2 | | | | | | 1000 | 3000 | 1000 |
| 0.025 | N1 | | | | | | 3000 | 1000 | 3000 |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

DETAIL B

M 2:1

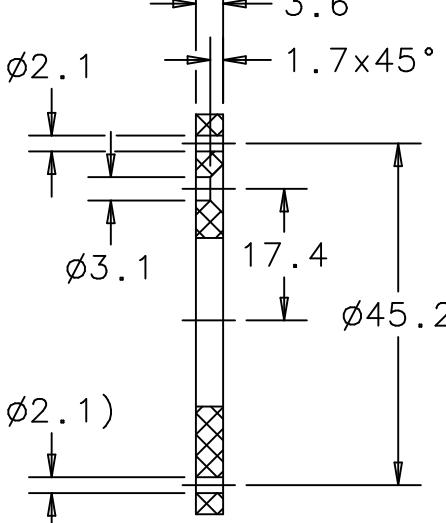
B



R0.5

C

D



E

A

B

C

D

E

F

SECTION A-A



M 1:2

B $10^{+0.15}_0$ WAS 10.1

A DESIGN OF DETAIL B CHANGED

| Index | Aenderung Modification Modification | Feld Zone Zone | Datum Date Date | Visum Visa Appr. | Gepr., Norm Checké, Norme Stand. |
|-------|---|----------------------|-----------------------|------------------------|--|
|-------|---|----------------------|-----------------------|------------------------|--|

| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | Gewicht kg/Poids en kg/Weight kg |
|-------------|----------------------------|-------------------------------------|----------------------------------|
| . | . | PA6 | 0.007 |

| Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part |
|------------------------------|--|-----------------------------------|
|------------------------------|--|-----------------------------------|

| Datum/Date Date | Name/Nom Name | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
|--------------------|------------------|---------------------|--------------------------|------------------------|
| 29.03.03 | L.Jans | . | . | . |
| | | | | |

Klassifikationsnr.
No de classification
Classification No.

1:1 (1:2; 2:1)

ZG

400015

B

Format
Format
Size

A4

DEAS

1

2

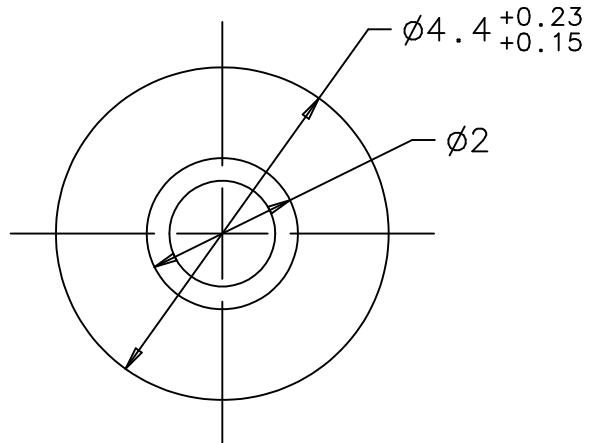
3

4

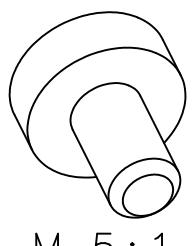
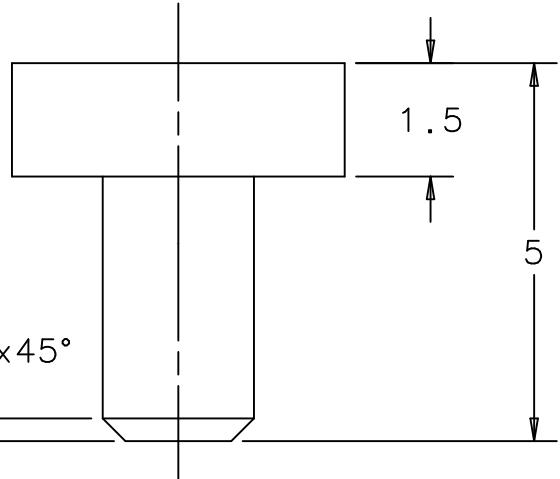
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen, Radion, Chanfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | — □ — ⊥ = ↗ |
|--|---|--|--|---|---|---|---|--|-------------|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | |
| mm | | | | | | | | | |
| 50 | N12 | | 0.5 | 3 | ±0,1 | ±0,2 | — | — | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | — | 10 | ±1° |
| 12.5 | N10 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 6 | 30 | ±0,2 | | 10 | 50 | ±30' |
| 6.3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' |
| 3.2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' |
| 1.6 | N7 | | 400 | 1000 | ±0,8 | | 400 | — | ±5' |
| 0.8 | N6 | | | | | | | | 300 |
| 0.4 | N5 | | | | | | | | 1000 |
| 0.2 | N4 | | | | | | | | 3000 |
| 0.1 | N3 | | | | | | | | 0.8 |
| 0.05 | N2 | | | | | | | | 1 |
| 0.025 | N1 | | | | | | | | 1 |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

B

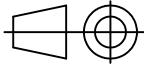


C



M 5:1

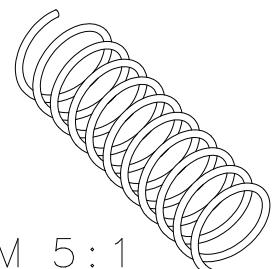
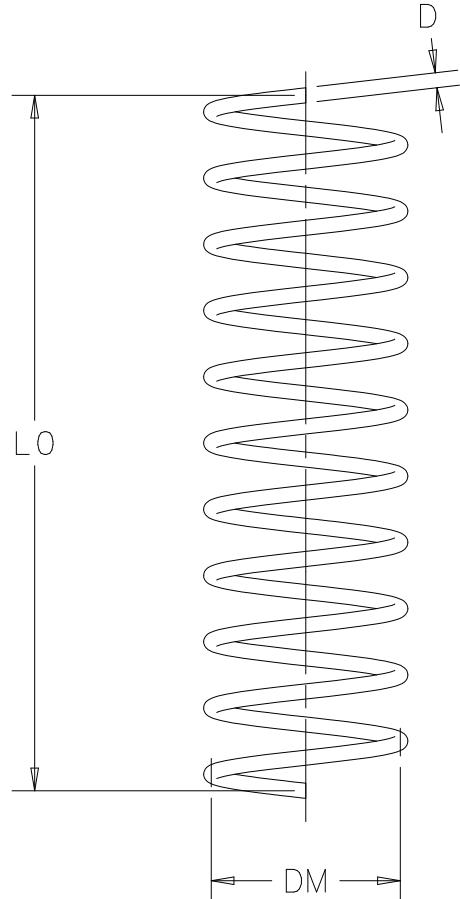
D

| | | | | | | |
|--|--|-------------------------------------|--|--|-------------------------------------|---|
| A | . | | | | | |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Check. Norm Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | |
| | | CuZn40 | | | 0.0003 | |
|  | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part | | |
| Datum/Date Date | 04.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
| | | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 10:1 (5:1) | Format Format Size A4 IDEAS |
| | | CONTACT PIN ENIGMA | | | ZG 400016 | |
| 1 | 2 | 3 | 4 | | | |

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radius, Fasen Radins, Chamfreins | Nennmaß kurz, Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|--|---|---|--|---|---|---|--|--------------------------|--|--|
| Rauheitswert/ Raugosité/ Roughness mm | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | | | | |
| 50 25 12,5 6,3 3,2 1,6 0,8 0,4 0,2 0,1 0,05 0,025 | N12 N11 N10 N9 N8 N7 N6 N5 N4 N3 N2 N1 | | 0,5 3 6 30 120 400 1000 2000 | 3 6 30 120 400 1000 2000 | ±0,1 ±0,1 ±0,2 ±0,3 ±0,5 ±0,8 ±1,2 ±2 | ±0,2 ±0,5 ±1° 50 120 400 100 300 1000 3000 | - 10 50 ±30' ±20' ±10' ±5' - 100 300 0,4 0,6 0,8 0,8 | - 10 50 30 100 300 1000 3000 | 0,05 0,1 0,2 0,4 0,6 0,8 0,8 | 0,2 0,4 0,6 0,6 | | |
| | | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

