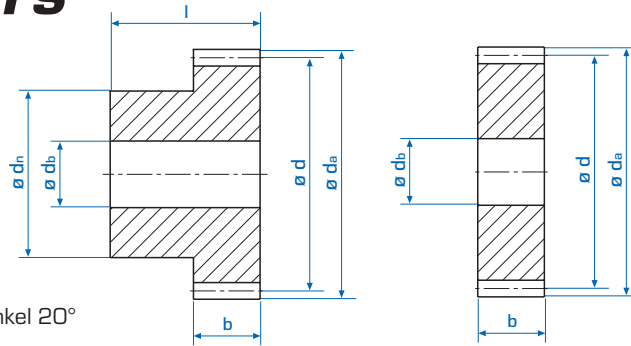


Stirnräder

Spur gears

Module 1,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 18$ mm
 12 to 60 teeth
 with hub
 76 to 120 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 1,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 18$ mm
 bis 60 Zähne mit einseitiger Nabe
 ab 76 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 8 mm

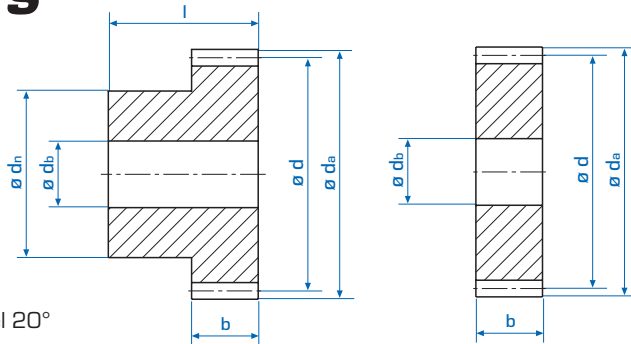
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 12 | 14,0 | 12,0 | 9 | 4 | 0,012 | 111-010-012 |
| 13 | 15,0 | 13,0 | 10 | 4 | 0,013 | 111-010-013 |
| 14 | 16,0 | 14,0 | 11 | 4 | 0,015 | 111-010-014 |
| 15 | 17,0 | 15,0 | 12 | 5 | 0,016 | 111-010-015 |
| 16 | 18,0 | 16,0 | 12 | 5 | 0,017 | 111-010-016 |
| 17 | 19,0 | 17,0 | 14 | 6 | 0,022 | 111-010-017 |
| 18 | 20,0 | 18,0 | 15 | 6 | 0,024 | 111-010-018 |
| 19 | 21,0 | 19,0 | 15 | 6 | 0,026 | 111-010-019 |
| 20 | 22,0 | 20,0 | 15 | 6 | 0,027 | 111-010-020 |
| 21 | 23,0 | 21,0 | 18 | 6 | 0,036 | 111-010-021 |
| 22 | 24,0 | 22,0 | 18 | 6 | 0,038 | 111-010-022 |
| 23 | 25,0 | 23,0 | 18 | 6 | 0,042 | 111-010-023 |
| 24 | 26,0 | 24,0 | 18 | 6 | 0,044 | 111-010-024 |
| 25 | 27,0 | 25,0 | 18 | 6 | 0,045 | 111-010-025 |
| 28 | 30,0 | 28,0 | 20 | 8 | 0,054 | 111-010-028 |
| 30 | 32,0 | 30,0 | 20 | 8 | 0,059 | 111-010-030 |
| 36 | 38,0 | 36,0 | 25 | 8 | 0,094 | 111-010-036 |
| 38 | 40,0 | 38,0 | 25 | 8 | 0,098 | 111-010-038 |
| 40 | 42,0 | 40,0 | 25 | 8 | 0,108 | 111-010-040 |
| 45 | 47,0 | 45,0 | 30 | 8 | 0,145 | 111-010-045 |
| 48 | 50,0 | 48,0 | 30 | 8 | 0,160 | 111-010-048 |
| 50 | 52,0 | 50,0 | 35 | 8 | 0,185 | 111-010-050 |
| 52 | 54,0 | 52,0 | 35 | 10 | 0,190 | 111-010-052 |
| 56 | 58,0 | 56,0 | 35 | 10 | 0,210 | 111-010-056 |
| 60 | 62,0 | 60,0 | 40 | 10 | 0,260 | 111-010-060 |
| 76 | 78,0 | 76,0 | - | 10 | 0,274 | 110-010-076 |
| 80 | 82,0 | 80,0 | - | 10 | 0,298 | 110-010-080 |
| 95 | 97,0 | 95,0 | - | 10 | 0,430 | 110-010-095 |
| 120 | 122,0 | 120,0 | - | 10 | 0,675 | 110-010-120 |

Stirnräder

Spur gears

Module 1,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 25$ mm
 12 to 70 teeth
 with hub
 76 to 114 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 1,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 25$ mm
 bis 70 Zähne mit einseitiger Nabe
 ab 76 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 15 mm

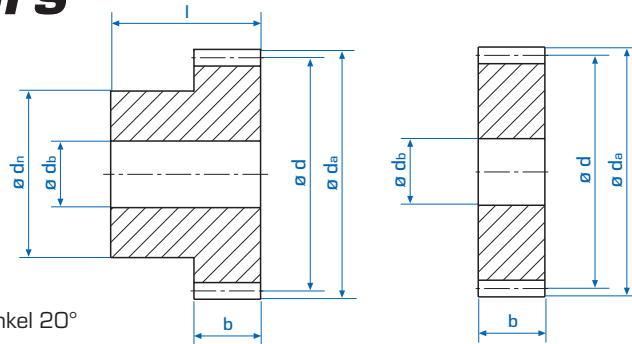
| Zähnez. No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------------------------|
| 12 | 14,0 | 12,0 | 9 | - | 116-010-012 |
| 13 | 15,0 | 13,0 | 10 | - | 116-010-013 |
| 14 | 16,0 | 14,0 | 11 | 6 | 116-010-014 |
| 15 | 17,0 | 15,0 | 12 | 6 | 116-010-015 |
| 16 | 18,0 | 16,0 | 13 | 6 | 116-010-016 |
| 17 | 19,0 | 17,0 | 14 | 6 | 116-010-017 |
| 18 | 20,0 | 18,0 | 15 | 8 | 116-010-018 |
| 19 | 21,0 | 19,0 | 15 | 8 | 116-010-019 |
| 20 | 22,0 | 20,0 | 16 | 8 | 116-010-020 |
| 21 | 23,0 | 21,0 | 16 | 8 | 116-010-021 |
| 22 | 24,0 | 22,0 | 16 | 8 | 116-010-022 |
| 23 | 25,0 | 23,0 | 18 | 8 | 116-010-023 |
| 24 | 26,0 | 24,0 | 20 | 10 | 116-010-024 |
| 25 | 27,0 | 25,0 | 20 | 10 | 116-010-025 |
| 26 | 28,0 | 26,0 | 20 | 10 | 116-010-026 |
| 28 | 30,0 | 28,0 | 20 | 10 | 116-010-028 |
| 30 | 32,0 | 30,0 | 20 | 10 | 116-010-030 |
| 32 | 34,0 | 32,0 | 25 | 10 | 116-010-032 |
| 35 | 37,0 | 35,0 | 25 | 10 | 116-010-035 |
| 36 | 38,0 | 36,0 | 25 | 10 | 116-010-036 |
| 38 | 40,0 | 38,0 | 25 | 10 | 116-010-038 |
| 40 | 42,0 | 40,0 | 25 | 10 | 116-010-040 |
| 42 | 44,0 | 42,0 | 30 | 10 | 116-010-042 |
| 45 | 47,0 | 45,0 | 30 | 10 | 116-010-045 |
| 48 | 50,0 | 48,0 | 30 | 10 | 116-010-048 |
| 50 | 52,0 | 50,0 | 30 | 12 | 116-010-050 |
| 52 | 54,0 | 52,0 | 40 | 12 | 116-010-052 |
| 54 | 56,0 | 54,0 | 40 | 12 | 116-010-054 |
| 56 | 58,0 | 56,0 | 40 | 12 | 116-010-056 |
| 58 | 60,0 | 58,0 | 40 | 12 | 116-010-058 |
| 60 | 62,0 | 60,0 | 40 | 12 | 116-010-060 |
| 70 | 72,0 | 70,0 | 50 | 12 | 116-010-070 |
| 76 | 78,0 | 76,0 | - | 12 | 114-010-076 |
| 80 | 82,0 | 80,0 | - | 12 | 114-010-080 |
| 95 | 97,0 | 95,0 | - | 12 | 114-010-095 |
| 110 | 112,0 | 110,0 | - | 12 | 114-010-110 |
| 114 | 116,0 | 114,0 | - | 12 | 114-010-114 |

Stirnräder

Spur gears

Module 1,5
 straight teeth,
 pressure angle 20°
 Length overall $l = 25$ mm
 12 to 60 teeth
 with hub
 76 to 120 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 1,5
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 25$ mm
 bis 60 Zähne mit einseitiger Nabe
 ab 76 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 12 mm

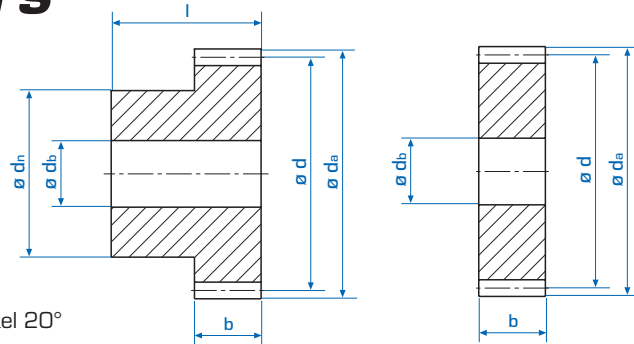
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 12 | 21,0 | 18,0 | 14 | 6 | 0,030 | 111-015-012 |
| 13 | 22,5 | 19,5 | 15 | 6 | 0,038 | 111-015-013 |
| 14 | 24,0 | 21,0 | 16,5 | 6 | 0,046 | 111-015-014 |
| 15 | 25,5 | 22,5 | 18 | 6 | 0,057 | 111-015-015 |
| 16 | 27,0 | 24,0 | 18 | 6 | 0,060 | 111-015-016 |
| 17 | 28,5 | 25,5 | 20 | 6 | 0,068 | 111-015-017 |
| 18 | 30,0 | 27,0 | 20 | 8 | 0,073 | 111-015-018 |
| 19 | 31,5 | 28,5 | 20 | 8 | 0,082 | 111-015-019 |
| 20 | 33,0 | 30,0 | 20 | 8 | 0,097 | 111-015-020 |
| 21 | 34,5 | 31,5 | 25 | 8 | 0,110 | 111-015-021 |
| 22 | 36,0 | 33,0 | 25 | 8 | 0,118 | 111-015-022 |
| 23 | 37,5 | 34,5 | 25 | 8 | 0,126 | 111-015-023 |
| 24 | 39,0 | 36,0 | 25 | 8 | 0,135 | 111-015-024 |
| 25 | 40,5 | 37,5 | 25 | 8 | 0,142 | 111-015-025 |
| 28 | 45,0 | 42,0 | 30 | 10 | 0,178 | 111-015-028 |
| 30 | 48,0 | 45,0 | 30 | 10 | 0,195 | 111-015-030 |
| 36 | 57,0 | 54,0 | 40 | 10 | 0,315 | 111-015-036 |
| 38 | 60,0 | 57,0 | 40 | 10 | 0,348 | 111-015-038 |
| 40 | 63,0 | 60,0 | 40 | 10 | 0,355 | 111-015-040 |
| 45 | 70,5 | 67,5 | 45 | 10 | 0,445 | 111-015-045 |
| 48 | 75,0 | 72,0 | 45 | 10 | 0,525 | 111-015-048 |
| 50 | 78,0 | 75,0 | 50 | 12 | 0,560 | 111-015-050 |
| 52 | 81,0 | 78,0 | 50 | 12 | 0,590 | 111-015-052 |
| 56 | 87,0 | 84,0 | 50 | 12 | 0,660 | 111-015-056 |
| 60 | 93,0 | 90,0 | 60 | 12 | 0,815 | 111-015-060 |
| 76 | 117,0 | 114,0 | - | 16 | 0,895 | 110-015-076 |
| 80 | 123,0 | 120,0 | - | 16 | 1,031 | 110-015-080 |
| 95 | 145,5 | 142,5 | - | 16 | 1,450 | 110-015-095 |
| 120 | 183,0 | 180,0 | - | 16 | 2,336 | 110-015-120 |

Stirnräder

Spur gears

Module 1,5
 straight teeth,
 pressure angle 20°
 Length overall $l = 30$ mm
 12 to 70 teeth
 with hub
 76 to 114 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 1,5
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 30$ mm
 bis 70 Zähne mit einseitiger Nabe
 ab 76 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 17 mm

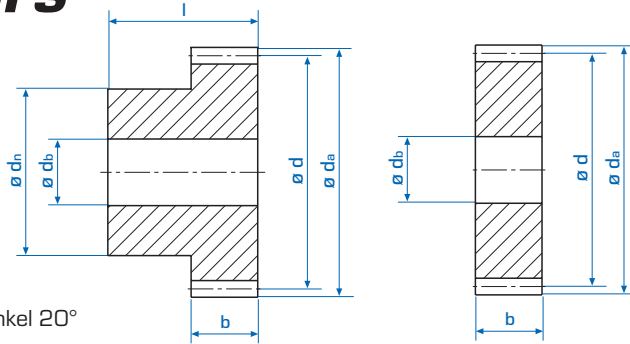
| Zähnez. No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------------------------|
| 12 | 21,0 | 18,0 | 14 | 8 | 116-015-012 |
| 13 | 22,5 | 19,5 | 15 | 8 | 116-015-013 |
| 14 | 24,0 | 21,0 | 17 | 8 | 116-015-014 |
| 15 | 25,5 | 22,5 | 18 | 8 | 116-015-015 |
| 16 | 27,0 | 24,0 | 19 | 8 | 116-015-016 |
| 17 | 28,5 | 25,5 | 20 | 8 | 116-015-017 |
| 18 | 30,0 | 27,0 | 20 | 8 | 116-015-018 |
| 19 | 31,5 | 28,5 | 20 | 8 | 116-015-019 |
| 20 | 33,0 | 30,0 | 25 | 8 | 116-015-020 |
| 21 | 34,5 | 31,5 | 25 | 10 | 116-015-021 |
| 22 | 36,0 | 33,0 | 25 | 10 | 116-015-022 |
| 23 | 37,5 | 34,5 | 25 | 10 | 116-015-023 |
| 24 | 39,0 | 36,0 | 25 | 10 | 116-015-024 |
| 25 | 40,5 | 37,5 | 25 | 10 | 116-015-025 |
| 26 | 42,0 | 39,0 | 30 | 12 | 116-015-026 |
| 28 | 45,0 | 42,0 | 30 | 12 | 116-015-028 |
| 30 | 48,0 | 45,0 | 30 | 12 | 116-015-030 |
| 32 | 51,0 | 48,0 | 35 | 12 | 116-015-032 |
| 35 | 55,5 | 52,5 | 35 | 12 | 116-015-035 |
| 36 | 57,0 | 54,0 | 35 | 12 | 116-015-036 |
| 38 | 60,0 | 57,0 | 40 | 12 | 116-015-038 |
| 40 | 63,0 | 60,0 | 40 | 12 | 116-015-040 |
| 42 | 66,0 | 63,0 | 50 | 12 | 116-015-042 |
| 45 | 70,5 | 67,5 | 50 | 12 | 116-015-045 |
| 48 | 75,0 | 72,0 | 50 | 14 | 116-015-048 |
| 50 | 78,0 | 75,0 | 50 | 14 | 116-015-050 |
| 52 | 81,0 | 78,0 | 60 | 14 | 116-015-052 |
| 54 | 84,0 | 81,0 | 60 | 14 | 116-015-054 |
| 56 | 87,0 | 84,0 | 60 | 16 | 116-015-056 |
| 58 | 90,0 | 87,0 | 60 | 16 | 116-015-058 |
| 60 | 93,0 | 90,0 | 60 | 16 | 116-015-060 |
| 70 | 108,0 | 105,0 | 70 | 16 | 116-015-070 |
| 76 | 117,0 | 114,0 | - | 16 | 114-015-076 |
| 80 | 123,0 | 120,0 | - | 16 | 114-015-080 |
| 95 | 145,5 | 142,5 | - | 16 | 114-015-095 |
| 110 | 168,0 | 165,0 | - | 16 | 114-015-110 |
| 114 | 174,0 | 171,0 | - | 16 | 114-015-114 |