B



SPRING ACCORDING TO DIN 2098-1:

$$L_0 = 12.4\text{mm}$$

$$D_M = 2.5\text{mm}$$

$$D = 0.2\text{mm}$$

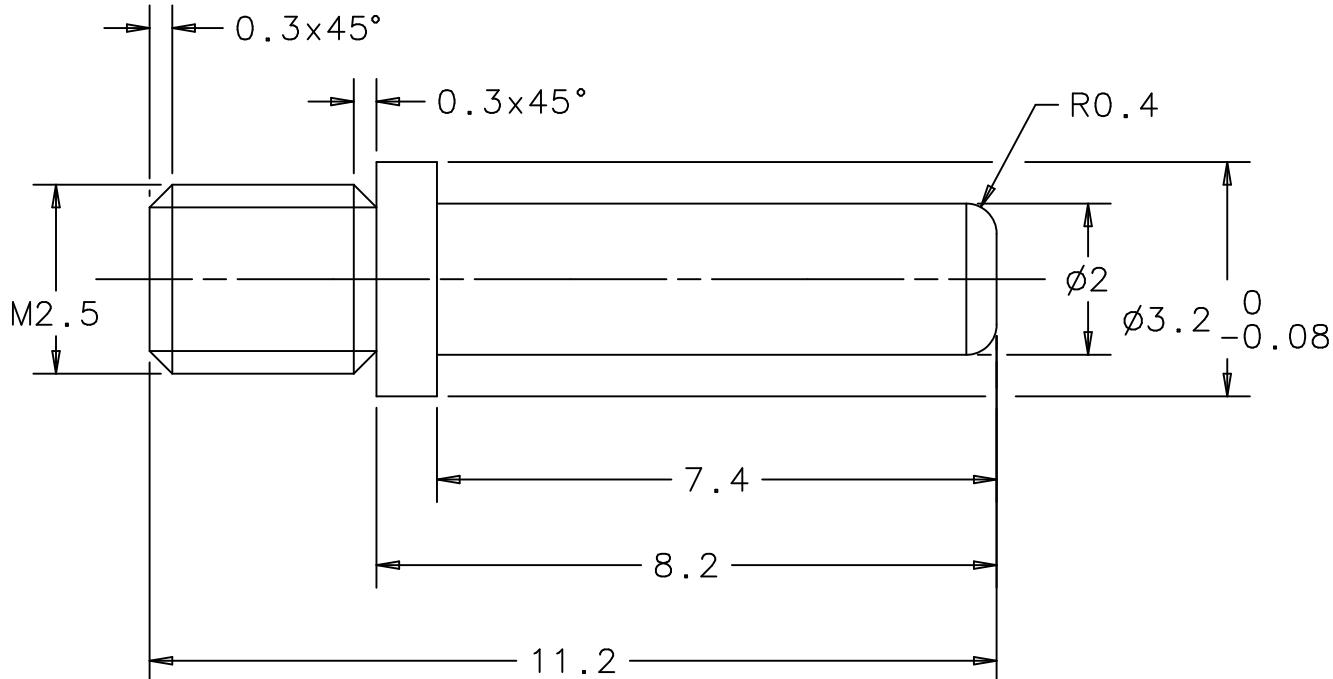
E 10.5 = NUMBER OF COILS

| | | | | | | | |
|------------------------|--|--|--------|----------------------|--|-------------------------------------|--|
| A . | | | | | | | |
| Index | Änderung Modification Modifikation | | | Feld Zone Zone | Datum Date Date | Visum Visa Check | Gepr., Norm Norme Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | |
| | | CuZn40 | | | 0.00002 | | |
| | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | | | Ausgangsteil/Ebauche/Initial part | | |
| Datum/Date Date (C) | 06.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| | | | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 10:1 (5:1) | Format Format Size A4 DEAS |
| | | | | | ZG | 400017 | |

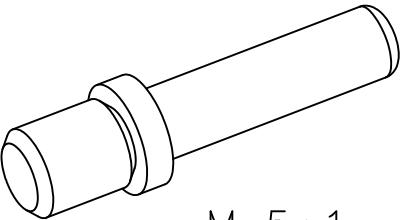
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radien, Fasen Radion, Chanfreins Radii, Chamfers | Nennmaß kurz. Schenkel côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|--|--|---|--|---|---|--|------------------------------------|------|------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | | | | |
| mm | | | | | | | | | | | | |
| 50 | N12 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 0.5 | 3 | ±0,1 | ±0,2 | - | - | Über plus de above bis à up to ±1° | | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | | | | |
| 12.5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | | 10 | 0,05 | |
| 6.3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | | 30 | 0,1 | 0.4 |
| 3.2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | | 30 | 0,2 | 0.6 |
| 1.6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | | 100 | 300 | 0,4 |
| 0.8 | N6 | | | | | | | | | 300 | 1000 | 0,6 |
| 0.4 | N5 | | | | | | | | | 1000 | 3000 | 0,8 |
| 0.2 | N4 | | | | | | | | | | | 0.8 |
| 0.1 | N3 | | | | | | | | | | | |
| 0.05 | N2 | | | | | | | | | | | |
| 0.025 | N1 | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

B

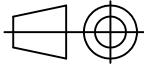


C



M 5:1

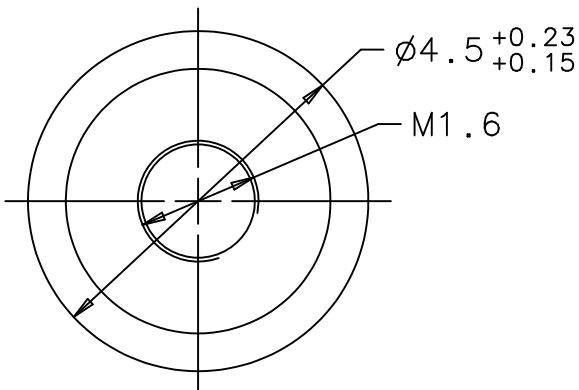
E

| | | | | | | | |
|--|--|-------------------------------------|--|-----------------------------------|--|--|--------------------------|
| A | Ø3.2 -0.08 WAS Ø3.1 | . | 26.08.03 | JANS | | | |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Checké Norme Stand. | |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | |
| . | . | CuZn40 | | | . | | |
|  | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part | | | |
| Datum/Date Date | 06.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| F | | SPRING PIN ENIGMA | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 10:1 (5:1) | Format Format Size A4 |
| | | | | | ZG | 400018 | A |

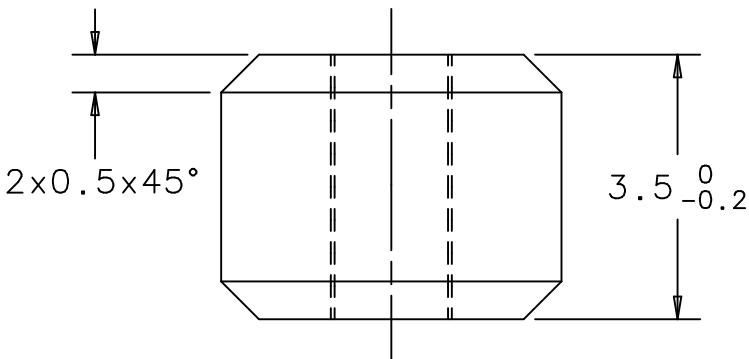
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langen-masse cotes de longueur measures of length | Radius, Fasen Radins, Chamfreins | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkel-masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | | | |
|--|---|--|--|---|----------------------------------|---|---|--|--------------------|-------------|------|-----|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | | | | |
| mm | | | | | | | | | | | | |
| 50 | N12 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 0,5 | 3 | ±0,1 | ±0,2 | - | - | Über plus de above | bis à up to | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | 10 | 0,05 | 0,4 |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 10 | 0,1 | |
| 3,2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 0,2 | |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 |
| 0,8 | N6 | | 1000 | 2000 | ±1,2 | | | | | 300 | 1000 | 0,6 |
| 0,4 | N5 | | 2000 | 4000 | ±2 | | | | | 1000 | 3000 | 0,8 |
| 0,2 | N4 | | | | | | | | | | | 0,8 |
| 0,1 | N3 | | | | | | | | | | | |
| 0,05 | N2 | | | | | | | | | | | |
| 0,025 | N1 | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