Stirnräder

Spur gears

Module 2,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 30$ mm
 12 to 60 teeth
 with hub
 76 to 120 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 2,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 30$ mm
 bis 60 Zähne mit einseitiger Nabe
 ab 76 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 16 mm

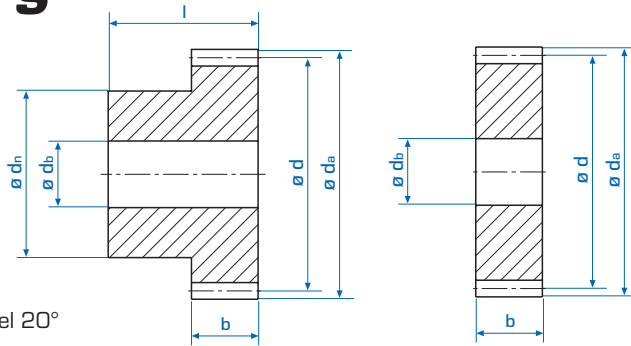
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 12 | 28,0 | 24,0 | 18 | 8 | 0,068 | 111-020-012 |
| 13 | 30,0 | 26,0 | 20,5 | 8 | 0,084 | 111-020-013 |
| 14 | 32,0 | 28,0 | 22,5 | 8 | 0,100 | 111-020-014 |
| 15 | 34,0 | 30,0 | 24 | 8 | 0,118 | 111-020-015 |
| 16 | 36,0 | 32,0 | 25 | 8 | 0,134 | 111-020-016 |
| 17 | 38,0 | 34,0 | 27,5 | 8 | 0,160 | 111-020-017 |
| 18 | 40,0 | 36,0 | 28 | 10 | 0,166 | 111-020-018 |
| 19 | 42,0 | 38,0 | 28 | 10 | 0,180 | 111-020-019 |
| 20 | 44,0 | 40,0 | 28 | 10 | 0,195 | 111-020-020 |
| 21 | 46,0 | 42,0 | 30 | 10 | 0,218 | 111-020-021 |
| 22 | 48,0 | 44,0 | 30 | 10 | 0,238 | 111-020-022 |
| 23 | 50,0 | 46,0 | 30 | 10 | 0,255 | 111-020-023 |
| 24 | 52,0 | 48,0 | 30 | 10 | 0,272 | 111-020-024 |
| 25 | 54,0 | 50,0 | 30 | 10 | 0,285 | 111-020-025 |
| 28 | 60,0 | 56,0 | 40 | 10 | 0,406 | 111-020-028 |
| 30 | 64,0 | 60,0 | 40 | 12 | 0,448 | 111-020-030 |
| 36 | 76,0 | 72,0 | 50 | 12 | 0,670 | 111-020-036 |
| 38 | 80,0 | 76,0 | 50 | 12 | 0,710 | 111-020-038 |
| 40 | 84,0 | 80,0 | 50 | 12 | 0,760 | 111-020-040 |
| 45 | 94,0 | 90,0 | 60 | 12 | 1,072 | 111-020-045 |
| 48 | 100,0 | 96,0 | 60 | 12 | 1,181 | 111-020-048 |
| 50 | 104,0 | 100,0 | 70 | 15 | 1,351 | 111-020-050 |
| 52 | 108,0 | 104,0 | 70 | 15 | 1,433 | 111-020-052 |
| 56 | 116,0 | 112,0 | 70 | 15 | 1,606 | 111-020-056 |
| 60 | 124,0 | 120,0 | 80 | 15 | 1,910 | 111-020-060 |
| 76 | 156,0 | 152,0 | - | 16 | 2,240 | 110-020-076 |
| 80 | 164,0 | 160,0 | - | 16 | 2,474 | 110-020-080 |
| 95 | 194,0 | 190,0 | - | 16 | 3,520 | 110-020-095 |
| 120 | 244,0 | 240,0 | - | 20 | 5,587 | 110-020-120 |

Stirnräder

Spur gears

Module 2,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 35$ mm
 12 to 70 teeth
 with hub
 76 to 114 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 2,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 35$ mm
 bis 70 Zähne mit einseitiger Nabe
 ab 76 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 20 mm

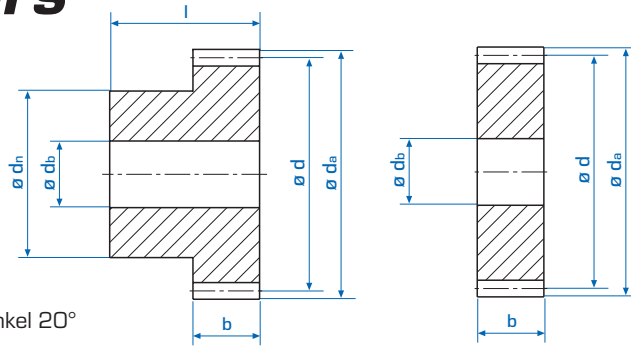
| Zähnez. No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------------------------|
| 12 | 28,0 | 24,0 | 18 | 10 | 116-020-012 |
| 13 | 30,0 | 26,0 | 20 | 10 | 116-020-013 |
| 14 | 32,0 | 28,0 | 20 | 10 | 116-020-014 |
| 15 | 34,0 | 30,0 | 24 | 10 | 116-020-015 |
| 16 | 36,0 | 32,0 | 25 | 10 | 116-020-016 |
| 17 | 38,0 | 34,0 | 25 | 10 | 116-020-017 |
| 18 | 40,0 | 36,0 | 25 | 10 | 116-020-018 |
| 19 | 42,0 | 38,0 | 25 | 10 | 116-020-019 |
| 20 | 44,0 | 40,0 | 30 | 10 | 116-020-020 |
| 21 | 46,0 | 42,0 | 30 | 12 | 116-020-021 |
| 22 | 48,0 | 44,0 | 30 | 12 | 116-020-022 |
| 23 | 50,0 | 46,0 | 30 | 12 | 116-020-023 |
| 24 | 52,0 | 48,0 | 35 | 12 | 116-020-024 |
| 25 | 54,0 | 50,0 | 35 | 12 | 116-020-025 |
| 26 | 56,0 | 52,0 | 40 | 12 | 116-020-026 |
| 28 | 60,0 | 56,0 | 40 | 12 | 116-020-028 |
| 30 | 64,0 | 60,0 | 40 | 14 | 116-020-030 |
| 32 | 68,0 | 64,0 | 45 | 14 | 116-020-032 |
| 35 | 74,0 | 70,0 | 45 | 14 | 116-020-035 |
| 36 | 76,0 | 72,0 | 45 | 14 | 116-020-036 |
| 38 | 80,0 | 76,0 | 50 | 14 | 116-020-038 |
| 40 | 84,0 | 80,0 | 50 | 14 | 116-020-040 |
| 42 | 88,0 | 84,0 | 55 | 16 | 116-020-042 |
| 45 | 94,0 | 90,0 | 60 | 16 | 116-020-045 |
| 48 | 100,0 | 96,0 | 70 | 16 | 116-020-048 |
| 50 | 104,0 | 100,0 | 70 | 16 | 116-020-050 |
| 52 | 108,0 | 104,0 | 70 | 16 | 116-020-052 |
| 54 | 112,0 | 108,0 | 70 | 16 | 116-020-054 |
| 56 | 116,0 | 112,0 | 70 | 16 | 116-020-056 |
| 58 | 120,0 | 116,0 | 70 | 16 | 116-020-058 |
| 60 | 124,0 | 120,0 | 70 | 16 | 116-020-060 |
| 70 | 144,0 | 140,0 | 80 | 16 | 116-020-070 |
| 76 | 156,0 | 152,0 | - | 20 | 114-020-076 |
| 80 | 164,0 | 160,0 | - | 20 | 114-020-080 |
| 95 | 194,0 | 190,0 | - | 20 | 114-020-095 |
| 110 | 224,0 | 220,0 | - | 20 | 114-020-110 |
| 114 | 232,0 | 228,0 | - | 20 | 114-020-114 |

Stirnräder

Spur gears

Module 2,5
 straight teeth,
 pressure angle 20°
 Length overall $l = 35$ mm
 12 to 60 teeth
 with hub
 76 to 95 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 2,5
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 35$ mm
 bis 60 Zähne mit einseitiger Nabe
 ab 76 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 20 mm

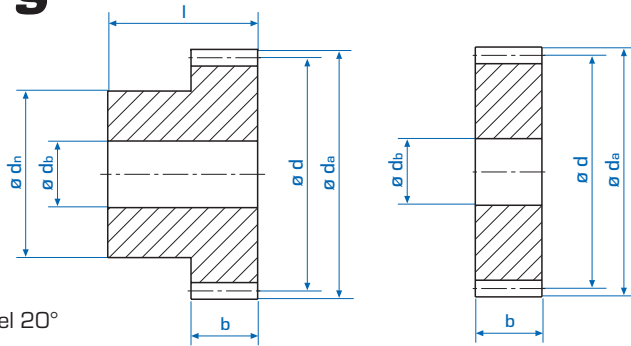
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 12 | 35,0 | 30,0 | 23 | 10 | 0,130 | 111-025-012 |
| 13 | 37,5 | 32,5 | 25 | 10 | 0,155 | 111-025-013 |
| 14 | 40,0 | 35,0 | 25 | 10 | 0,190 | 111-025-014 |
| 15 | 42,5 | 37,5 | 25 | 10 | 0,200 | 111-025-015 |
| 16 | 45,0 | 40,0 | 25 | 10 | 0,225 | 111-025-016 |
| 17 | 47,5 | 42,5 | 30 | 10 | 0,280 | 111-025-017 |
| 18 | 50,0 | 45,0 | 30 | 12 | 0,286 | 111-025-018 |
| 19 | 52,5 | 47,5 | 30 | 12 | 0,305 | 111-025-019 |
| 20 | 55,0 | 50,0 | 30 | 12 | 0,340 | 111-025-020 |
| 21 | 57,5 | 52,5 | 40 | 12 | 0,432 | 111-025-021 |
| 22 | 60,0 | 55,0 | 40 | 12 | 0,467 | 111-025-022 |
| 23 | 62,5 | 57,5 | 40 | 12 | 0,490 | 111-025-023 |
| 24 | 65,0 | 60,0 | 40 | 12 | 0,515 | 111-025-024 |
| 25 | 67,5 | 62,5 | 40 | 12 | 0,550 | 111-025-025 |
| 28 | 75,0 | 70,0 | 45 | 12 | 0,735 | 111-025-028 |
| 30 | 80,0 | 75,0 | 50 | 15 | 0,860 | 111-025-030 |
| 36 | 95,0 | 90,0 | 60 | 15 | 1,230 | 111-025-036 |
| 38 | 100,0 | 95,0 | 60 | 15 | 1,378 | 111-025-038 |
| 40 | 105,0 | 100,0 | 60 | 15 | 1,500 | 111-025-040 |
| 45 | 117,5 | 112,5 | 70 | 15 | 1,950 | 111-025-045 |
| 48 | 125,0 | 120,0 | 70 | 15 | 2,160 | 111-025-048 |
| 50 | 130,0 | 125,0 | 80 | 20 | 2,400 | 111-025-050 |
| 52 | 135,0 | 130,0 | 80 | 20 | 2,560 | 111-025-052 |
| 56 | 145,0 | 140,0 | 80 | 20 | 2,900 | 111-025-056 |
| 60 | 155,0 | 150,0 | 90 | 20 | 3,410 | 111-025-060 |
| 76 | 195,0 | 190,0 | - | 16 | 4,363 | 110-025-076 |
| 80 | 205,0 | 200,0 | - | 16 | 4,839 | 110-025-080 |
| 95 | 242,5 | 237,5 | - | 16 | 6,852 | 110-025-095 |

Stirnräder

Spur gears

Module 2,5
 straight teeth,
 pressure angle 20°
 Length overall $l = 45$ mm
 12 to 60 teeth
 with hub
 70 to 114 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 2,5
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 45$ mm
 bis 60 Zähne mit einseitiger Nabe
 ab 70 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 25 mm

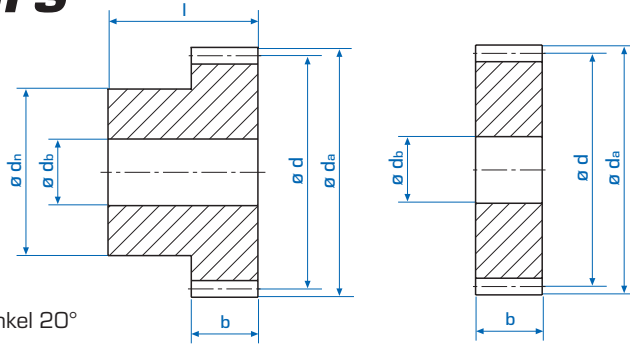
| Zähnez. No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------------------------|
| 12 | 35,0 | 30,0 | 22 | 10 | 116-025-012 |
| 13 | 37,5 | 32,5 | 25 | 10 | 116-025-013 |
| 14 | 40,0 | 35,0 | 28 | 10 | 116-025-014 |
| 15 | 42,5 | 37,5 | 30 | 10 | 116-025-015 |
| 16 | 45,0 | 40,0 | 32 | 12 | 116-025-016 |
| 17 | 47,5 | 42,5 | 35 | 12 | 116-025-017 |
| 18 | 50,0 | 45,0 | 35 | 12 | 116-025-018 |
| 19 | 52,5 | 47,5 | 35 | 12 | 116-025-019 |
| 20 | 55,0 | 50,0 | 40 | 12 | 116-025-020 |
| 21 | 57,5 | 52,5 | 40 | 14 | 116-025-021 |
| 22 | 60,0 | 55,0 | 45 | 14 | 116-025-022 |
| 23 | 62,5 | 57,5 | 45 | 14 | 116-025-023 |
| 24 | 65,0 | 60,0 | 45 | 14 | 116-025-024 |
| 25 | 67,5 | 62,5 | 50 | 14 | 116-025-025 |
| 26 | 70,0 | 65,0 | 50 | 14 | 116-025-026 |
| 28 | 75,0 | 70,0 | 50 | 14 | 116-025-028 |
| 30 | 80,0 | 75,0 | 55 | 14 | 116-025-030 |
| 32 | 85,0 | 80,0 | 55 | 16 | 116-025-032 |
| 35 | 92,5 | 87,5 | 60 | 16 | 116-025-035 |
| 36 | 95,0 | 90,0 | 60 | 16 | 116-025-036 |
| 38 | 100,0 | 95,0 | 60 | 16 | 116-025-038 |
| 40 | 105,0 | 100,0 | 70 | 16 | 116-025-040 |
| 42 | 110,0 | 105,0 | 70 | 16 | 116-025-042 |
| 45 | 117,5 | 112,5 | 70 | 16 | 116-025-045 |
| 48 | 125,0 | 120,0 | 80 | 20 | 116-025-048 |
| 50 | 130,0 | 125,0 | 80 | 20 | 116-025-050 |
| 52 | 135,0 | 130,0 | 90 | 20 | 116-025-052 |
| 54 | 140,0 | 135,0 | 90 | 20 | 116-025-054 |
| 56 | 145,0 | 140,0 | 100 | 20 | 116-025-056 |
| 58 | 150,0 | 145,0 | 100 | 20 | 116-025-058 |
| 60 | 155,0 | 150,0 | 100 | 20 | 116-025-060 |
| 70 | 180,0 | 175,0 | - | 20 | 114-025-070 |
| 76 | 195,0 | 190,0 | - | 20 | 114-025-076 |
| 80 | 205,0 | 200,0 | - | 25 | 114-025-080 |
| 95 | 242,5 | 237,5 | - | 25 | 114-025-095 |
| 110 | 280,0 | 275,0 | - | 25 | 114-025-110 |
| 114 | 290,0 | 285,0 | - | 25 | 114-025-114 |

Stirnräder

Spur gears

Module 3,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 40$ mm
 12 to 40 teeth
 with hub
 45 to 95 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 3,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 40$ mm
 bis 40 Zähne mit einseitiger Nabe
 ab 45 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 25 mm