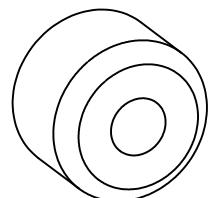
B



C



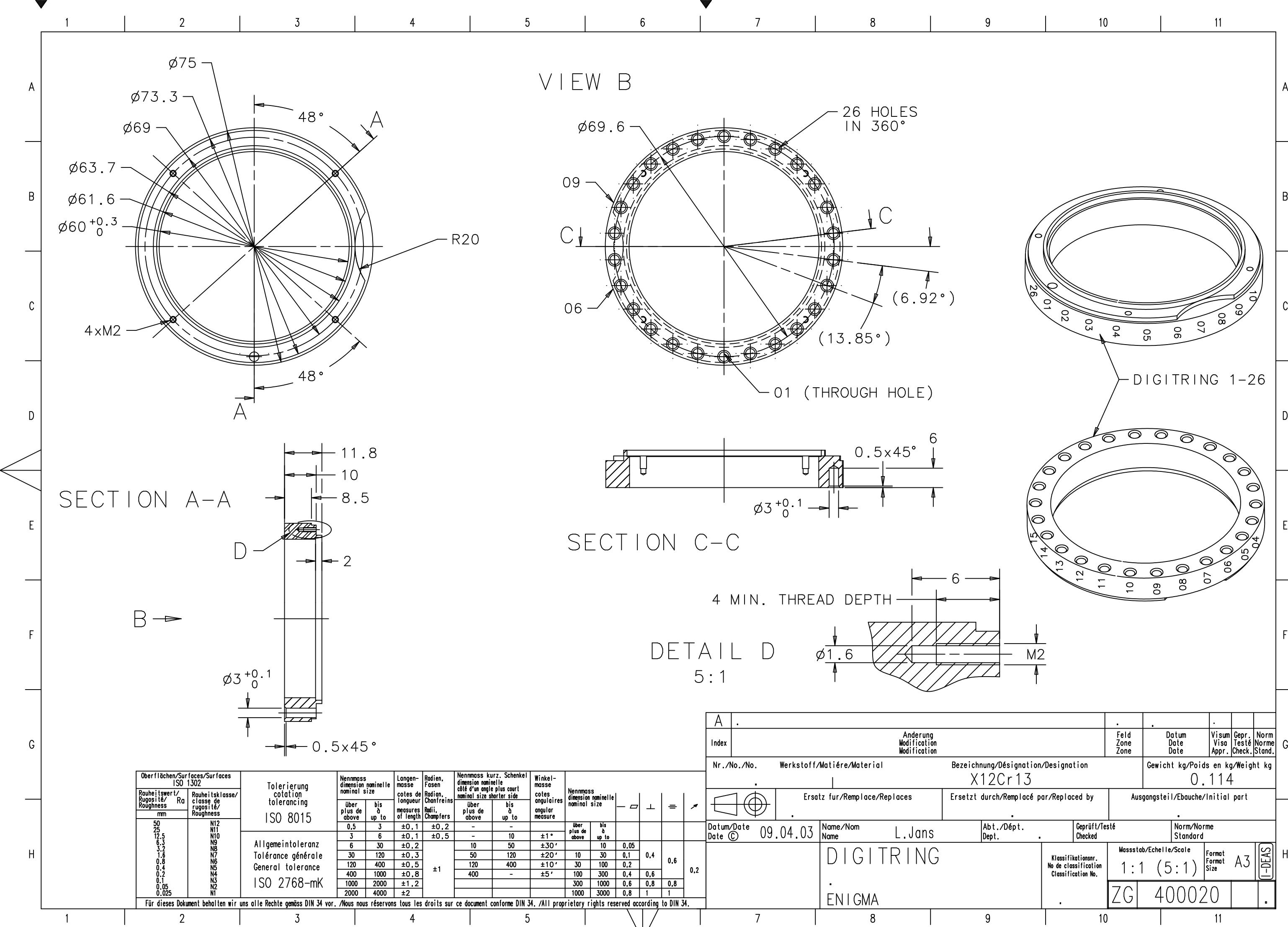
D

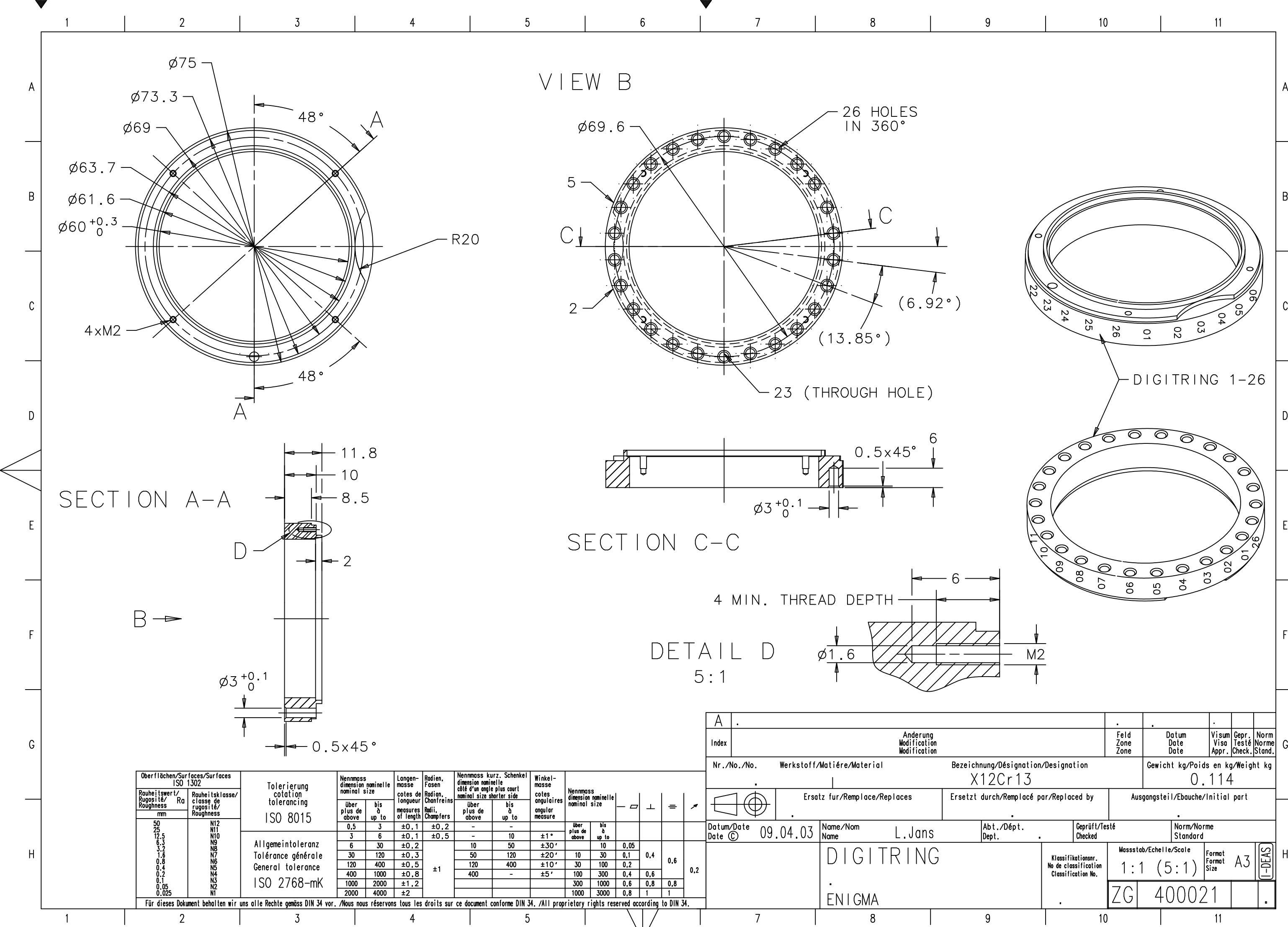


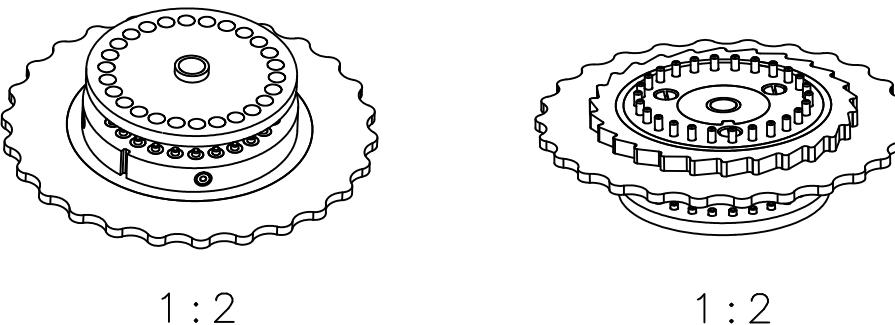
E

M 5:1

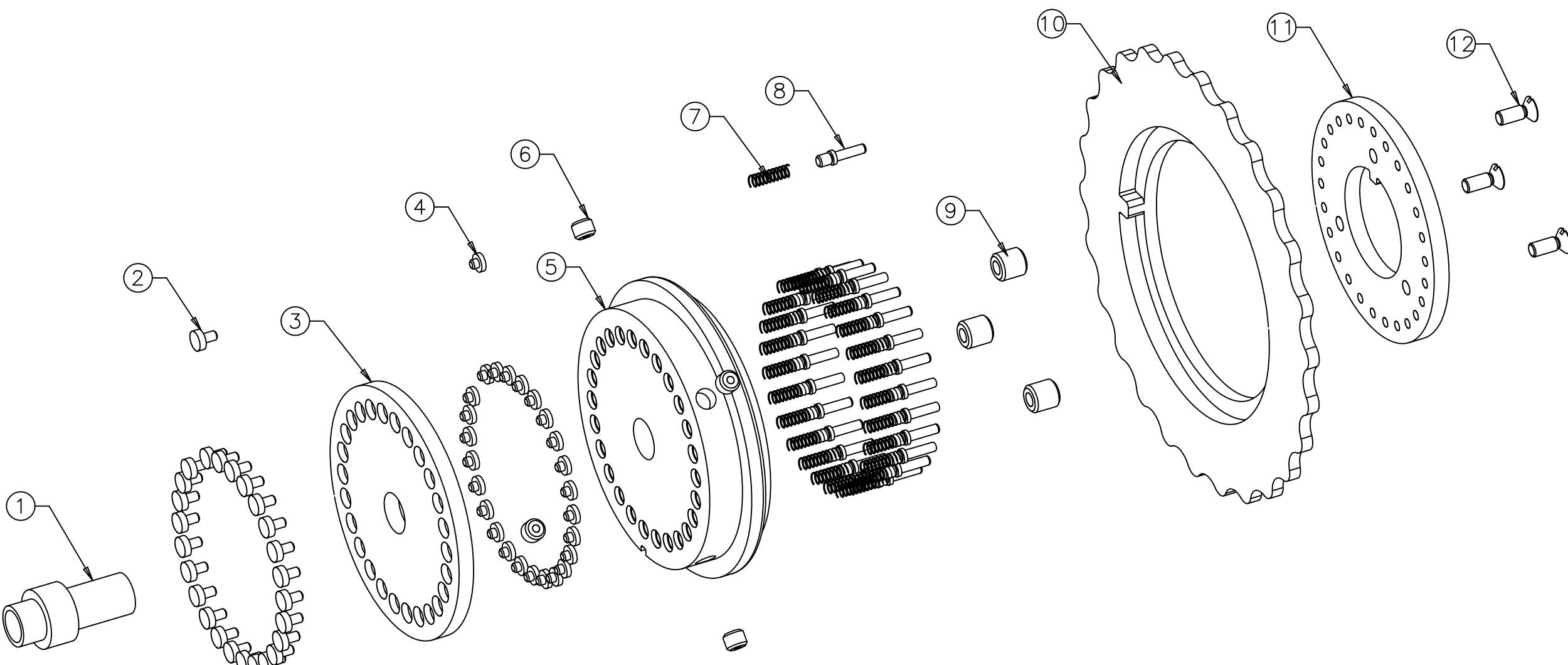
| | | | | | | | |
|--------------------|--|-------------------------------------|--|-----------------------------------|--|--|-----------------------|
| A | . | | | | | | |
| Index | Änderung Modification Modification | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Checké Norme Stand. | |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | |
| | | S235JR | | | | | |
| | | Ersatz für/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part | | | |
| Datum/Date Date | 06.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard | |
| | | THREND BUSHING SMALL | | | Klassifikationsnr. No de classification Classification No. | Massstab/Echelle/Scale 10:1 (5:1) | Format Format Size |
| | | EN 1 GMA | | | ZG | 400019 | |





| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|-----|---|-----|---|---|---|---|---|----|----|
| A | | | | | | | | | | |
|  | | | | | | | | | | |
| B | 1:2 | | 1:2 | | | | | | | |
| | | | | | | | | | | |
| C | | | | | | | | | | |
| D | | | | | | | | | | |
| E | | | | | | | | | | |
| F | | | | | | | | | | |
| G | | | | | | | | | | |
| H | | | | | | | | | | |

| NR. | PARTNAME | PART.-NR. | POS. | MATERIAL | SPECIFICATION |
|-----|----------|-----------|------|----------|---------------|
|-----|----------|-----------|------|----------|---------------|



| | | | | | | |
|---------------------------------|--|--|--|--|-----------------------------------|------------------------|
| A | ADD SCREWS (POS.12); | . | 09.10.03 | JANS | | |
| Index | Anderung Modification Modification | | | Feld Zone | Datum Date | Visum Visa |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | |
| | | | | | | |
| | Ersatz fur/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | | | Ausgangsteil/Ebauche/Initial part | |
| Date | 02.04.03 | Name/Nom Name | L.Jans | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
| Datum/Date Date | 02.04.03 | Name/Nom Name | L.Jans | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
| ROLLBODY EXPLOSION ENIGMA | | | Klassifikationsnr. No de classification Classification No. | Massstab/Echelle/Scale Format Size | Format Size | |
| ZG | 400101 | A | | 1:1 (1:2) | A3 | I-IDEAS |