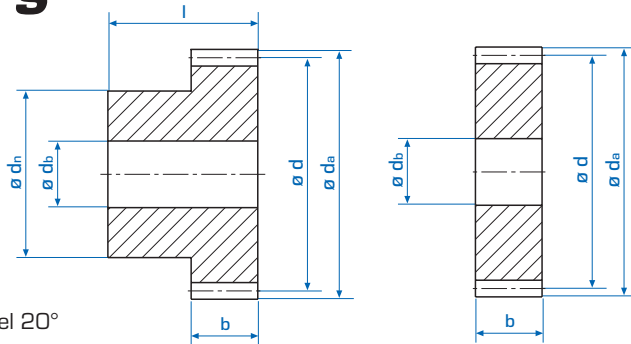
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|--------|-------------------------|
| 12 | 42,0 | 36,0 | 25 | 10 | 0,217 | 111-030-012 |
| 13 | 45,0 | 39,0 | 30 | 10 | 0,270 | 111-030-013 |
| 14 | 48,0 | 42,0 | 30 | 10 | 0,325 | 111-030-014 |
| 15 | 51,0 | 45,0 | 30 | 12 | 0,375 | 111-030-015 |
| 16 | 54,0 | 48,0 | 30 | 12 | 0,388 | 111-030-016 |
| 17 | 57,0 | 51,0 | 40 | 12 | 0,480 | 111-030-017 |
| 18 | 60,0 | 54,0 | 40 | 15 | 0,500 | 111-030-018 |
| 19 | 63,0 | 57,0 | 40 | 15 | 0,550 | 111-030-019 |
| 20 | 66,0 | 60,0 | 40 | 15 | 0,600 | 111-030-020 |
| 21 | 69,0 | 63,0 | 45 | 15 | 0,720 | 111-030-021 |
| 22 | 72,0 | 66,0 | 50 | 15 | 0,775 | 111-030-022 |
| 23 | 75,0 | 69,0 | 50 | 15 | 0,845 | 111-030-023 |
| 24 | 78,0 | 72,0 | 50 | 15 | 0,860 | 111-030-024 |
| 25 | 81,0 | 75,0 | 50 | 15 | 0,955 | 111-030-025 |
| 28 | 90,0 | 84,0 | 60 | 15 | 1,344 | 111-030-028 |
| 30 | 96,0 | 90,0 | 60 | 20 | 1,450 | 111-030-030 |
| 36 | 114,0 | 108,0 | 70 | 20 | 2,150 | 111-030-036 |
| 38 | 120,0 | 114,0 | 70 | 20 | 2,329 | 111-030-038 |
| 40 | 126,0 | 120,0 | 80 | 20 | 2,680 | 111-030-040 |
| 45 | 141,0 | 135,0 | - | 20 | 2,700 | 110-030-045 |
| 48 | 150,0 | 144,0 | - | 20 | 3,100 | 110-030-048 |
| 50 | 156,0 | 150,0 | - | 20 | 3,364 | 110-030-050 |
| 52 | 162,0 | 156,0 | - | 25 | 3,510 | 110-030-052 |
| 56 | 174,0 | 168,0 | - | 25 | 4,280 | 110-030-056 |
| 60 | 186,0 | 180,0 | - | 25 | 4,840 | 110-030-060 |
| 76 | 234,0 | 228,0 | - | 25 | 7,813 | 110-030-076 |
| 80 | 246,0 | 240,0 | - | 25 | 8,600 | 110-030-080 |
| 95 | 291,0 | 285,0 | - | 25 | 12,290 | 110-030-095 |

Stirnräder

Spur gears

Module 3,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 50$ mm
 12 to 48 teeth
 with hub
 50 to 114 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 3,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 50$ mm
 bis 48 Zähne mit einseitiger Nabe
 ab 50 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 30 mm

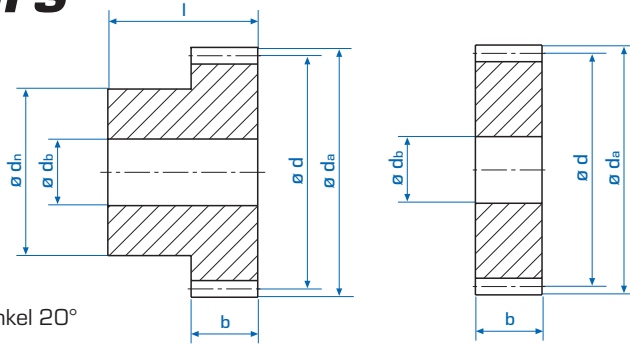
| Zähnez. No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------------------------|
| 12 | 42,0 | 36,0 | 27 | 12 | 116-030-012 |
| 13 | 45,0 | 39,0 | 30 | 12 | 116-030-013 |
| 14 | 48,0 | 42,0 | 33 | 12 | 116-030-014 |
| 15 | 51,0 | 45,0 | 35 | 12 | 116-030-015 |
| 16 | 54,0 | 48,0 | 38 | 14 | 116-030-016 |
| 17 | 57,0 | 51,0 | 42 | 14 | 116-030-017 |
| 18 | 60,0 | 54,0 | 45 | 14 | 116-030-018 |
| 19 | 63,0 | 57,0 | 45 | 14 | 116-030-019 |
| 20 | 66,0 | 60,0 | 45 | 14 | 116-030-020 |
| 21 | 69,0 | 63,0 | 45 | 16 | 116-030-021 |
| 22 | 72,0 | 66,0 | 50 | 16 | 116-030-022 |
| 23 | 75,0 | 69,0 | 50 | 16 | 116-030-023 |
| 24 | 78,0 | 72,0 | 50 | 16 | 116-030-024 |
| 25 | 81,0 | 75,0 | 60 | 16 | 116-030-025 |
| 26 | 84,0 | 78,0 | 60 | 16 | 116-030-026 |
| 28 | 90,0 | 84,0 | 60 | 16 | 116-030-028 |
| 30 | 96,0 | 90,0 | 60 | 16 | 116-030-030 |
| 32 | 102,0 | 96,0 | 70 | 16 | 116-030-032 |
| 35 | 111,0 | 105,0 | 70 | 16 | 116-030-035 |
| 36 | 114,0 | 108,0 | 70 | 20 | 116-030-036 |
| 38 | 120,0 | 114,0 | 80 | 20 | 116-030-038 |
| 40 | 126,0 | 120,0 | 80 | 20 | 116-030-040 |
| 42 | 132,0 | 126,0 | 80 | 20 | 116-030-042 |
| 45 | 141,0 | 135,0 | 90 | 20 | 116-030-045 |
| 48 | 150,0 | 144,0 | 100 | 20 | 116-030-048 |
| 50 | 156,0 | 150,0 | - | 20 | 114-030-050 |
| 52 | 162,0 | 156,0 | - | 20 | 114-030-052 |
| 60 | 186,0 | 180,0 | - | 20 | 114-030-060 |
| 76 | 234,0 | 228,0 | - | 25 | 114-030-076 |
| 80 | 246,0 | 240,0 | - | 25 | 114-030-080 |
| 95 | 291,0 | 285,0 | - | 25 | 114-030-095 |
| 100 | 306,0 | 300,0 | - | 25 | 114-030-100 |
| 114 | 348,0 | 342,0 | - | 30 | 114-030-114 |

Stirnräder

Spur gears

Module 4,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 50$ mm
 12 to 30 teeth
 with hub
 36 to 95 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 4,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 50$ mm
 bis 30 Zähne mit einseitiger Nabe
 ab 36 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 32 mm

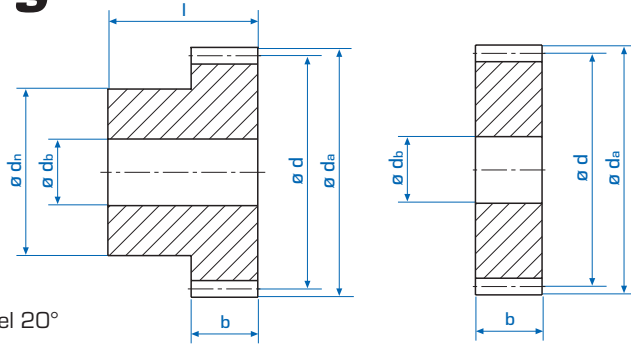
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|--------|-------------------------|
| 12 | 56,0 | 48,0 | 36 | 12 | 0,500 | 111-040-012 |
| 13 | 60,0 | 52,0 | 40 | 12 | 0,605 | 111-040-013 |
| 14 | 64,0 | 56,0 | 44 | 12 | 0,735 | 111-040-014 |
| 15 | 68,0 | 60,0 | 45 | 15 | 0,796 | 111-040-015 |
| 16 | 72,0 | 64,0 | 45 | 15 | 0,992 | 111-040-016 |
| 17 | 76,0 | 68,0 | 50 | 15 | 1,083 | 111-040-017 |
| 18 | 80,0 | 72,0 | 50 | 20 | 1,150 | 111-040-018 |
| 19 | 84,0 | 76,0 | 50 | 20 | 1,263 | 111-040-019 |
| 20 | 88,0 | 80,0 | 50 | 20 | 1,383 | 111-040-020 |
| 21 | 92,0 | 84,0 | 60 | 20 | 1,632 | 111-040-021 |
| 22 | 96,0 | 88,0 | 60 | 20 | 1,770 | 111-040-022 |
| 23 | 100,0 | 92,0 | 60 | 20 | 1,909 | 111-040-023 |
| 24 | 104,0 | 96,0 | 60 | 20 | 2,060 | 111-040-024 |
| 25 | 108,0 | 100,0 | 60 | 20 | 2,220 | 111-040-025 |
| 28 | 120,0 | 112,0 | 70 | 20 | 3,000 | 111-040-028 |
| 30 | 128,0 | 120,0 | 80 | 25 | 3,290 | 111-040-030 |
| 36 | 152,0 | 144,0 | - | 25 | 3,910 | 110-040-036 |
| 38 | 160,0 | 152,0 | - | 25 | 4,400 | 110-040-038 |
| 40 | 168,0 | 160,0 | - | 25 | 4,920 | 110-040-040 |
| 45 | 188,0 | 180,0 | - | 25 | 6,230 | 110-040-045 |
| 48 | 200,0 | 192,0 | - | 25 | 7,050 | 110-040-048 |
| 50 | 208,0 | 200,0 | - | 25 | 7,700 | 110-040-050 |
| 52 | 216,0 | 208,0 | - | 30 | 8,270 | 110-040-052 |
| 56 | 232,0 | 224,0 | - | 30 | 9,600 | 110-040-056 |
| 60 | 248,0 | 240,0 | - | 30 | 11,060 | 110-040-060 |
| 76 | 312,0 | 304,0 | - | 30 | 17,800 | 110-040-076 |
| 80 | 328,0 | 320,0 | - | 30 | 19,800 | 110-040-080 |
| 95 | 388,0 | 380,0 | - | 30 | 28,100 | 110-040-095 |

Stirnräder

Spur gears

Module 4,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 60$ mm
 12 to 36 teeth
 with hub
 38 to 114 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 4,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 60$ mm
 bis 36 Zähne mit einseitiger Nabe
 ab 38 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 40 mm

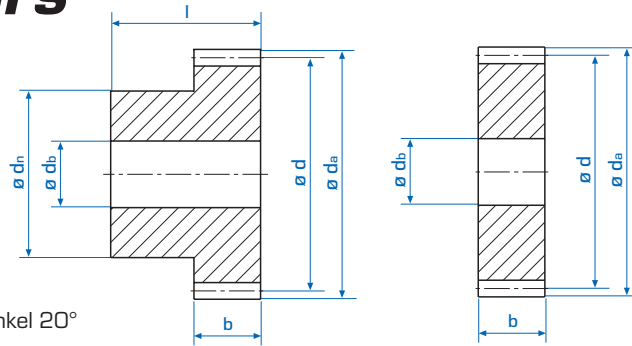
| Zähnez. No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------------------------|
| 12 | 56,0 | 48,0 | 35 | 14 | 116-040-012 |
| 13 | 60,0 | 52,0 | 40 | 14 | 116-040-013 |
| 14 | 64,0 | 56,0 | 45 | 14 | 116-040-014 |
| 15 | 68,0 | 60,0 | 45 | 14 | 116-040-015 |
| 16 | 72,0 | 64,0 | 50 | 16 | 116-040-016 |
| 17 | 76,0 | 68,0 | 50 | 16 | 116-040-017 |
| 18 | 80,0 | 72,0 | 50 | 16 | 116-040-018 |
| 19 | 84,0 | 76,0 | 60 | 16 | 116-040-019 |
| 20 | 88,0 | 80,0 | 60 | 16 | 116-040-020 |
| 21 | 92,0 | 84,0 | 70 | 16 | 116-040-021 |
| 22 | 96,0 | 88,0 | 70 | 16 | 116-040-022 |
| 23 | 100,0 | 92,0 | 75 | 20 | 116-040-023 |
| 24 | 104,0 | 96,0 | 75 | 20 | 116-040-024 |
| 25 | 108,0 | 100,0 | 75 | 20 | 116-040-025 |
| 26 | 112,0 | 104,0 | 75 | 20 | 116-040-026 |
| 28 | 120,0 | 112,0 | 75 | 20 | 116-040-028 |
| 30 | 128,0 | 120,0 | 75 | 20 | 116-040-030 |
| 32 | 136,0 | 128,0 | 80 | 20 | 116-040-032 |
| 35 | 148,0 | 140,0 | 80 | 20 | 116-040-035 |
| 36 | 152,0 | 144,0 | 80 | 25 | 116-040-036 |
| 38 | 160,0 | 152,0 | - | 25 | 114-040-038 |
| 40 | 168,0 | 160,0 | - | 25 | 114-040-040 |
| 45 | 188,0 | 180,0 | - | 25 | 114-040-045 |
| 48 | 200,0 | 192,0 | - | 25 | 114-040-048 |
| 50 | 208,0 | 200,0 | - | 25 | 114-040-050 |
| 52 | 216,0 | 208,0 | - | 25 | 114-040-052 |
| 60 | 248,0 | 240,0 | - | 25 | 114-040-060 |
| 76 | 312,0 | 304,0 | - | 30 | 114-040-076 |
| 80 | 328,0 | 320,0 | - | 30 | 114-040-080 |
| 95 | 388,0 | 380,0 | - | 30 | 114-040-095 |
| 100 | 408,0 | 400,0 | - | 30 | 114-040-100 |
| 114 | 464,0 | 456,0 | - | 30 | 114-040-114 |

Stirnräder

Spur gears

Module 5,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 60$ mm
 12 to 25 teeth
 with hub
 28 to 95 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 5,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 60$ mm
 bis 25 Zähne mit einseitiger Nabe
 ab 28 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 40 mm

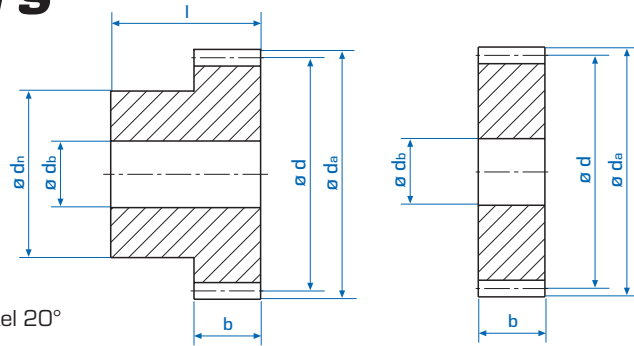
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 12 | 70,0 | 60,0 | 45 | 15 | 0,99 | 111-050-012 |
| 13 | 75,0 | 65,0 | 50 | 15 | 1,22 | 111-050-013 |
| 14 | 80,0 | 70,0 | 50 | 15 | 1,45 | 111-050-014 |
| 15 | 85,0 | 75,0 | 50 | 20 | 1,50 | 111-050-015 |
| 16 | 90,0 | 80,0 | 50 | 20 | 1,69 | 111-050-016 |
| 17 | 95,0 | 85,0 | 64 | 20 | 2,08 | 111-050-017 |
| 18 | 100,0 | 90,0 | 65 | 25 | 2,15 | 111-050-018 |
| 19 | 105,0 | 95,0 | 68 | 25 | 2,50 | 111-050-019 |
| 20 | 110,0 | 100,0 | 70 | 25 | 2,61 | 111-050-020 |
| 21 | 115,0 | 105,0 | 75 | 25 | 3,11 | 111-050-021 |
| 22 | 120,0 | 110,0 | 75 | 25 | 3,40 | 111-050-022 |
| 23 | 125,0 | 115,0 | 80 | 25 | 3,74 | 111-050-023 |
| 24 | 130,0 | 120,0 | 80 | 25 | 3,85 | 111-050-024 |
| 25 | 135,0 | 125,0 | 80 | 25 | 4,30 | 111-050-025 |
| 28 | 150,0 | 140,0 | - | 25 | 4,60 | 110-050-028 |
| 30 | 160,0 | 150,0 | - | 30 | 5,25 | 110-050-030 |
| 36 | 190,0 | 180,0 | - | 30 | 7,75 | 110-050-036 |
| 38 | 200,0 | 190,0 | - | 30 | 8,50 | 110-050-038 |
| 40 | 210,0 | 200,0 | - | 30 | 9,58 | 110-050-040 |
| 45 | 235,0 | 225,0 | - | 30 | 12,10 | 110-050-045 |
| 48 | 250,0 | 240,0 | - | 30 | 13,80 | 110-050-048 |
| 50 | 260,0 | 250,0 | - | 30 | 15,00 | 110-050-050 |
| 52 | 270,0 | 260,0 | - | 40 | 16,14 | 110-050-052 |
| 56 | 290,0 | 280,0 | - | 40 | 18,71 | 110-050-056 |
| 60 | 310,0 | 300,0 | - | 40 | 21,60 | 110-050-060 |
| 76 | 390,0 | 380,0 | - | 40 | 35,20 | 110-050-076 |
| 80 | 410,0 | 400,0 | - | 40 | 39,00 | 110-050-080 |
| 95 | 485,0 | 475,0 | - | 40 | 55,00 | 110-050-095 |