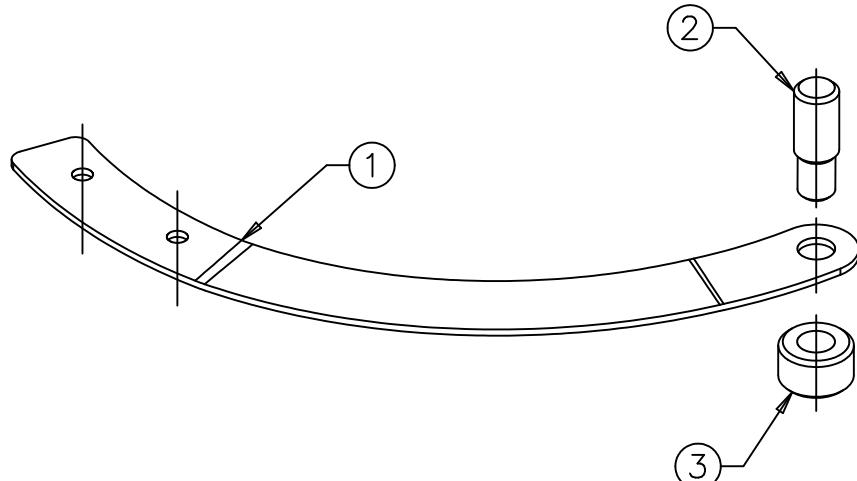
| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | | Langen- masse cotes de longueur measures of length | Radien, Fasen, Radion, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | | Winkel- masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | - | - | + | = | ↗ | |
|---|---|--|--|-------------------|---|--|--|-------------------|---|--|-------------------|-----|-----|-----|---|---|--|
| Rauheitswert/ Rugosité/ Roughness | Rauheitsklasse/ rugosité/ Roughness | | über plus de above | bis à up to | | | über plus de above | bis à up to | | über plus de above | bis à up to | | | | | | |
| 50 | N12 | | 0,5 | 3 | ±0,1 | ±0,2 | - | - | | | | | | | | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | | | | | | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | 10 | 0,05 | | | | | | |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 30 | 0,1 | 0,4 | 0,6 | | | | |
| 3,2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 0,2 | | | | | | |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 | 0,6 | 0,2 | | | |
| 0,8 | N6 | | 1000 | 2000 | ±1,2 | | | | | 300 | 1000 | 0,6 | 0,8 | 0,8 | | | |
| 0,4 | N5 | | 2000 | 4000 | ±2 | | | | | 1000 | 3000 | 0,8 | 1 | 1 | | | |
| 0,2 | N4 | | | | | | | | | | | | | | | | |
| 0,1 | N3 | | | | | | | | | | | | | | | | |
| 0,05 | N2 | | | | | | | | | | | | | | | | |
| 0,025 | N1 | | | | | | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | Langenmasse cotes de longueur measures of length | Radius, Fasen Radion, Chanfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | Winkelmasse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | — □ — ⊥ = ↗ |
|--|---|--|--|--|--|---|--|--|-------------|
| Rauheitswert/ Raugewert/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | über plus de above | bis à up to | über plus de above | bis à up to | |
| mm | | | | | | | | | |
| 50 | N12 | | 0.5 | 3 | ±0,1 | ±0,2 | - | - | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | |
| 12.5 | N10 | Allgemeintoleranz Tolérance générale General tolerance ISO 2768-mK | 6 | 30 | ±0,2 | | 10 | 50 | ±1° |
| 6.3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±30' |
| 3.2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±20' |
| 1.6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±10' |
| 0.8 | N6 | | | | | | | | ±5' |
| 0.4 | N5 | | | | | | | | 300 |
| 0.2 | N4 | | | | | | | | 1000 |
| 0.1 | N3 | | | | | | | | 3000 |
| 0.05 | N2 | | | | | | | | 0.8 |
| 0.025 | N1 | | | | | | | | 1 |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

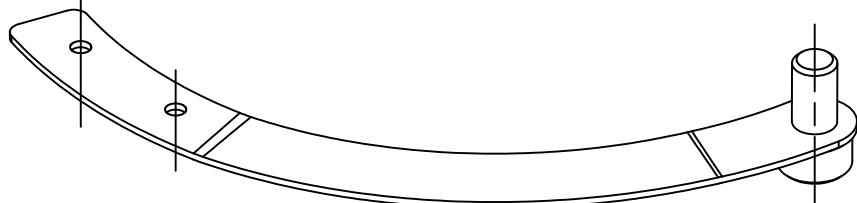
B



C



D



E

| NR. | PARTNAME | PART.-NR. | POS. | MATERIAL | SPECIFICATION |
|-----|----------|-----------|------|----------|---------------|
| 1 | CAP | 400008 | 3 | S235JR | DIN EN 10025 |
| 1 | PIN | 400007 | 2 | S235JR | DIN EN 10025 |
| 1 | CLAMP | 400006 | 1 | 38Si7 | DIN 17221 |

| A | . | . | . | . | . |
|-------|---|---|----------------------|-----------------------|--|
| Index | Aenderung Modification Modification | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. Norm Check. Stand. |

| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | Gewicht kg/Poids en kg/Weight kg |
|-------------|----------------------------|-------------------------------------|----------------------------------|
| | | | |

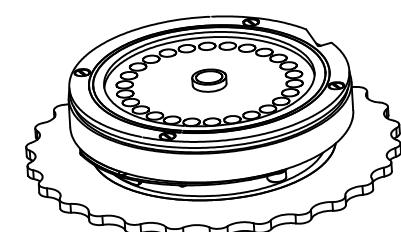
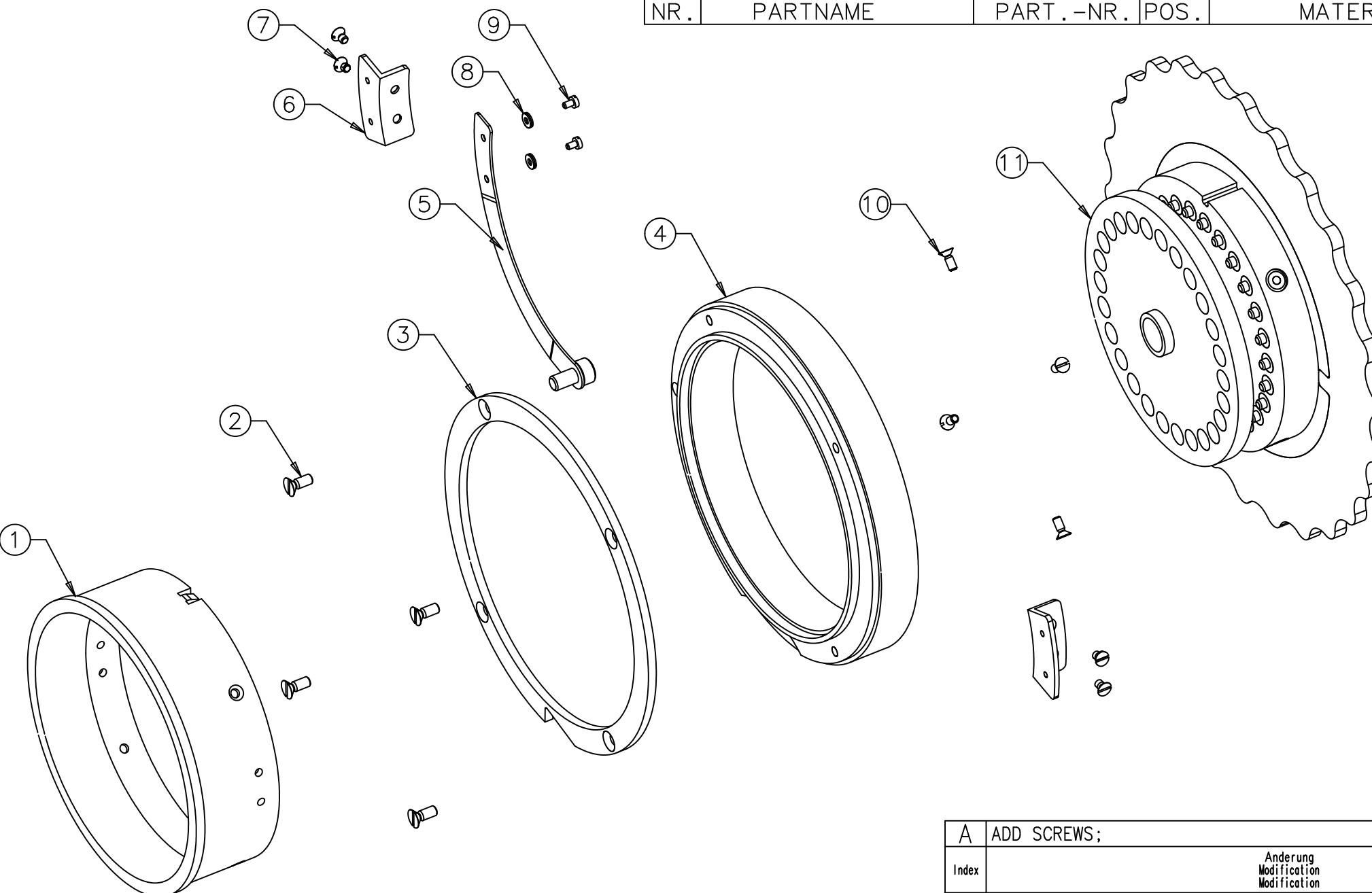
| Ersatz für/Replace/Replaces | Ersetzt durch/Remplacé par/Replaced by | Ausgangsteil/Ebauche/Initial part |
|-----------------------------|--|-----------------------------------|
| | | |

| Datum/Date Date | 28.04.03 | Name/Nom Name | L.JANS | Abt./Dépt. Dept. | Geprüft/Testé Checked | Norm/Norme Standard |
|--------------------|----------|------------------|--------|---------------------|--------------------------|------------------------|
| | | | | | | |
| | | | | | | |

| Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 2:1 (5:1) | Format/Format Size A4 IDEAS |
|--|------------------------------------|--------------------------------|
| | | |

ZG 400102

| NR. | PARTNAME | PART.-NR. | POS. | MATERIAL | SPECIFICATION |
|-----|----------------------|-----------|------|----------|-----------------|
| 1 | ROLLBODY | 400101 | 11 | ... | ... |
| 4 | COUNTERSINK M1.6x4 | | 10 | ... | DIN EN ISO 2009 |
| 2 | SCREW M1.2x2 | | 9 | ... | DIN EN ISO 1207 |
| 4 | WASHER M1.2 | | 8 | ... | DIN 433 T1 |
| 4 | COUNTERSINK M1.6x2.5 | | 7 | ... | DIN EN ISO 2009 |
| 1 | CLAMP | 400102 | 6 | ... | ... |
| 2 | BRACKET | 400005 | 5 | S235JR | DIN EN 10025 |
| 1 | DIGITRING | 400002 | 4 | X12Cr13 | DIN EN 10 088-3 |
| 1 | KERFRING | 400001 | 3 | S235JR | DIN EN 10025 |
| 4 | COUNTERSINK M2x5 | | 2 | ... | DIN EN ISO 2009 |
| 1 | BUSHING | 400003 | 1 | S235JR | DIN EN 10025 |



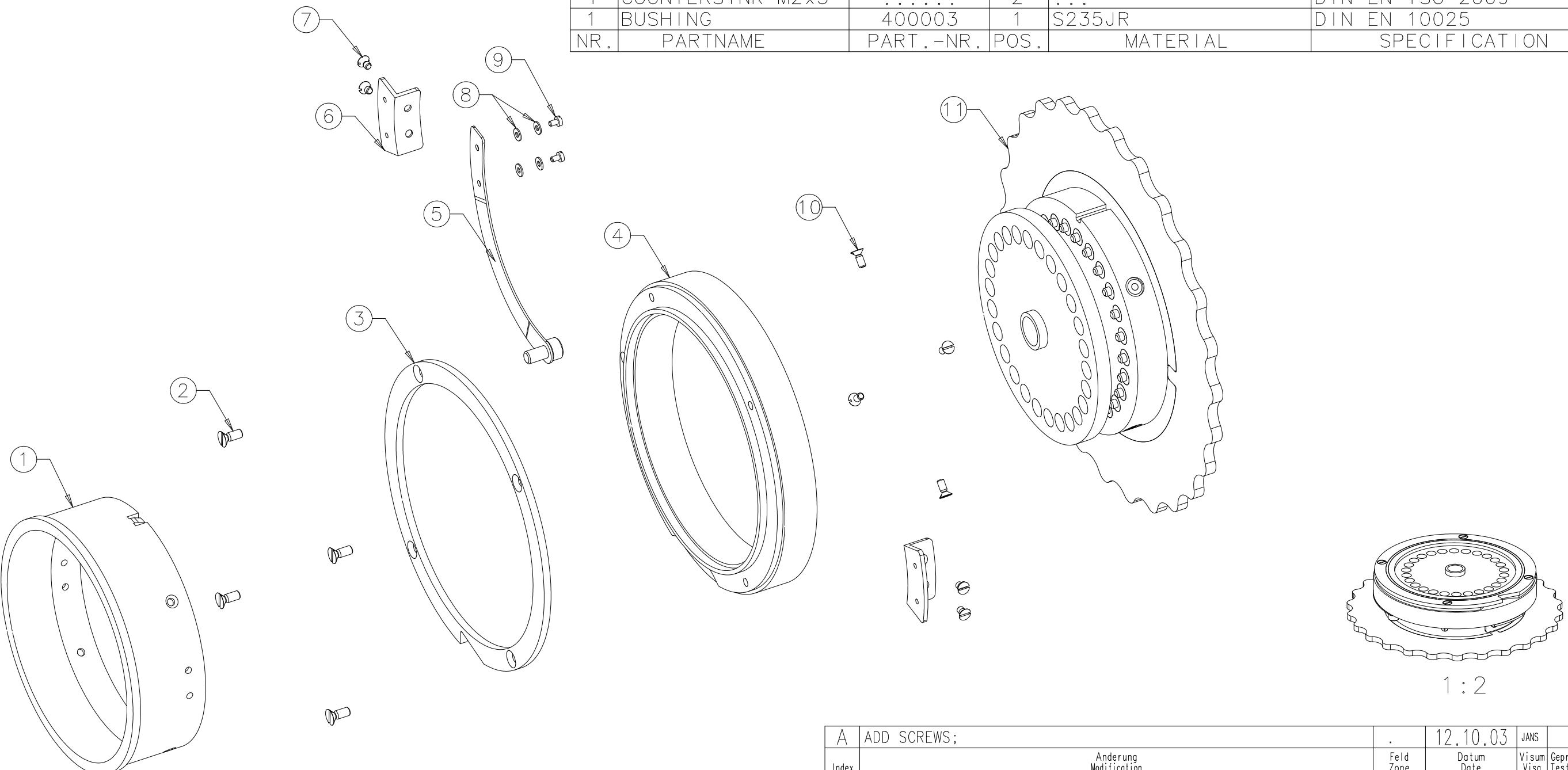
1 : 2

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | | Langenmasse cotes de longueur measures of length | Radien, Fasen Radion, Chamfreins Radii, Chamfers | Nennmaß kurz. Schenkel dimension nominelle côté d'un angle plus court nominal size shorter side | | Winkelmasse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | |
|--|---|--|--|-------------|--|--|---|-------------|--|--|-------------|
| Rauheitswert/ Rauigkeit/ Ra mm | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | | über plus de above | bis à up to | | über plus de above | bis à up to |
| 50 | N12 | Allgemeintoleranz Tolérance générale General tolerance | 0,5 | 3 | ±0,1 | ±0,2 | - | - | ±1 | 0,5 | 0,05 |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | | 10 | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | 30 | 50 | ±30' | | 30 | |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | | 30 | 0,1 |
| 3,2 | N8 | | 120 | 400 | ±0,5 | 120 | 400 | ±10' | | 30 | 0,2 |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | 400 | - | ±5' | | 100 | 0,4 |
| 0,8 | N6 | | 1000 | 2000 | ±1,2 | | | | | 300 | 1000 |
| 0,4 | N5 | | 2000 | 4000 | ±2 | | | | | 1000 | 3000 |
| 0,2 | N4 | | | | | | | | | | 0,8 |
| 0,1 | N3 | | | | | | | | | | |
| 0,05 | N2 | | | | | | | | | | |
| 0,025 | N1 | | | | | | | | | | |

| | | | | | | | | | |
|---|--|-------------------------------------|------------------|---------------------------------------|--|------------------------------------|-----------------------------------|--------------------------|---------------|
| A | ADD SCREWS: | | | | . | 09.10.03 | JANS | | |
| Index | Anderung Modification Modification | | | | Feld Zone Zone | Datum Date Date | Visum Visa Appr. | Gepr. Testé Check, | Norm Stand |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | | Gewicht kg/Poids en kg/Weight kg | | | |
|   | | Ersatz fur/Remplace/Replaces | | Ersetzt durch/Réplacé par/Replaced by | | | Ausgangsteil/Ebauche/Initial part | | |
| Datum/Date Date | Date | 01.04.03 | Name/Nom Name | L.Jans | Abt./Dépt. Dept. | . | Geprüft/Testé Checked | Norm/Norme Standard | |
| | | ROLL IV EXPLOSION ENIGMA | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 1:1 (1:2) | | Format Format Size | A3 |
| | | ZG | 400201 | | | | A | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|----|----|
| A | | | | | | | | | | A |
| B | | | | | | | | | | B |
| | | | | | | | | | | C |
| | | | | | | | | | | D |
| | | | | | | | | | | E |
| | | | | | | | | | | F |
| | | | | | | | | | | G |
| | | | | | | | | | | H |