Stirnräder

Spur gears

Module 5,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 75$ mm
 12 to 30 teeth with hub
 32 to 114 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 5,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 75$ mm
 bis 30 Zähne mit einseitiger Nabe
 ab 32 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 50 mm

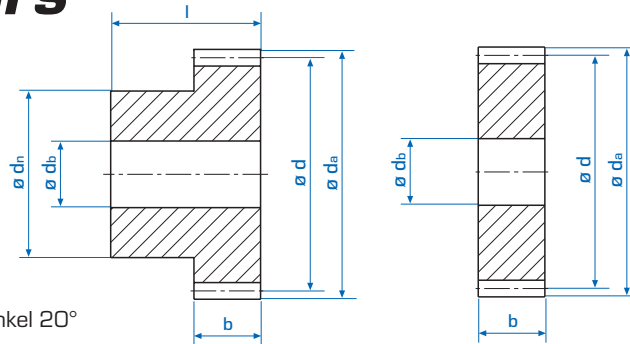
| Zähnez. | No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|---------|-----------|-------|-------|-------|-------|-------------------------|
| 12 | 12 | 70,0 | 60,0 | 45 | 20 | 116-050-012 |
| 13 | 13 | 75,0 | 65,0 | 50 | 20 | 116-050-013 |
| 14 | 14 | 80,0 | 70,0 | 55 | 20 | 116-050-014 |
| 15 | 15 | 85,0 | 75,0 | 60 | 20 | 116-050-015 |
| 16 | 16 | 90,0 | 80,0 | 65 | 20 | 116-050-016 |
| 17 | 17 | 95,0 | 85,0 | 70 | 20 | 116-050-017 |
| 18 | 18 | 100,0 | 90,0 | 70 | 20 | 116-050-018 |
| 19 | 19 | 105,0 | 95,0 | 70 | 20 | 116-050-019 |
| 20 | 20 | 110,0 | 100,0 | 80 | 20 | 116-050-020 |
| 21 | 21 | 115,0 | 105,0 | 80 | 20 | 116-050-021 |
| 22 | 22 | 120,0 | 110,0 | 80 | 20 | 116-050-022 |
| 23 | 23 | 125,0 | 115,0 | 90 | 20 | 116-050-023 |
| 24 | 24 | 130,0 | 120,0 | 90 | 20 | 116-050-024 |
| 25 | 25 | 135,0 | 125,0 | 90 | 20 | 116-050-025 |
| 26 | 26 | 140,0 | 130,0 | 100 | 20 | 116-050-026 |
| 28 | 28 | 150,0 | 140,0 | 100 | 25 | 116-050-028 |
| 30 | 30 | 160,0 | 150,0 | 110 | 25 | 116-050-030 |
| 32 | 32 | 170,0 | 160,0 | - | 25 | 114-050-032 |
| 35 | 35 | 185,0 | 175,0 | - | 25 | 114-050-035 |
| 38 | 38 | 200,0 | 190,0 | - | 25 | 114-050-038 |
| 40 | 40 | 210,0 | 200,0 | - | 25 | 114-050-040 |
| 45 | 45 | 235,0 | 225,0 | - | 25 | 114-050-045 |
| 48 | 48 | 250,0 | 240,0 | - | 25 | 114-050-048 |
| 50 | 50 | 260,0 | 250,0 | - | 30 | 114-050-050 |
| 52 | 52 | 270,0 | 260,0 | - | 30 | 114-050-052 |
| 60 | 60 | 310,0 | 300,0 | - | 30 | 114-050-060 |
| 76 | 76 | 390,0 | 380,0 | - | 30 | 114-050-076 |
| 80 | 80 | 410,0 | 400,0 | - | 30 | 114-050-080 |
| 95 | 95 | 485,0 | 475,0 | - | 30 | 114-050-095 |
| 100 | 100 | 510,0 | 500,0 | - | 30 | 114-050-100 |
| 114 | 114 | 580,0 | 570,0 | - | 30 | 114-050-114 |

Stirnräder

Spur gears

Module 6,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 70$ mm
 12 to 25 teeth with hub
 28 to 95 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 6,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 70$ mm
 bis 25 Zähne mit einseitiger Nabe
 ab 28 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 48 mm

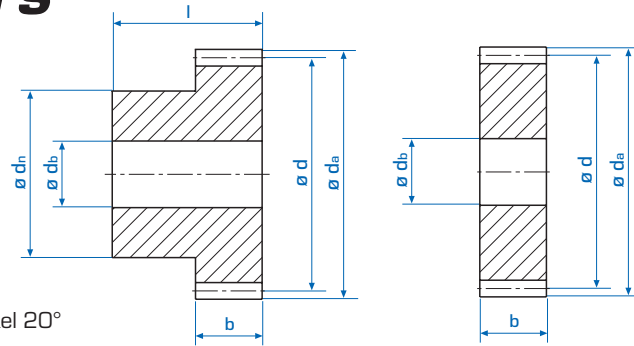
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 12 | 84,0 | 72,0 | 54 | 20 | 1,70 | 111-060-012 |
| 13 | 90,0 | 78,0 | 60 | 20 | 2,03 | 111-060-013 |
| 15 | 102,0 | 90,0 | 60 | 25 | 2,56 | 111-060-015 |
| 16 | 108,0 | 96,0 | 60 | 25 | 3,16 | 111-060-016 |
| 18 | 120,0 | 108,0 | 70 | 25 | 3,79 | 111-060-018 |
| 20 | 132,0 | 120,0 | 70 | 25 | 4,60 | 111-060-020 |
| 24 | 156,0 | 144,0 | 80 | 30 | 6,53 | 111-060-024 |
| 25 | 162,0 | 150,0 | 80 | 30 | 7,02 | 111-060-025 |
| 28 | 180,0 | 168,0 | - | 30 | 8,00 | 110-060-028 |
| 30 | 192,0 | 180,0 | - | 30 | 9,23 | 110-060-030 |
| 36 | 228,0 | 216,0 | - | 30 | 13,30 | 110-060-036 |
| 38 | 240,0 | 228,0 | - | 30 | 14,80 | 110-060-038 |
| 40 | 252,0 | 240,0 | - | 30 | 16,61 | 110-060-040 |
| 45 | 282,0 | 270,0 | - | 40 | 20,90 | 110-060-045 |
| 48 | 300,0 | 288,0 | - | 40 | 23,75 | 110-060-048 |
| 50 | 312,0 | 300,0 | - | 40 | 25,90 | 110-060-050 |
| 52 | 324,0 | 312,0 | - | 40 | 28,10 | 110-060-052 |
| 56 | 348,0 | 336,0 | - | 40 | 32,00 | 110-060-056 |
| 60 | 372,0 | 360,0 | - | 40 | 37,70 | 110-060-060 |
| 76 | 468,0 | 456,0 | - | 40 | 60,20 | 110-060-076 |
| 80 | 492,0 | 480,0 | - | 50 | 66,80 | 110-060-080 |
| 95 | 582,0 | 570,0 | - | 50 | 95,00 | 110-060-095 |

Stirnräder

Spur gears

Module 6,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 80$ mm
 12 to 25 teeth with hub
 28 to 40 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 6,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 80$ mm
 bis 25 Zähne mit einseitiger Nabe
 ab 28 Zähne als Scheibe
 Stahl: 1.0503 [C 45]



b = 60 mm

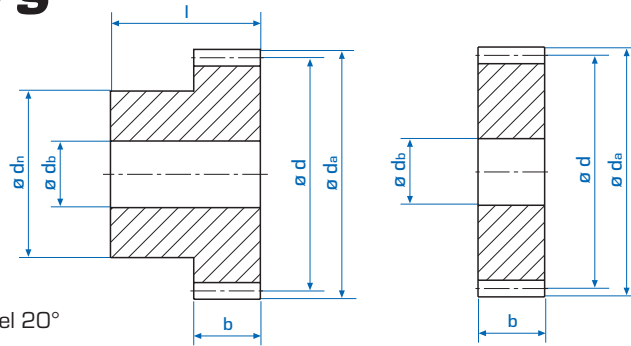
| Zähnez. No. teeth | d_a | d | d_n | d_b | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------------------------|
| 12 | 84,0 | 72,0 | 54 | - | 116-060-012 |
| 13 | 90,0 | 78,0 | 60 | - | 116-060-013 |
| 15 | 102,0 | 90,0 | 70 | - | 116-060-015 |
| 16 | 108,0 | 96,0 | 75 | - | 116-060-016 |
| 18 | 120,0 | 108,0 | 80 | - | 116-060-018 |
| 20 | 132,0 | 120,0 | 90 | - | 116-060-020 |
| 24 | 156,0 | 144,0 | 110 | - | 116-060-024 |
| 25 | 162,0 | 150,0 | 110 | - | 116-060-025 |
| 28 | 180,0 | 168,0 | - | 25 | 114-060-028 |
| 30 | 192,0 | 180,0 | - | 25 | 114-060-030 |
| 32 | 204,0 | 192,0 | - | 25 | 114-060-032 |
| 35 | 222,0 | 210,0 | - | 25 | 114-060-035 |
| 38 | 240,0 | 228,0 | - | 25 | 114-060-038 |
| 40 | 252,0 | 240,0 | - | 25 | 114-060-040 |

Stirnräder

Spur gears

Module 8,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 95$ mm
 15 to 25 teeth with hub
 30 to 60 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 8,0
 geradverzahnt, Eingriffswinkel 20°
 Gesamthöhe $l = 95$ mm
 bis 25 Zähne mit einseitiger Nabe
 ab 30 Zähne als Scheibe
 Stahl: 1.0503 [C 45]

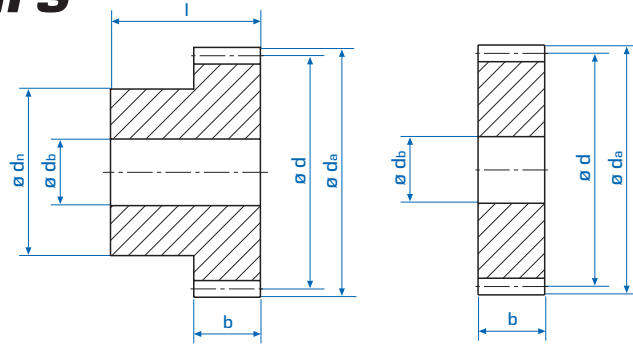


b = 64 mm

| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 15 | 136,0 | 120,0 | 80 | 25 | 7,24 | 111-080-015 |
| 20 | 176,0 | 160,0 | 100 | 30 | 12,80 | 111-080-020 |
| 25 | 216,0 | 200,0 | 125 | 30 | 21,50 | 111-080-025 |
| 30 | 256,0 | 240,0 | - | 30 | 39,00 | 110-080-030 |
| 40 | 336,0 | 320,0 | - | 40 | 52,50 | 110-080-040 |
| 60 | 496,0 | 480,0 | - | 50 | 72,50 | 110-080-060 |

Stirnräder

Spur gears



Module 1,591
Pitch 5 mm
 straight teeth,
 pressure angle 20°
 Length overall l = 25 mm
 Steel: 1.0503 [C 45]

Modul 1,591
 Teilung 5 mm
 geradverzahnt,
 Eingriffswinkel 20°
 Gesamthöhe l = 25 mm
 Stahl: 1.0503 [C 45]

b = 12 mm

| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-------|-------------------------|
| 12 | 22,3 | 19,1 | 14 | 6 | 0,030 | 111-016-012 |
| 15 | 27,0 | 23,9 | 18 | 6 | 0,057 | 111-016-015 |
| 18 | 31,8 | 28,6 | 20 | 8 | 0,073 | 111-016-018 |
| 20 | 35,0 | 31,8 | 20 | 8 | 0,097 | 111-016-020 |
| 24 | 41,4 | 38,2 | 25 | 8 | 0,135 | 111-016-024 |
| 25 | 43,0 | 39,8 | 25 | 8 | 0,142 | 111-016-025 |
| 30 | 50,9 | 47,7 | 30 | 10 | 0,195 | 111-016-030 |
| 36 | 60,5 | 57,3 | 40 | 10 | 0,315 | 111-016-036 |
| 40 | 66,8 | 63,6 | 40 | 10 | 0,355 | 111-016-040 |
| 45 | 74,8 | 71,6 | 45 | 10 | 0,445 | 111-016-045 |
| 50 | 82,7 | 79,6 | 50 | 12 | 0,560 | 111-016-050 |
| 60 | 98,6 | 95,5 | 60 | 12 | 0,815 | 111-016-060 |

Module 3,183
Pitch 10 mm
 straight teeth,
 pressure angle 20°
 Length overall l = 40 mm
 12 to 40 teeth with hub
 45 to 60 teeth
 without hub
 Steel: 1.0503 [C 45]

Modul 3,183
 Teilung 10 mm
 geradverzahnt,
 Eingriffswinkel 20°
 Gesamthöhe l = 40 mm
 bis 40 Zähne mit einseitiger Nabe
 ab 45 Zähne als Scheibe
 Stahl: 1.0503 [C 45]

b = 25 mm

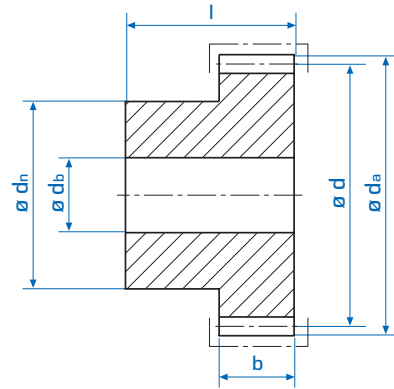
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-------|-------------------------|
| 12 | 44,6 | 38,2 | 25 | 10 | 0,217 | 111-031-012 |
| 15 | 54,1 | 47,7 | 30 | 12 | 0,375 | 111-031-015 |
| 18 | 63,7 | 57,3 | 40 | 15 | 0,500 | 111-031-018 |
| 20 | 70,0 | 63,7 | 40 | 15 | 0,600 | 111-031-020 |
| 24 | 82,8 | 76,4 | 50 | 15 | 0,860 | 111-031-024 |
| 25 | 85,9 | 79,6 | 50 | 15 | 0,955 | 111-031-025 |
| 30 | 101,9 | 95,5 | 60 | 20 | 1,450 | 111-031-030 |
| 36 | 121,0 | 114,6 | 70 | 20 | 2,150 | 111-031-036 |
| 40 | 133,7 | 127,3 | 80 | 20 | 2,680 | 111-031-040 |
| 45 | 149,6 | 143,2 | - | 20 | 2,700 | 110-031-045 |
| 50 | 165,5 | 159,2 | - | 20 | 3,364 | 110-031-050 |
| 60 | 197,3 | 191,0 | - | 25 | 4,840 | 110-031-060 |

Stirnräder induktiv gehärtet

Spur gears induction hardened

Module 1,0
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 1,0
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]



| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 17,0 | 15,0 | 12 | 5 | 18 | 8 | 0,016 | 111-010-415 |
| 20 | 22,0 | 20,0 | 15 | 6 | 18 | 8 | 0,027 | 111-010-420 |
| 25 | 27,0 | 25,0 | 18 | 6 | 18 | 8 | 0,045 | 111-010-425 |
| 30 | 32,0 | 30,0 | 20 | 8 | 18 | 8 | 0,059 | 111-010-430 |
| 40 | 42,0 | 40,0 | 25 | 8 | 18 | 8 | 0,108 | 111-010-440 |
| 60 | 62,0 | 60,0 | 40 | 10 | 18 | 8 | 0,260 | 111-010-460 |

Module 1,5
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 1,5
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]

| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 25,5 | 22,5 | 18 | 6 | 25 | 12 | 0,057 | 111-015-415 |
| 20 | 33,0 | 30,0 | 20 | 8 | 25 | 12 | 0,097 | 111-015-420 |
| 25 | 40,5 | 37,5 | 25 | 8 | 25 | 12 | 0,142 | 111-015-425 |
| 30 | 48,0 | 45,0 | 30 | 10 | 25 | 12 | 0,195 | 111-015-430 |
| 40 | 63,0 | 60,0 | 40 | 10 | 25 | 12 | 0,355 | 111-015-440 |
| 60 | 93,0 | 90,0 | 60 | 12 | 25 | 12 | 0,815 | 111-015-460 |

Module 1,591
 Pitch 5 mm
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 1,591
 Teilung 5 mm
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]

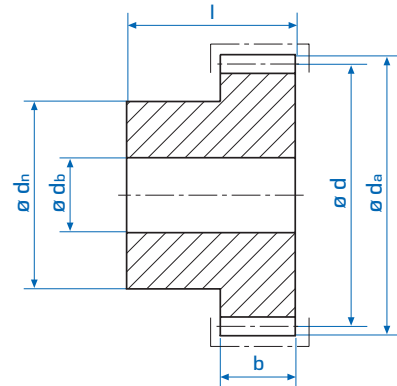
| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 27,0 | 23,9 | 18 | 6 | 25 | 12 | 0,057 | 111-016-415 |
| 20 | 35,0 | 31,8 | 20 | 8 | 25 | 12 | 0,097 | 111-016-420 |
| 25 | 43,0 | 39,8 | 25 | 8 | 25 | 12 | 0,142 | 111-016-425 |
| 30 | 50,9 | 47,7 | 30 | 10 | 25 | 12 | 0,195 | 111-016-430 |
| 40 | 66,8 | 63,6 | 40 | 10 | 25 | 12 | 0,355 | 111-016-440 |
| 60 | 98,6 | 95,5 | 60 | 12 | 25 | 12 | 0,815 | 111-016-460 |

Stirnräder induktiv gehärtet

Spur gears induction hardened

Module 2,0
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 2,0
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]



| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 34,0 | 30,0 | 24 | 8 | 30 | 16 | 0,118 | 111-020-415 |
| 20 | 44,0 | 40,0 | 28 | 10 | 30 | 16 | 0,195 | 111-020-420 |
| 25 | 54,0 | 50,0 | 30 | 10 | 30 | 16 | 0,285 | 111-020-425 |
| 30 | 64,0 | 60,0 | 40 | 12 | 30 | 16 | 0,448 | 111-020-430 |
| 40 | 84,0 | 80,0 | 50 | 12 | 30 | 16 | 0,760 | 111-020-440 |
| 60 | 124,0 | 120,0 | 80 | 15 | 30 | 16 | 1,910 | 111-020-460 |

Module 2,5
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 2,5
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]

| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 42,5 | 37,5 | 25 | 10 | 35 | 20 | 0,200 | 111-025-415 |
| 20 | 55,0 | 50,0 | 30 | 12 | 35 | 20 | 0,340 | 111-025-420 |
| 25 | 67,5 | 62,5 | 40 | 12 | 35 | 20 | 0,550 | 111-025-425 |
| 30 | 80,0 | 75,0 | 50 | 15 | 35 | 20 | 0,860 | 111-025-430 |
| 40 | 105,0 | 100,0 | 60 | 15 | 35 | 20 | 1,500 | 111-025-440 |
| 60 | 155,0 | 150,0 | 90 | 20 | 35 | 20 | 3,410 | 111-025-460 |

Module 3,0
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 3,0
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]

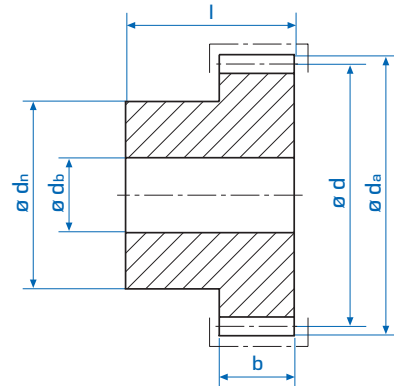
| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 51,0 | 45,0 | 30 | 12 | 40 | 25 | 0,375 | 111-030-415 |
| 20 | 66,0 | 60,0 | 40 | 15 | 40 | 25 | 0,600 | 111-030-420 |
| 25 | 81,0 | 75,0 | 50 | 15 | 40 | 25 | 0,955 | 111-030-425 |
| 30 | 96,0 | 90,0 | 60 | 20 | 40 | 25 | 1,450 | 111-030-430 |
| 40 | 126,0 | 120,0 | 80 | 20 | 40 | 25 | 2,680 | 111-030-440 |
| 60 | 186,0 | 180,0 | - | 25 | - | 25 | 4,840 | 110-030-460 |

Stirnräder induktiv gehärtet

Spur gears induction hardened

Module 3,183
Pitch 10 mm
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 3,183
 Teilung 10 mm
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]



| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 54,1 | 47,7 | 30 | 12 | 40 | 25 | 0,375 | 111-031-415 |
| 20 | 70,0 | 63,7 | 40 | 15 | 40 | 25 | 0,600 | 111-031-420 |
| 25 | 85,9 | 79,6 | 50 | 15 | 40 | 25 | 0,955 | 111-031-425 |
| 30 | 101,9 | 95,5 | 60 | 20 | 40 | 25 | 1,450 | 111-031-430 |
| 40 | 133,7 | 127,3 | 80 | 20 | 40 | 25 | 2,680 | 111-031-440 |
| 60 | 197,3 | 191,0 | - | 25 | - | 25 | 4,840 | 110-031-460 |

Module 4,0
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 4,0
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]

| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|--------|-------------------------|
| 15 | 68,0 | 60,0 | 45 | 15 | 50 | 32 | 0,796 | 111-040-415 |
| 20 | 88,0 | 80,0 | 50 | 20 | 50 | 32 | 1,383 | 111-040-420 |
| 25 | 108,0 | 100,0 | 60 | 20 | 50 | 32 | 2,220 | 111-040-425 |
| 30 | 128,0 | 120,0 | 80 | 25 | 50 | 32 | 3,290 | 111-040-430 |
| 40 | 168,0 | 160,0 | - | 25 | - | 32 | 4,920 | 110-040-440 |
| 60 | 248,0 | 240,0 | - | 30 | - | 32 | 11,060 | 110-040-460 |

Module 5,0
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 5,0
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]

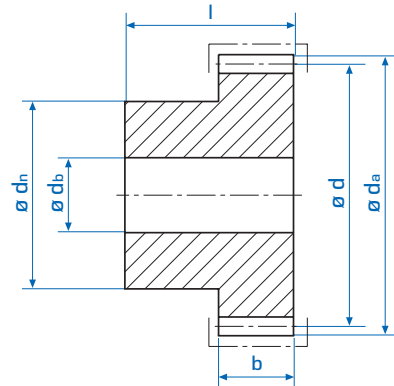
| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 85,0 | 75,0 | 50 | 20 | 60 | 40 | 1,50 | 111-050-415 |
| 20 | 110,0 | 100,0 | 70 | 25 | 60 | 40 | 2,61 | 111-050-420 |
| 25 | 135,0 | 125,0 | 80 | 25 | 60 | 40 | 4,30 | 111-050-425 |
| 30 | 160,0 | 150,0 | - | 30 | - | 40 | 5,25 | 110-050-430 |
| 40 | 210,0 | 200,0 | - | 30 | - | 40 | 9,58 | 110-050-440 |
| 60 | 310,0 | 300,0 | - | 40 | - | 40 | 21,60 | 110-050-460 |

Stirnräder induktiv gehärtet

Spur gears induction hardened

Module 6,0
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 6,0
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]



| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 102,0 | 90,0 | 60 | 25 | 70 | 48 | 2,56 | 111-060-415 |
| 20 | 132,0 | 120,0 | 70 | 25 | 70 | 48 | 4,60 | 111-060-420 |
| 25 | 162,0 | 150,0 | 80 | 30 | 70 | 48 | 7,02 | 111-060-425 |
| 30 | 192,0 | 180,0 | - | 30 | - | 48 | 9,23 | 110-060-430 |
| 40 | 252,0 | 240,0 | - | 30 | - | 48 | 16,61 | 110-060-440 |
| 60 | 372,0 | 360,0 | - | 40 | - | 48 | 37,70 | 110-060-460 |

Module 8,0
 straight teeth,
 pressure angle 20°
 induction hardened
 Steel: 1.0503 [C45]

Modul 8,0
 geradverzahnt,
 Eingriffswinkel 20°
 induktiv gehärtet
 Stahl: 1.0503 [C 45]

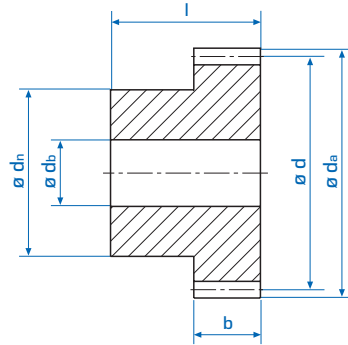
| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 136,0 | 120,0 | 80 | 25 | 95 | 64 | 7,24 | 111-080-415 |
| 20 | 176,0 | 160,0 | 100 | 30 | 95 | 64 | 12,80 | 111-080-420 |
| 25 | 216,0 | 200,0 | 125 | 30 | 95 | 64 | 21,50 | 111-080-425 |
| 30 | 256,0 | 240,0 | - | 30 | - | 64 | 39,00 | 110-080-430 |
| 40 | 336,0 | 320,0 | - | 40 | - | 64 | 52,50 | 110-080-440 |
| 60 | 496,0 | 480,0 | - | 50 | - | 64 | 72,50 | 110-080-460 |

Stirnräder rostfrei

Spur gears stainless steel

Module 1,0
 straight teeth,
 pressure angle 20°
 stainless steel
 Steel: 1.4305
 [X8 CrNiS 18-9]

Modul 1,0
 geradverzahnt,
 Eingriffswinkel 20°
 rostfrei
 Stahl: 1.4305
 [X8 CrNiS 18-9]



| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 17,0 | 15,0 | 12 | 5 | 18 | 8 | 0,016 | 111-010-615 |
| 20 | 22,0 | 20,0 | 15 | 6 | 18 | 8 | 0,027 | 111-010-620 |
| 25 | 27,0 | 25,0 | 18 | 6 | 18 | 8 | 0,045 | 111-010-625 |
| 30 | 32,0 | 30,0 | 20 | 8 | 18 | 8 | 0,059 | 111-010-630 |
| 40 | 42,0 | 40,0 | 25 | 8 | 18 | 8 | 0,108 | 111-010-640 |
| 60 | 62,0 | 60,0 | 40 | 10 | 18 | 8 | 0,260 | 111-010-660 |

Module 1,5
 straight teeth,
 pressure angle 20°
 stainless steel
 Steel: 1.4305
 [X8 CrNiS 18-9]

Modul 1,5
 geradverzahnt,
 Eingriffswinkel 20°
 rostfrei
 Stahl: 1.4305
 [X8 CrNiS 18-9]

| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 25,5 | 22,5 | 18 | 6 | 25 | 12 | 0,057 | 111-015-615 |
| 20 | 33,0 | 30,0 | 20 | 8 | 25 | 12 | 0,097 | 111-015-620 |
| 25 | 40,5 | 37,5 | 25 | 8 | 25 | 12 | 0,142 | 111-015-625 |
| 30 | 48,0 | 45,0 | 30 | 10 | 25 | 12 | 0,195 | 111-015-630 |
| 40 | 63,0 | 60,0 | 40 | 10 | 25 | 12 | 0,355 | 111-015-640 |
| 60 | 93,0 | 90,0 | 60 | 12 | 25 | 12 | 0,815 | 111-015-660 |

Module 2,0
 straight teeth,
 pressure angle 20°
 stainless steel
 Steel: 1.4305
 [X8 CrNiS 18-9]

Modul 2,0
 geradverzahnt,
 Eingriffswinkel 20°
 rostfrei
 Stahl: 1.4305
 [X8 CrNiS 18-9]

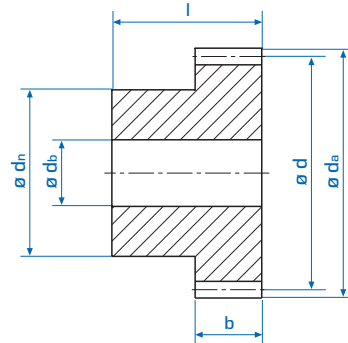
| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 34,0 | 30,0 | 24 | 8 | 30 | 16 | 0,118 | 111-020-615 |
| 20 | 44,0 | 40,0 | 28 | 10 | 30 | 16 | 0,195 | 111-020-620 |
| 25 | 54,0 | 50,0 | 30 | 10 | 30 | 16 | 0,285 | 111-020-625 |
| 30 | 64,0 | 60,0 | 40 | 12 | 30 | 16 | 0,448 | 111-020-630 |
| 40 | 84,0 | 80,0 | 50 | 12 | 30 | 16 | 0,760 | 111-020-640 |
| 60 | 124,0 | 120,0 | 80 | 15 | 30 | 16 | 1,910 | 111-020-660 |

Stirnräder rostfrei

Spur gears stainless steel

Module 3,0
 straight teeth,
 pressure angle 20°
 stainless steel
Steel: 1.4305
 [X8 CrNiS 18-9]

Modul 3,0
 geradverzahnt,
 Eingriffswinkel 20°
 rostfrei
Stahl: 1.4305
 [X8 CrNiS 18-9]



| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|-------|-------------------------|
| 15 | 51,0 | 45,0 | 30 | 12 | 40 | 25 | 0,375 | 111-030-615 |
| 20 | 66,0 | 60,0 | 40 | 15 | 40 | 25 | 0,600 | 111-030-620 |
| 25 | 81,0 | 75,0 | 50 | 15 | 40 | 25 | 0,955 | 111-030-625 |
| 30 | 96,0 | 90,0 | 60 | 20 | 40 | 25 | 1,450 | 111-030-630 |
| 40 | 126,0 | 120,0 | 80 | 20 | 40 | 25 | 2,680 | 111-030-640 |
| 60 | 186,0 | 180,0 | - | 25 | - | 25 | 4,840 | 110-030-660 |

Module 4,0
 straight teeth,
 pressure angle 20°
 stainless steel
Steel: 1.4305
 [X8 CrNiS 18-9]

Modul 4,0
 geradverzahnt,
 Eingriffswinkel 20°
 rostfrei
Stahl: 1.4305
 [X8 CrNiS 18-9]

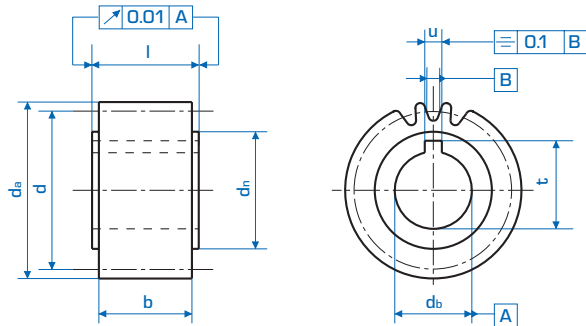
| Zähnez. No. teeth | d_a | d | d_n | d_b | l | b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|-----|--------|-------------------------|
| 15 | 68,0 | 60,0 | 45 | 15 | 50 | 32 | 0,796 | 111-040-615 |
| 20 | 88,0 | 80,0 | 50 | 20 | 50 | 32 | 1,383 | 111-040-620 |
| 25 | 108,0 | 100,0 | 60 | 20 | 50 | 32 | 2,220 | 111-040-625 |
| 30 | 128,0 | 120,0 | 80 | 25 | 50 | 32 | 3,290 | 111-040-630 |
| 40 | 168,0 | 160,0 | - | 25 | - | 32 | 4,920 | 110-040-640 |
| 60 | 248,0 | 240,0 | - | 30 | - | 32 | 11,060 | 110-040-660 |

Stirnräder mit geschliffenen Zahnflanken, geradverzahnt

Spur gears with straight ground teeth

Module 2,0
 straight teeth,
 pressure angle 20°
 toothing quality 7e25
 case hardened
 ground teeth
 Steel: 1.7131
 [16MnCr5]

Modul 2,0
 geradverzahnt
 Eingriffswinkel 20°
 Verzahnungsqualität 7e25
 einsatzgehärtet
 Verzahnung geschliffen
 Stahl: 1.7131
 [16MnCr5]