NR. PARTNAME PART.-NR. POS. MATERIAL SPECIFICATION

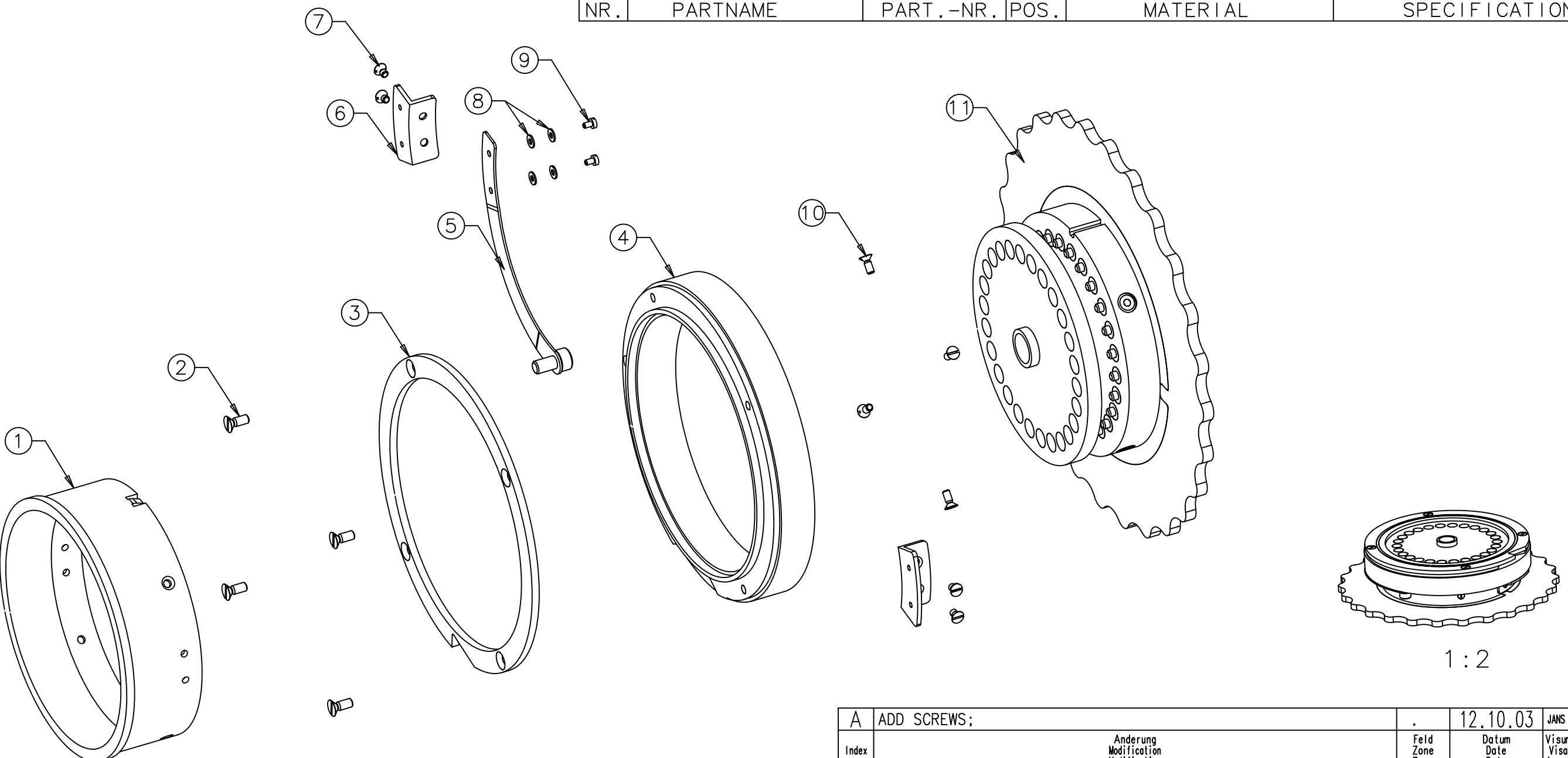


| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | | Langen- masse cotes de longueur measures of length | Radien, Fasen, Radion, Chamfers | Nennmaß kurz. Schenkel côté d'un angle plus court nominal size shorter side | | Winkel- masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | |
|---|--|--|--|-------------------|---|--|--|-------------------|---|--|------|-----|
| Rauheitswert/ Rugosité/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | | über plus de above | bis à up to | | - | □ | + |
| 50 | N12 | | 0,5 | 3 | ±0,1 | ±0,2 | - | - | | | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | | | |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 10 | 30 | 0,1 |
| 3,2 | N8 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 100 | 0,2 |
| 1,6 | N7 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 |
| 0,8 | N6 | | 1000 | 2000 | ±1,2 | | | | | 300 | 1000 | 0,6 |
| 0,4 | N5 | | 2000 | 4000 | ±2 | | | | | 1000 | 3000 | 0,8 |
| 0,2 | N4 | | | | | | | | | 1 | 1 | 0,8 |
| 0,1 | N3 | | | | | | | | | | | 0,8 |
| 0,05 | N2 | | | | | | | | | | | 0,8 |
| 0,025 | N1 | | | | | | | | | | | 0,8 |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

| | | | | | | | | |
|-------------------------------|--|-------------------------------------|--|------------------------------------|----------------------------------|--------------------------|----------------|----------------|
| A ADD SCREWS: | | | 12.10.03 | JANS | | | | |
| Index | Änderung Modification Modification | | | Feld Zone | Datum Date | Visum Visa | Gepr. Appr. | Norm Stand. |
| Nr./No./No. | Werkstoff/Matière/Material | Bezeichnung/Désignation/Designation | | | Gewicht kg/Poids en kg/Weight kg | | | |
| Ersatz fur/Remplace/Replaces | Ersetzt durch/Remplacé par/Replaced by | | | Ausgangsteil/Ebauche/Initial part | | | | |
| Date (C) 09.04.03 | Name/Nom Name | L.Jans | Abt./Dépt. Dept. | Geprüft/Testé Checked | | Norm/Norme Standard | | |
| ROLL V EXPLOSION ENIGMA | | | Klassifikationsnr. No de classification Classification No. | Maßstab/Echelle/Scale 1:1 (1:2) | | Format Format Size | A3 IDEAS | |
| ZG | 400202 | A | | | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|----|----|
| A | | | | | | | | | | A |
| B | | | | | | | | | | B |
| | | | | | | | | | | C |
| | | | | | | | | | | D |
| | | | | | | | | | | E |
| | | | | | | | | | | F |
| | | | | | | | | | | G |
| | | | | | | | | | | H |



Oberflächen/Surfaces/Surfaces ISO 1302

| | |
|---|--|
| Rauheitswert/ Rugosité/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness |
| mm | N12 |

| | |
|-------|-----|
| 50 | N11 |
| 25 | N10 |
| 12,5 | N9 |
| 6,3 | N8 |
| 3,2 | N7 |
| 1,6 | N6 |
| 0,8 | N5 |
| 0,4 | N4 |
| 0,2 | N3 |
| 0,1 | N2 |
| 0,05 | N1 |
| 0,025 | N1 |

Tolerierung

cotation

ISO 8015

dimension nominelle

nominal size

Langen-

masse

cotes de

length

Radien,

Radius,

Schenkel

Chamfers

Nennmaß kurz.