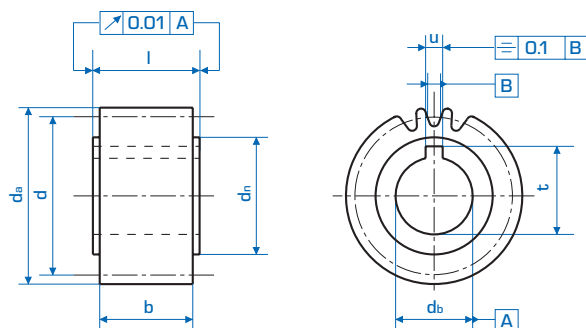
| Zähnez. No. teeth | d_a | d | d_b^{H6} | d_n | b | l | u | t | Bestell-Nr. Part-No. |
|----------------------|-------|-------|------------|-------|-----|-----|-----|------|-------------------------|
| 16 | 36,0 | 32,0 | 15 | 25 | 28 | 30 | 5 | 17,3 | 113-120-516 |
| 22 | 48,0 | 44,0 | 15 | 25 | 28 | 30 | 5 | 17,3 | 113-120-522 |
| 18 | 40,0 | 36,0 | 20 | 25 | 28 | 30 | 6 | 22,8 | 113-220-018 |
| 20 | 44,0 | 40,0 | 20 | 30 | 28 | 30 | 6 | 22,8 | 113-220-020 |
| 22 | 48,0 | 44,0 | 20 | 30 | 28 | 30 | 6 | 22,8 | 113-220-022 |
| 25 | 54,0 | 50,0 | 20 | 30 | 28 | 30 | 6 | 22,8 | 113-220-025 |
| 28 | 60,0 | 56,0 | 20 | 30 | 28 | 30 | 6 | 22,8 | 113-220-028 |
| 32 | 68,0 | 64,0 | 20 | 30 | 28 | 30 | 6 | 22,8 | 113-220-032 |
| 22 | 48,0 | 44,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-220-522 |
| 25 | 54,0 | 50,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-220-525 |
| 28 | 60,0 | 56,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-220-528 |
| 32 | 68,0 | 64,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-220-532 |
| 36 | 76,0 | 72,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-220-536 |
| 40 | 84,0 | 80,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-220-540 |
| 25 | 54,0 | 50,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-320-025 |
| 28 | 60,0 | 56,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-320-028 |
| 32 | 68,0 | 64,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-320-032 |
| 36 | 76,0 | 72,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-320-036 |
| 40 | 84,0 | 80,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-320-040 |
| 28 | 60,0 | 56,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-320-528 |
| 32 | 68,0 | 64,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-320-532 |
| 36 | 76,0 | 72,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-320-536 |
| 40 | 84,0 | 80,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-320-540 |
| 45 | 94,0 | 90,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-320-545 |
| 50 | 104,0 | 100,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-320-550 |
| 36 | 76,0 | 72,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-420-536 |
| 40 | 84,0 | 80,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-420-540 |
| 45 | 94,0 | 90,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-420-545 |
| 50 | 104,0 | 100,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-420-550 |

Stirnräder mit geschliffenen Zahnflanken, geradverzahnt

Spur gears with straight ground teeth

Module 3,0
 straight teeth,
 pressure angle 20°
 toothing quality 7e25
 case hardened
 ground teeth
 Steel: 1.7131
 [16MnCr5]

Modul 3,0
 geradverzahnt
 Eingriffswinkel 20°
 Verzahnungsqualität 7e25
 einsatzgehärtet
 Verzahnung geschliffen
 Stahl: 1.7131
 [16MnCr5]



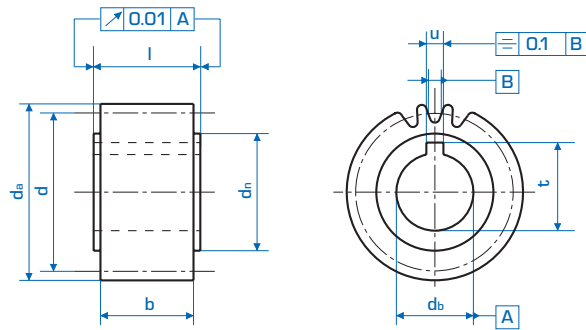
| Zähnez. No. teeth | d_a | d | d_b^{H6} | d_n | b | l | u | t | Bestell-Nr. Part-No. |
|----------------------|-------|-------|------------|-------|-----|-----|-----|------|-------------------------|
| 18 | 60,0 | 54,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-230-518 |
| 20 | 66,0 | 60,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-230-520 |
| 22 | 72,0 | 66,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-230-522 |
| 25 | 81,0 | 75,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-230-525 |
| 28 | 90,0 | 84,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-230-528 |
| 32 | 102,0 | 96,0 | 25 | 36 | 28 | 30 | 8 | 28,3 | 113-230-532 |
| | | | | | | | | | |
| 20 | 66,0 | 60,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-330-020 |
| 22 | 72,0 | 66,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-330-022 |
| 25 | 81,0 | 75,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-330-025 |
| 28 | 90,0 | 84,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-330-028 |
| 32 | 102,0 | 96,0 | 30 | 45 | 28 | 30 | 8 | 33,3 | 113-330-032 |
| | | | | | | | | | |
| 20 | 66,0 | 60,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-330-520 |
| 22 | 72,0 | 66,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-330-522 |
| 25 | 81,0 | 75,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-330-525 |
| 28 | 90,0 | 84,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-330-528 |
| 32 | 102,0 | 96,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-330-532 |
| 36 | 114,0 | 108,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-330-536 |
| 40 | 126,0 | 120,0 | 35 | 48 | 28 | 30 | 10 | 38,3 | 113-330-540 |
| | | | | | | | | | |
| 25 | 81,0 | 75,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-430-525 |
| 28 | 90,0 | 84,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-430-528 |
| 32 | 102,0 | 96,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-430-532 |
| 36 | 114,0 | 108,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-430-536 |
| 40 | 126,0 | 120,0 | 45 | 58 | 28 | 30 | 14 | 48,8 | 113-430-540 |

Stirnräder mit geschliffenen Zahnflanken, geradverzahnt

Spur gears with straight ground teeth

Module 4,0
 straight teeth,
 pressure angle 20°
 toothing quality 7e25
 case hardened
 ground teeth
 Steel: 1.7131
 [16MnCr5]

Modul 4,0
 geradverzahnt
 Eingriffswinkel 20°
 Verzahnungsqualität 7e25
 einsatzgehärtet
 Verzahnung geschliffen
 Stahl: 1.7131
 [16MnCr5]



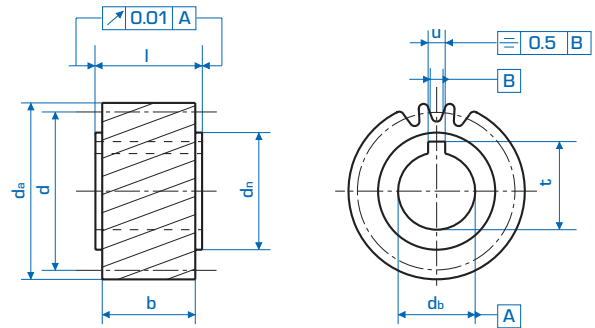
| Zähnez. No. teeth | d_a | d | d_b^{H6} | d_n | b | l | u | t | Bestell-Nr. Part-No. |
|----------------------|-------|-------|------------|-------|-----|-----|-----|------|-------------------------|
| 20 | 88,0 | 80,0 | 35 | 52 | 40 | 50 | 10 | 38,3 | 113-340-520 |
| 22 | 96,0 | 88,0 | 35 | 52 | 40 | 50 | 10 | 38,3 | 113-340-522 |
| 25 | 108,0 | 100,0 | 35 | 52 | 40 | 50 | 10 | 38,3 | 113-340-525 |
| 28 | 120,0 | 112,0 | 35 | 52 | 40 | 50 | 10 | 38,3 | 113-340-528 |
| 32 | 136,0 | 128,0 | 35 | 52 | 40 | 50 | 10 | 38,3 | 113-340-532 |
| 20 | 88,0 | 80,0 | 45 | 65 | 40 | 50 | 14 | 48,8 | 113-440-520 |
| 22 | 96,0 | 88,0 | 45 | 65 | 40 | 50 | 14 | 48,8 | 113-440-522 |
| 25 | 108,0 | 100,0 | 45 | 65 | 40 | 50 | 14 | 48,8 | 113-440-525 |
| 28 | 120,0 | 112,0 | 45 | 65 | 40 | 50 | 14 | 48,8 | 113-440-528 |
| 32 | 136,0 | 128,0 | 45 | 65 | 40 | 50 | 14 | 48,8 | 113-440-532 |
| 40 | 168,0 | 160,0 | 45 | 65 | 40 | 50 | 14 | 48,8 | 113-440-540 |
| 40 | 168,0 | 160,0 | 60 | 80 | 40 | 50 | 18 | 64,3 | 113-640-040 |

Stirnräder mit geschliffenen Zahnflanken, schrägverzahnt

Spur gears with ground teeth, helical

Module 2,0
helical, left hand,
helix angle 19° 31' 42"
toothing quality 7e25
case hardened
ground teeth
Steel: 1.7131
[16MnCr5]

Modul 2,0
 schrägverzahnt, linkssteigend
 Schrägungswinkel 19° 31' 42"
 Verzahnungsqualität 7e25
 einsatzgehärtet
 Verzahnung geschliffen
Stahl: 1.7131
[16MnCr5]



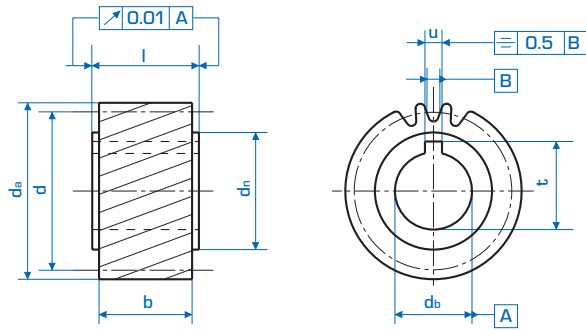
| Zähnez. No. teeth | d_a | d | d_b^{H6} | d_n | b | l | u | t | Bestell-Nr. Part-No. |
|----------------------|-------|-------|------------|-------|-----|-----|-----|------|-------------------------|
| 20 | 46,4 | 42,44 | 20 | 30 | 28 | 30 | 6 | 22,8 | 123-220-020 |
| 25 | 57,1 | 53,05 | 20 | 30 | 28 | 30 | 6 | 22,8 | 123-220-025 |
| 32 | 71,9 | 67,91 | 20 | 30 | 28 | 30 | 6 | 22,8 | 123-220-032 |
| 25 | 57,1 | 53,05 | 25 | 36 | 28 | 30 | 8 | 28,3 | 123-220-525 |
| 30 | 67,7 | 63,66 | 25 | 36 | 28 | 30 | 8 | 28,3 | 123-220-530 |
| 32 | 71,9 | 67,91 | 25 | 36 | 28 | 30 | 8 | 28,3 | 123-220-532 |
| 30 | 67,7 | 63,66 | 30 | 45 | 28 | 30 | 8 | 33,3 | 123-320-030 |
| 28 | 63,4 | 59,42 | 35 | 48 | 28 | 30 | 10 | 38,3 | 123-320-528 |
| 32 | 71,9 | 67,91 | 35 | 48 | 28 | 30 | 10 | 38,3 | 123-320-532 |
| 36 | 80,4 | 76,39 | 35 | 48 | 28 | 30 | 10 | 38,3 | 123-320-536 |
| 40 | 88,9 | 84,88 | 35 | 48 | 28 | 30 | 10 | 38,3 | 123-320-540 |

Stirnräder mit geschliffenen Zahnflanken, schrägverzahnt

Spur gears with ground teeth, helical

Module 3,0
helical, left hand,
helix angle 19° 31' 42"
toothing quality 7e25
case hardened
ground teeth
Steel: 1.7131
[16MnCr5]

Modul 3,0
 schrägverzahnt, linkssteigend
 Schrägungswinkel 19° 31' 42"
 Verzahnungsqualität 7e25
 einsatzgehärtet
 Verzahnung geschliffen
Stahl: 1.7131
[16MnCr5]



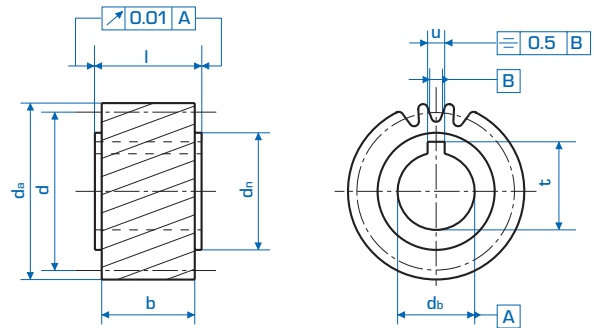
| Zähnez. No. teeth | d_a | d | d_b^{H6} | d_n | b | l | u | t | Bestell-Nr. Part-No. |
|----------------------|-------|-------|------------|-------|-----|-----|-----|------|-------------------------|
| 22 | 76,0 | 70,03 | 25 | 36 | 28 | 30 | 8 | 28,3 | 123-230-522 |
| 25 | 85,6 | 79,58 | 25 | 36 | 28 | 30 | 8 | 28,3 | 123-230-525 |
| 20 | 69,7 | 63,66 | 30 | 45 | 28 | 30 | 8 | 33,3 | 123-330-020 |
| 22 | 76,0 | 70,03 | 30 | 45 | 28 | 30 | 8 | 33,3 | 123-330-022 |
| 25 | 85,6 | 79,58 | 30 | 45 | 28 | 30 | 8 | 33,3 | 123-330-025 |
| 20 | 69,7 | 63,66 | 35 | 48 | 28 | 30 | 10 | 38,3 | 123-330-520 |
| 22 | 76,0 | 70,03 | 35 | 48 | 28 | 30 | 10 | 38,3 | 123-330-522 |
| 25 | 85,6 | 79,58 | 35 | 48 | 28 | 30 | 10 | 38,3 | 123-330-525 |

Stirnräder mit geschliffenen Zahnflanken, schrägverzahnt

Spur gears with ground teeth, helical

Module 4,0
helical, left hand,
helix angle 19° 31' 42"
toothing quality 7e25
case hardened
ground teeth
Steel: 1.7131
[16MnCr5]

Modul 4,0
 schrägverzahnt, linkssteigend
 Schrägungswinkel 19° 31' 42"
 Verzahnungsqualität 7e25
 einsatzgehärtet
 Verzahnung geschliffen
Stahl: 1.7131
[16MnCr5]



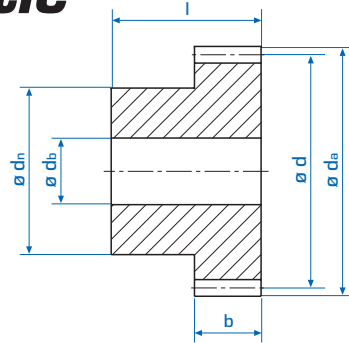
| Zähnez. No. teeth | d_a | d | d_b^{H6} | d_n | b | l | u | t | Bestell-Nr. Part-No. |
|----------------------|-------|--------|------------|-------|-----|-----|-----|------|-------------------------|
| 15 | 71,7 | 63,66 | 35 | 48 | 40 | 50 | 10 | 38,3 | 123-340-515 |
| 20 | 92,9 | 84,88 | 35 | 48 | 40 | 50 | 10 | 38,3 | 123-340-520 |
| 22 | 101,4 | 93,70 | 35 | 52 | 40 | 50 | 10 | 38,3 | 123-340-522 |
| 25 | 114,1 | 106,10 | 35 | 48 | 40 | 50 | 10 | 38,3 | 123-340-525 |
| 20 | 92,9 | 84,88 | 45 | 58 | 40 | 50 | 14 | 48,8 | 123-440-520 |
| 22 | 101,4 | 93,70 | 45 | 65 | 40 | 50 | 14 | 48,8 | 123-440-522 |
| 25 | 114,1 | 106,10 | 45 | 58 | 40 | 50 | 14 | 48,8 | 123-440-525 |

Stirnräder Kunststoff spanabhebend bearbeitet

Spur gears synthetic mat. machined

Module 1,0
 straight teeth,
 pressure angle 20°
 Length overall $l = 18$ mm
 Polyamid PA 6

Modul 1,0
 geradverzahnt,
 Eingriffswinkel 20°
 Gesamthöhe $l = 18$ mm
 Nylon P 6

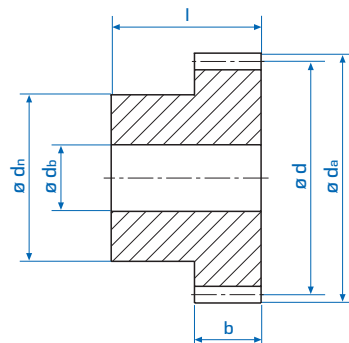


b = 8 mm

| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-------|-------------------------|
| 15 | 17,0 | 15,0 | 12 | 5 | 0,002 | 118-010-015 |
| 16 | 18,0 | 16,0 | 12 | 5 | 0,002 | 118-010-016 |
| 18 | 20,0 | 18,0 | 15 | 6 | 0,003 | 118-010-018 |
| 20 | 22,0 | 20,0 | 15 | 6 | 0,004 | 118-010-020 |
| 24 | 26,0 | 24,0 | 18 | 6 | 0,006 | 118-010-024 |
| 25 | 27,0 | 25,0 | 18 | 6 | 0,006 | 118-010-025 |