nominal

dimension

côté d'un angle plus court

shorter side

Winkel-

masse

Nennmaß

nominal

dimension

cotes

angulaires

angular

measure

über

plus de

bis à

up to

plus de

above

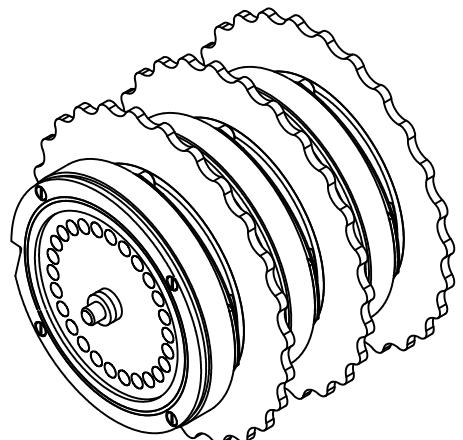
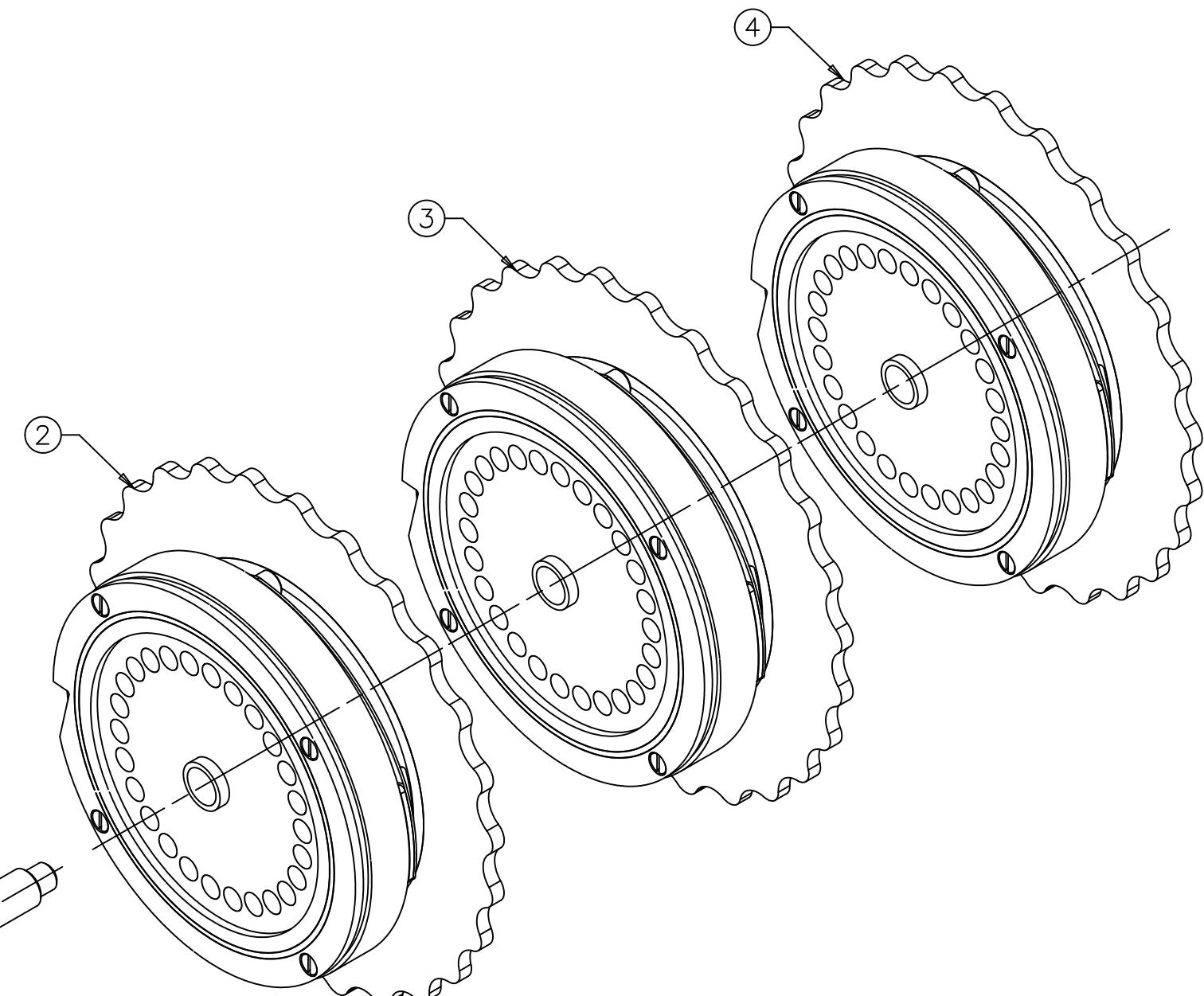
up to

über

plus de

above

| | | | | | | | | | | |
|---|---|---|---|----------------|-----------|------------|--------------|---------------|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| A | | | | 1 ROLL III | 400203 | 4 . | | | . | |
| B | | | | 1 ROLL IV | 400201 | 3 . | | | . | |
| C | | | | 1 ROLL V | 400202 | 2 . | | | . | |
| D | | | | 1 ROLL SHAFT | 400004 | 1 S235JR | DIN EN 10025 | | | |
| E | | | | NR. PARTNAME | PART.-NR. | POS. | MATERIAL | SPECIFICATION | | |



1 : 2

| Oberflächen/Surfaces/Surfaces ISO 1302 | | Tolerierung cotation tolerancing ISO 8015 | Nennmaß dimension nominelle nominal size | | Langen- masse cotes de longueur measures of length | Radien, Fasen, Radins, Chamfers | Nennmaß kurz. Schenkel côté d'un angle plus court nominal size shorter side | | Winkel- masse cotes angulaires angular measure | Nennmaß dimension nominelle nominal size | | - | - | + | = | ↗ | |
|---|--|--|--|-------------------|---|--|--|-------------------|---|--|-------------------|------|-----|-----|---|---|--|
| Rauheitswert/ Rugosité/ Roughness | Rauheitsklasse/ classe de rugosité/ Roughness | | über plus de above | bis à up to | | | über plus de above | bis à up to | | über plus de above | bis à up to | | | | | | |
| 50 | N12 | | 0,5 | 3 | ±0,1 | ±0,2 | - | - | | | | | | | | | |
| 25 | N11 | | 3 | 6 | ±0,1 | ±0,5 | - | 10 | ±1° | | | | | | | | |
| 12,5 | N10 | | 6 | 30 | ±0,2 | | 10 | 50 | ±30' | | 10 | 0,05 | | | | | |
| 6,3 | N9 | | 30 | 120 | ±0,3 | | 50 | 120 | ±20' | 10 | 30 | 0,1 | 0,4 | | | | |
| 3,2 | N7 | | 120 | 400 | ±0,5 | | 120 | 400 | ±10' | 30 | 100 | 0,2 | | 0,6 | | | |
| 1,6 | N6 | | 400 | 1000 | ±0,8 | | 400 | - | ±5' | 100 | 300 | 0,4 | 0,6 | | | | |
| 0,8 | N5 | | 1000 | 2000 | ±1,2 | | | | | 300 | 1000 | 0,6 | 0,8 | 0,8 | | | |
| 0,4 | N4 | | 2000 | 4000 | ±2 | | | | | 1000 | 3000 | 0,8 | 1 | 1 | | | |
| 0,2 | N3 | | | | | | | | | | | | | | | | |
| 0,1 | N2 | | | | | | | | | | | | | | | | |
| 0,05 | N1 | | | | | | | | | | | | | | | | |
| 0,025 | | | | | | | | | | | | | | | | | |

Für dieses Dokument behalten wir uns alle Rechte gemäß DIN 34 vor. /Nous nous réservons tous les droits sur ce document conforme DIN 34. /All proprietary rights reserved according to DIN 34.

| | | | | | | | | | | |
|-------|---|--|--|----------------------------|--|-------------------------------------|---------------|----------------------------------|----------------|----------------|
| A | . | Änderung Modification Modification | | | | Feld Zone | Datum Date | Visum Visa | Gepr. Testé | Norm Stand. |
| Index | . | Nr./No./No. | | Werkstoff/Matière/Material | | Bezeichnung/Désignation/Designation | | Gewicht kg/Poids en kg/Weight kg | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | | | | | | | |
| | . | | | </td | | | | | | |