Module 1,5
 straight teeth,
 pressure angle 20°
 Length overall $l = 25$ mm
 Polyamid PA 6

Modul 1,5
 geradverzahnt,
 Eingriffswinkel 20°
 Gesamthöhe $l = 25$ mm
 Nylon P 6



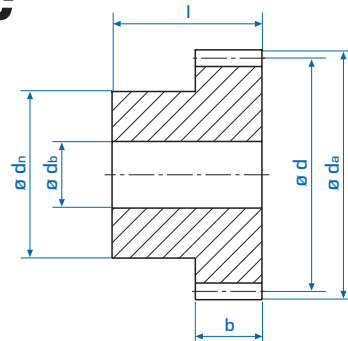
b = 12 mm

| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-------|-------------------------|
| 15 | 25,5 | 22,5 | 18 | 6 | 0,008 | 118-015-015 |
| 16 | 27,0 | 24,0 | 18 | 6 | 0,009 | 118-015-016 |
| 18 | 30,0 | 27,0 | 20 | 8 | 0,011 | 118-015-018 |
| 20 | 33,0 | 30,0 | 20 | 8 | 0,013 | 118-015-020 |
| 24 | 39,0 | 36,0 | 25 | 8 | 0,019 | 118-015-024 |
| 25 | 40,5 | 37,5 | 25 | 8 | 0,021 | 118-015-025 |



Stirnräder Kunststoff spanabhebend bearbeitet

Spur gears synthetic mat. machined

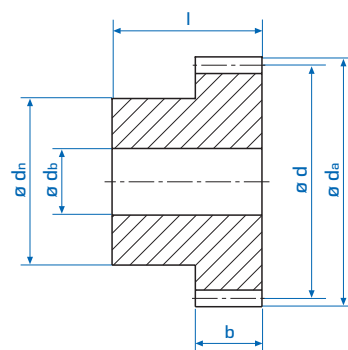


Module 2,0
straight teeth,
pressure angle 20°
Length overall l = 30 mm
Polyamid PA 6

Modul 2,0
geradverzahnt,
Eingriffswinkel 20°
Gesamthöhe l = 30 mm
Nylon P 6

b = 16 mm

| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-------|-------------------------|
| 15 | 34,0 | 30,0 | 25 | 8 | 0,018 | 118-020-015 |
| 16 | 36,0 | 32,0 | 25 | 8 | 0,020 | 118-020-016 |
| 18 | 40,0 | 36,0 | 28 | 10 | 0,025 | 118-020-018 |
| 20 | 44,0 | 40,0 | 28 | 10 | 0,029 | 118-020-020 |
| 24 | 52,0 | 48,0 | 30 | 10 | 0,041 | 118-020-024 |
| 25 | 54,0 | 50,0 | 30 | 10 | 0,043 | 118-020-025 |



Module 2,5
straight teeth,
pressure angle 20°
Length overall l = 35 mm
Polyamid PA 6

Modul 2,5
geradverzahnt,
Eingriffswinkel 20°
Gesamthöhe l = 35 mm
Nylon P 6

b = 20 mm

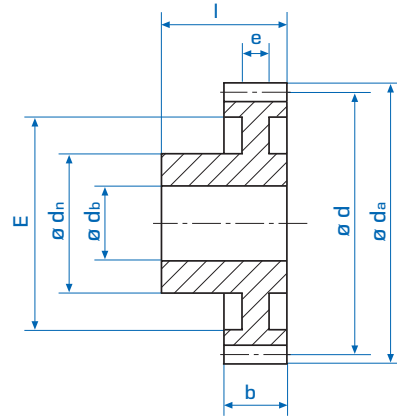
| Zähnez. No. teeth | d_a | d | d_n | d_b | [kg] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-------|-------------------------|
| 15 | 42,5 | 37,5 | 25 | 10 | 0,030 | 118-025-015 |
| 16 | 45,0 | 40,0 | 25 | 10 | 0,033 | 118-025-016 |
| 18 | 50,0 | 45,0 | 30 | 12 | 0,043 | 118-025-018 |
| 20 | 55,0 | 50,0 | 30 | 12 | 0,051 | 118-025-020 |
| 24 | 65,0 | 60,0 | 40 | 12 | 0,080 | 118-025-024 |
| 25 | 67,5 | 62,5 | 40 | 12 | 0,085 | 118-025-025 |

Stirnräder Kunststoff gespritzt

Moulded Spur gears

Module 0,5
 straight teeth
 Injection moulded
 Acetal Resin
 [Hostaform C]

Modul 0,5
 geradverzahnt
 Azetalharz [Hostaform C]



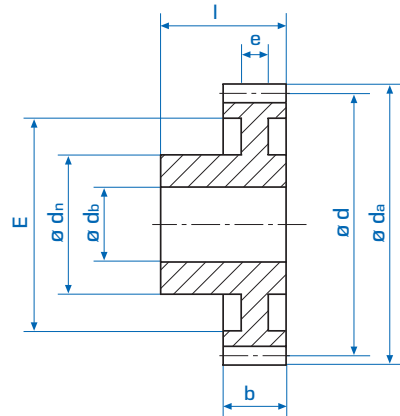
| Zähnez. No. teeth | d_a | d | d_n | d_b | e | E | b | l | [g] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-----|------|-----|-----|-----|-------------------------|
| 12 | 7,0 | 6,0 | 4 | 2 | - | - | 3 | 7 | 0,7 | 119-005-012 |
| 13 | 7,5 | 6,5 | 4 | 2 | - | - | 3 | 7 | 0,8 | 119-005-013 |
| 14 | 8,0 | 7,0 | 5 | 2 | - | - | 3 | 7 | 1 | 119-005-014 |
| 15 | 8,5 | 7,5 | 6 | 3 | - | - | 3 | 10 | 1 | 119-005-015 |
| 16 | 9,0 | 8,0 | 6 | 3 | - | - | 3 | 10 | 1 | 119-005-016 |
| 17 | 9,5 | 8,5 | 6 | 3 | - | - | 3 | 10 | 1 | 119-005-017 |
| 18 | 10,0 | 9,0 | 8 | 4 | - | - | 3 | 10 | 1 | 119-005-018 |
| 19 | 10,5 | 9,5 | 8 | 4 | - | - | 3 | 10 | 2 | 119-005-019 |
| 20 | 11,0 | 10,0 | 8 | 4 | - | - | 3 | 10 | 2 | 119-005-020 |
| 21 | 11,5 | 10,5 | 8 | 4 | - | - | 3 | 10 | 2 | 119-005-021 |
| 22 | 12,0 | 11,0 | 10 | 4 | - | - | 3 | 10 | 2 | 119-005-022 |
| 23 | 12,5 | 11,5 | 10 | 4 | - | - | 3 | 10 | 2 | 119-005-023 |
| 24 | 13,0 | 12,0 | 10 | 4 | - | - | 3 | 10 | 2 | 119-005-024 |
| 25 | 13,5 | 12,5 | 10 | 4 | - | - | 3 | 10 | 2 | 119-005-025 |
| 26 | 14,0 | 13,0 | 10 | 4 | - | - | 3 | 10 | 2 | 119-005-026 |
| 27 | 14,5 | 13,5 | 10 | 4 | - | - | 3 | 10 | 3 | 119-005-027 |
| 28 | 15,0 | 14,0 | 10 | 4 | - | - | 3 | 10 | 3 | 119-005-028 |
| 30 | 16,0 | 15,0 | 12 | 4 | - | - | 3 | 10 | 3 | 119-005-030 |
| 32 | 17,0 | 16,0 | 12 | 4 | - | - | 3 | 10 | 3 | 119-005-032 |
| 35 | 18,5 | 17,5 | 12 | 4 | - | - | 3 | 10 | 3 | 119-005-035 |
| 36 | 19,0 | 18,0 | 12 | 4 | - | - | 3 | 10 | 3 | 119-005-036 |
| 38 | 20,0 | 19,0 | 12 | 4 | - | - | 3 | 10 | 3 | 119-005-038 |
| 40 | 21,0 | 20,0 | 12 | 4 | 2 | 14,5 | 3 | 10 | 3 | 119-005-040 |
| 42 | 22,0 | 21,0 | 12 | 4 | 2 | 16,0 | 3 | 10 | 3 | 119-005-042 |
| 45 | 23,5 | 22,5 | 12 | 4 | 2 | 18,5 | 3 | 10 | 4 | 119-005-045 |
| 48 | 25,0 | 24,0 | 15 | 6 | 2 | 19,0 | 3 | 10 | 4 | 119-005-048 |
| 50 | 26,0 | 25,0 | 15 | 6 | 2 | 20,0 | 3 | 10 | 4 | 119-005-050 |
| 52 | 27,0 | 26,0 | 15 | 6 | 2 | 21,0 | 3 | 10 | 4 | 119-005-052 |
| 54 | 28,0 | 27,0 | 15 | 6 | 2 | 22,0 | 3 | 10 | 4 | 119-005-054 |
| 55 | 28,5 | 27,5 | 15 | 6 | 2 | 23,0 | 3 | 10 | 4 | 119-005-055 |
| 56 | 29,0 | 28,0 | 15 | 6 | 2 | 23,0 | 3 | 10 | 4 | 119-005-056 |
| 60 | 31,0 | 30,0 | 15 | 6 | 2 | 24,0 | 3 | 10 | 5 | 119-005-060 |
| 64 | 33,0 | 32,0 | 15 | 6 | 2 | 25,0 | 3 | 10 | 5 | 119-005-064 |
| 65 | 33,5 | 32,5 | 15 | 6 | 2 | 27,0 | 3 | 10 | 5 | 119-005-065 |
| 70 | 36,0 | 35,0 | 15 | 6 | 2 | 29,0 | 3 | 10 | 5 | 119-005-070 |
| 72 | 37,0 | 36,0 | 15 | 6 | 2 | 30,0 | 3 | 10 | 6 | 119-005-072 |
| 75 | 38,5 | 37,5 | 15 | 6 | 2 | 33,0 | 3 | 10 | 6 | 119-005-075 |
| 80 | 41,0 | 40,0 | 15 | 6 | 2 | 36,0 | 3 | 10 | 6 | 119-005-080 |
| 90 | 46,0 | 45,0 | 15 | 6 | 2 | 39,0 | 3 | 10 | 6 | 119-005-090 |
| 96 | 49,0 | 48,0 | 15 | 6 | 2 | 42,0 | 3 | 10 | 7 | 119-005-096 |
| 100 | 51,0 | 50,0 | 15 | 6 | 2 | 44,0 | 3 | 10 | 8 | 119-005-100 |
| 120 | 61,0 | 60,0 | 15 | 6 | 2 | 54,0 | 3 | 10 | 10 | 119-005-120 |

Stirnräder Kunststoff gespritzt

Moulded Spur gears

Module 0,7
 straight teeth
 Injection moulded
 Acetal Resin
 [Hostaform C]

Modul 0,7
 geradverzahnt
 Azetalharz [Hostaform C]



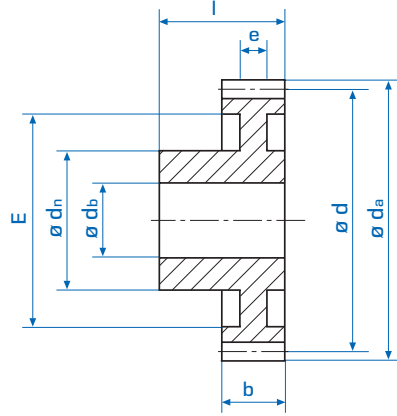
| Zähnez. | No. teeth | d_a | d | d_n | d_b | e | E | b | l | [g] | Bestell Nr. Part No. |
|---------|-----------|-------|----|-------|-------|------|---|----|----|-------------|-------------------------|
| 12 | 9,8 | 8,4 | 6 | 3 | - | - | 6 | 15 | 1 | 119-007-012 | |
| 13 | 10,5 | 9,1 | 6 | 3 | - | - | 6 | 15 | 1 | 119-007-013 | |
| 14 | 11,2 | 9,8 | 6 | 3 | - | - | 6 | 15 | 2 | 119-007-014 | |
| 15 | 11,9 | 10,5 | 6 | 3 | - | - | 6 | 15 | 2 | 119-007-015 | |
| 16 | 12,6 | 11,2 | 9 | 4 | - | - | 6 | 15 | 2 | 119-007-016 | |
| 17 | 13,3 | 11,9 | 9 | 4 | - | - | 6 | 15 | 2 | 119-007-017 | |
| 18 | 14,0 | 12,6 | 9 | 4 | - | - | 6 | 15 | 3 | 119-007-018 | |
| 19 | 14,7 | 13,3 | 9 | 4 | - | - | 6 | 15 | 3 | 119-007-019 | |
| 20 | 15,4 | 14,0 | 9 | 4 | - | - | 6 | 15 | 3 | 119-007-020 | |
| 21 | 16,1 | 14,7 | 9 | 4 | - | - | 6 | 15 | 3 | 119-007-021 | |
| 22 | 16,8 | 15,4 | 9 | 4 | - | - | 6 | 15 | 3 | 119-007-022 | |
| 23 | 17,5 | 16,1 | 9 | 4 | - | - | 6 | 15 | 3 | 119-007-023 | |
| 24 | 18,2 | 16,8 | 9 | 4 | 3 | 13,5 | 6 | 15 | 4 | 119-007-024 | |
| 25 | 18,9 | 17,5 | 9 | 6 | 3 | 13,5 | 6 | 15 | 4 | 119-007-025 | |
| 26 | 19,6 | 18,2 | 9 | 6 | 3 | 13,5 | 6 | 15 | 4 | 119-007-026 | |
| 27 | 20,3 | 18,9 | 9 | 6 | 3 | 13,5 | 6 | 15 | 4 | 119-007-027 | |
| 28 | 21,0 | 19,6 | 9 | 6 | 3 | 13,5 | 6 | 15 | 5 | 119-007-028 | |
| 30 | 22,4 | 21,0 | 12 | 6 | 3 | 16,0 | 6 | 15 | 5 | 119-007-030 | |
| 32 | 23,8 | 22,4 | 12 | 6 | 3 | 16,0 | 6 | 15 | 5 | 119-007-032 | |
| 35 | 25,9 | 24,5 | 15 | 6 | 3 | 19,0 | 6 | 15 | 6 | 119-007-035 | |
| 36 | 26,6 | 25,2 | 15 | 6 | 3 | 19,0 | 6 | 15 | 6 | 119-007-036 | |
| 38 | 28,0 | 26,6 | 15 | 6 | 3 | 21,5 | 6 | 15 | 7 | 119-007-038 | |
| 40 | 29,4 | 28,0 | 15 | 6 | 3 | 21,5 | 6 | 15 | 7 | 119-007-040 | |
| 42 | 30,8 | 29,4 | 18 | 6 | 2 | 24,5 | 6 | 15 | 8 | 119-007-042 | |
| 45 | 32,9 | 31,5 | 18 | 6 | 2 | 24,5 | 6 | 15 | 8 | 119-007-045 | |
| 48 | 35,0 | 33,6 | 18 | 8 | 2 | 24,5 | 6 | 15 | 9 | 119-007-048 | |
| 50 | 36,4 | 35,0 | 18 | 8 | 2 | 28,0 | 6 | 15 | 9 | 119-007-050 | |
| 52 | 37,8 | 36,4 | 18 | 8 | 2 | 28,0 | 6 | 15 | 10 | 119-007-052 | |
| 54 | 39,2 | 37,8 | 18 | 8 | 2 | 28,0 | 6 | 15 | 10 | 119-007-054 | |
| 55 | 39,9 | 38,5 | 18 | 8 | 2 | 31,0 | 6 | 15 | 11 | 119-007-055 | |
| 56 | 40,6 | 39,2 | 18 | 8 | 2 | 31,0 | 6 | 15 | 11 | 119-007-056 | |
| 60 | 43,4 | 42,0 | 18 | 8 | 2 | 31,0 | 6 | 15 | 12 | 119-007-060 | |
| 64 | 46,2 | 44,8 | 18 | 8 | 2 | 37,5 | 6 | 15 | 12 | 119-007-064 | |
| 65 | 46,9 | 45,5 | 18 | 8 | 2 | 37,5 | 6 | 15 | 13 | 119-007-065 | |
| 70 | 50,4 | 49,0 | 18 | 8 | 2 | 37,5 | 6 | 15 | 14 | 119-007-070 | |
| 72 | 51,8 | 50,4 | 18 | 8 | 2 | 37,5 | 6 | 15 | 16 | 119-007-072 | |
| 75 | 53,9 | 52,5 | 18 | 10 | 2 | 37,5 | 6 | 15 | 17 | 119-007-075 | |
| 80 | 57,4 | 56,0 | 21 | 10 | 2 | 47,0 | 6 | 15 | 18 | 119-007-080 | |
| 90 | 64,4 | 63,0 | 21 | 10 | 2 | 56,5 | 6 | 15 | 19 | 119-007-090 | |
| 96 | 68,6 | 67,2 | 21 | 10 | 2 | 56,5 | 6 | 15 | 20 | 119-007-096 | |
| 100 | 71,4 | 70,0 | 21 | 10 | 2 | 56,5 | 6 | 15 | 22 | 119-007-100 | |
| 120 | 85,4 | 84,0 | 21 | 10 | 2 | 77,0 | 6 | 15 | 25 | 119-007-120 | |

Stirnräder Kunststoff gespritzt

Moulded Spur gears

Module 1,0
 straight teeth
 Injection moulded
 Acetal Resin
 [Hostaform C]

Modul 1,0
 geradzahnt
 Azetalharz [Hostaform C]



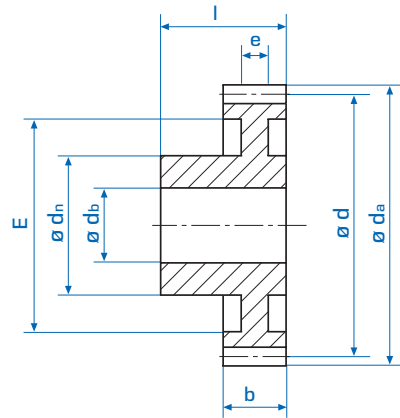
| Zähnez. No. teeth | d_a | d | d_n | d_b | e | E | b | l | [g] | Bestell Nr. Part No. |
|----------------------|-------|-----|-------|-------|-----|------|-----|-----|-----|-------------------------|
| 12 | 14 | 12 | 9 | 4 | - | - | 9 | 17 | 2 | 119-010-012 |
| 13 | 15 | 13 | 9 | 4 | - | - | 9 | 17 | 2 | 119-010-013 |
| 14 | 16 | 14 | 9 | 4 | - | - | 9 | 17 | 3 | 119-010-014 |
| 15 | 17 | 15 | 9 | 4 | - | - | 9 | 17 | 3 | 119-010-015 |
| 16 | 18 | 16 | 9 | 4 | - | - | 9 | 17 | 3 | 119-010-016 |
| 17 | 19 | 17 | 9 | 4 | - | - | 9 | 17 | 4 | 119-010-017 |
| 18 | 20 | 18 | 9 | 4 | 6,0 | 13,5 | 9 | 17 | 4 | 119-010-018 |
| 19 | 21 | 19 | 9 | 4 | 6,0 | 13,5 | 9 | 17 | 4 | 119-010-019 |
| 20 | 22 | 20 | 9 | 4 | 6,0 | 13,5 | 9 | 17 | 4 | 119-010-020 |
| 21 | 23 | 21 | 12 | 5 | 6,0 | 16,0 | 9 | 17 | 5 | 119-010-021 |
| 22 | 24 | 22 | 12 | 5 | 6,0 | 16,0 | 9 | 17 | 6 | 119-010-022 |
| 23 | 25 | 23 | 12 | 5 | 6,0 | 16,0 | 9 | 17 | 6 | 119-010-023 |
| 24 | 26 | 24 | 15 | 6 | 6,0 | 19,0 | 9 | 18 | 7 | 119-010-024 |
| 25 | 27 | 25 | 15 | 6 | 6,0 | 19,0 | 9 | 18 | 8 | 119-010-025 |
| 26 | 28 | 26 | 15 | 6 | 6,0 | 19,0 | 9 | 18 | 8 | 119-010-026 |
| 27 | 29 | 27 | 15 | 6 | 6,0 | 19,0 | 9 | 18 | 9 | 119-010-027 |
| 28 | 30 | 28 | 15 | 6 | 6,0 | 22,0 | 9 | 18 | 9 | 119-010-028 |
| 30 | 32 | 30 | 15 | 6 | 6,0 | 22,0 | 9 | 18 | 10 | 119-010-030 |
| 32 | 34 | 32 | 18 | 6 | 4,6 | 24,5 | 9 | 18 | 12 | 119-010-032 |
| 35 | 37 | 35 | 18 | 8 | 4,6 | 24,5 | 9 | 18 | 14 | 119-010-035 |
| 36 | 38 | 36 | 18 | 8 | 4,6 | 28,0 | 9 | 18 | 15 | 119-010-036 |
| 38 | 40 | 38 | 18 | 8 | 4,6 | 28,0 | 9 | 18 | 15 | 119-010-038 |
| 40 | 42 | 40 | 18 | 8 | 4,6 | 28,0 | 9 | 18 | 16 | 119-010-040 |
| 42 | 44 | 42 | 18 | 8 | 4,6 | 37,0 | 9 | 18 | 17 | 119-010-042 |
| 45 | 47 | 45 | 18 | 8 | 4,6 | 37,0 | 9 | 18 | 18 | 119-010-045 |
| 48 | 50 | 48 | 18 | 8 | 4,6 | 37,0 | 9 | 18 | 20 | 119-010-048 |
| 50 | 52 | 50 | 18 | 8 | 4,6 | 37,0 | 9 | 18 | 23 | 119-010-050 |
| 52 | 54 | 52 | 21 | 8 | 4,6 | 47,0 | 9 | 18 | 25 | 119-010-052 |
| 54 | 56 | 54 | 21 | 8 | 4,6 | 47,0 | 9 | 18 | 27 | 119-010-054 |
| 55 | 57 | 55 | 21 | 8 | 4,6 | 47,0 | 9 | 18 | 28 | 119-010-055 |
| 56 | 58 | 56 | 21 | 8 | 4,6 | 47,0 | 9 | 18 | 30 | 119-010-056 |
| 60 | 62 | 60 | 21 | 8 | 4,6 | 47,0 | 9 | 18 | 32 | 119-010-060 |
| 64 | 66 | 64 | 21 | 10 | 4,6 | 57,0 | 9 | 18 | 32 | 119-010-064 |
| 65 | 67 | 65 | 21 | 10 | 4,6 | 57,0 | 9 | 18 | 33 | 119-010-065 |
| 70 | 72 | 70 | 21 | 10 | 4,6 | 57,0 | 9 | 18 | 40 | 119-010-070 |
| 72 | 74 | 72 | 21 | 10 | 4,6 | 67,0 | 9 | 18 | 43 | 119-010-072 |
| 75 | 77 | 75 | 21 | 10 | 4,6 | 67,0 | 9 | 18 | 46 | 119-010-075 |
| 80 | 82 | 80 | 21 | 10 | 4,6 | 67,0 | 9 | 18 | 49 | 119-010-080 |
| 85 | 87 | 85 | 21 | 10 | 4,6 | 77,0 | 9 | 18 | 54 | 119-010-085 |
| 90 | 92 | 90 | 21 | 10 | 4,6 | 77,0 | 9 | 18 | 59 | 119-010-090 |

Stirnräder Kunststoff gespritzt

Moulded Spur gears

Module 1,25
 straight teeth
 Injection moulded
 Acetal Resin
 [Hostaform C]

Modul 1,25
 geradverzahnt
 Azetalharz [Hostaform C]



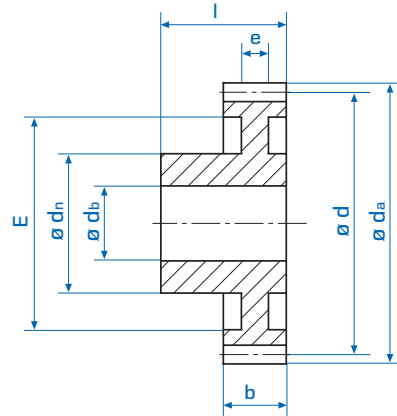
| Zähnez. No. teeth | d_a | d | d_n | d_b | e | E | b | l | [g] | Bestell Nr. Part No. |
|----------------------|-------|-------|-------|-------|-----|------|-----|-----|-----|-------------------------|
| 12 | 17,50 | 15,00 | 9 | 5 | - | - | 10 | 19 | 3 | 119-012-012 |
| 13 | 18,75 | 16,25 | 9 | 5 | - | - | 10 | 19 | 3 | 119-012-013 |
| 14 | 20,00 | 17,50 | 9 | 5 | - | - | 10 | 19 | 4 | 119-012-014 |
| 15 | 21,25 | 18,75 | 9 | 5 | 7,0 | 13,5 | 10 | 19 | 4 | 119-012-015 |
| 16 | 22,50 | 20,00 | 9 | 5 | 7,0 | 13,5 | 10 | 19 | 5 | 119-012-016 |
| 17 | 23,75 | 21,25 | 9 | 5 | 7,0 | 13,5 | 10 | 19 | 6 | 119-012-017 |
| 18 | 25,00 | 22,50 | 12 | 5 | 7,0 | 16,0 | 10 | 19 | 7 | 119-012-018 |
| 19 | 26,25 | 23,75 | 12 | 5 | 7,0 | 16,0 | 10 | 19 | 8 | 119-012-019 |
| 20 | 27,50 | 25,00 | 12 | 5 | 7,0 | 16,0 | 10 | 19 | 8 | 119-012-020 |
| 21 | 28,75 | 26,25 | 15 | 6 | 7,0 | 19,0 | 10 | 19 | 9 | 119-012-021 |
| 22 | 30,00 | 27,50 | 15 | 6 | 7,0 | 19,0 | 10 | 19 | 10 | 119-012-022 |
| 23 | 31,25 | 28,75 | 15 | 6 | 7,0 | 19,0 | 10 | 19 | 11 | 119-012-023 |
| 24 | 32,50 | 30,00 | 15 | 6 | 7,0 | 21,5 | 10 | 19 | 12 | 119-012-024 |
| 25 | 33,75 | 31,25 | 15 | 6 | 7,0 | 21,5 | 10 | 19 | 13 | 119-012-025 |
| 26 | 35,00 | 32,50 | 18 | 6 | 5,5 | 24,0 | 10 | 19 | 15 | 119-012-026 |
| 27 | 36,25 | 33,75 | 18 | 6 | 5,5 | 24,0 | 10 | 19 | 16 | 119-012-027 |
| 28 | 37,50 | 35,00 | 18 | 8 | 5,5 | 24,0 | 10 | 19 | 18 | 119-012-028 |
| 30 | 40,00 | 37,50 | 18 | 8 | 5,5 | 28,0 | 10 | 19 | 19 | 119-012-030 |
| 32 | 42,50 | 40,00 | 18 | 8 | 5,5 | 28,0 | 10 | 19 | 20 | 119-012-032 |
| 35 | 46,25 | 43,75 | 18 | 8 | 5,5 | 28,0 | 10 | 19 | 21 | 119-012-035 |
| 36 | 47,50 | 45,00 | 18 | 8 | 5,5 | 37,5 | 10 | 19 | 23 | 119-012-036 |
| 38 | 50,00 | 47,50 | 18 | 8 | 5,5 | 37,5 | 10 | 19 | 24 | 119-012-038 |
| 40 | 52,50 | 50,00 | 18 | 8 | 5,5 | 37,5 | 10 | 19 | 25 | 119-012-040 |
| 42 | 55,00 | 52,50 | 18 | 8 | 5,5 | 37,5 | 10 | 19 | 27 | 119-012-042 |
| 45 | 58,75 | 56,25 | 21 | 8 | 5,5 | 47,5 | 10 | 19 | 30 | 119-012-045 |
| 48 | 62,50 | 60,00 | 21 | 8 | 5,5 | 47,5 | 10 | 19 | 34 | 119-012-048 |
| 50 | 65,00 | 62,50 | 21 | 8 | 5,5 | 47,5 | 10 | 19 | 38 | 119-012-050 |
| 52 | 67,50 | 65,00 | 21 | 10 | 5,5 | 57,0 | 10 | 19 | 42 | 119-012-052 |
| 54 | 70,00 | 67,50 | 21 | 10 | 5,5 | 57,0 | 10 | 19 | 46 | 119-012-054 |
| 55 | 71,25 | 68,75 | 21 | 10 | 5,5 | 57,0 | 10 | 19 | 49 | 119-012-055 |
| 56 | 72,50 | 70,00 | 21 | 10 | 5,5 | 57,0 | 10 | 19 | 52 | 119-012-056 |
| 60 | 77,50 | 75,00 | 21 | 10 | 5,5 | 67,0 | 10 | 19 | 55 | 119-012-060 |
| 64 | 82,50 | 80,00 | 21 | 10 | 5,5 | 67,0 | 10 | 19 | 63 | 119-012-064 |
| 65 | 83,75 | 81,25 | 21 | 10 | 5,5 | 67,0 | 10 | 19 | 70 | 119-012-065 |
| 70 | 90,00 | 87,50 | 21 | 10 | 5,5 | 77,0 | 10 | 19 | 75 | 119-012-070 |
| 75 | 96,25 | 93,75 | 21 | 10 | 5,5 | 77,0 | 10 | 19 | 80 | 119-012-075 |

Stirnräder Kunststoff gespritzt

Moulded Spur gears

Module 1,5
 straight teeth
 Injection moulded
 Acetal Resin
 [Hostaform C]

Modul 1,5
 geradverzahnt
 Azetalharz [Hostaform C]



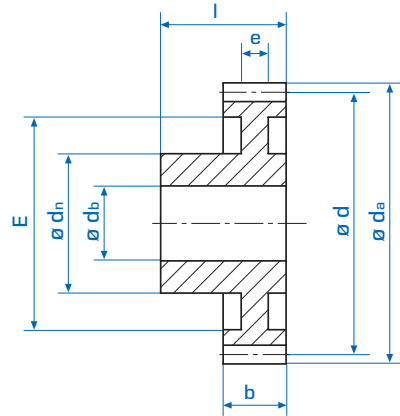
| Zähnez. No. teeth | d_a | d | d_n | d_b | e | E | b | l | [g] | Bestell Nr. Part No. |
|----------------------|-------|------|-------|-------|-----|-----|-----|-----|-----|-------------------------|
| 12 | 21,0 | 18,0 | 14 | 6 | - | - | 12 | 23 | 6 | 119-015-012 |
| 13 | 22,5 | 19,5 | 14 | 6 | - | - | 12 | 23 | 7 | 119-015-013 |
| 14 | 24,0 | 21,0 | 14 | 6 | - | - | 12 | 23 | 8 | 119-015-014 |
| 15 | 25,5 | 22,5 | 14 | 6 | - | - | 12 | 23 | 8 | 119-015-015 |
| 16 | 27,0 | 24,0 | 14 | 6 | - | - | 12 | 23 | 9 | 119-015-016 |
| 17 | 28,5 | 25,5 | 14 | 6 | - | - | 12 | 23 | 11 | 119-015-017 |
| 18 | 30,0 | 27,0 | 17 | 8 | - | - | 12 | 23 | 12 | 119-015-018 |
| 19 | 31,5 | 28,5 | 17 | 8 | - | - | 12 | 23 | 13 | 119-015-019 |
| 20 | 33,0 | 30,0 | 17 | 8 | - | - | 12 | 23 | 14 | 119-015-020 |
| 21 | 34,5 | 31,5 | 17 | 8 | 5 | 23 | 12 | 23 | 14 | 119-015-021 |
| 22 | 36,0 | 33,0 | 17 | 8 | 5 | 23 | 12 | 23 | 15 | 119-015-022 |
| 23 | 37,5 | 34,5 | 17 | 8 | 5 | 23 | 12 | 23 | 17 | 119-015-023 |
| 24 | 39,0 | 36,0 | 19 | 8 | 5 | 27 | 12 | 23 | 17 | 119-015-024 |
| 25 | 40,5 | 37,5 | 19 | 8 | 5 | 27 | 12 | 23 | 18 | 119-015-025 |
| 26 | 42,0 | 39,0 | 19 | 8 | 5 | 27 | 12 | 23 | 20 | 119-015-026 |
| 27 | 43,5 | 40,5 | 19 | 8 | 5 | 27 | 12 | 23 | 22 | 119-015-027 |
| 28 | 45,0 | 42,0 | 19 | 8 | 5 | 27 | 12 | 23 | 25 | 119-015-028 |
| 30 | 48,0 | 45,0 | 24 | 10 | 5 | 35 | 12 | 23 | 27 | 119-015-030 |
| 32 | 51,0 | 48,0 | 24 | 10 | 5 | 35 | 12 | 23 | 29 | 119-015-032 |
| 35 | 55,5 | 52,5 | 24 | 10 | 5 | 43 | 12 | 23 | 31 | 119-015-035 |
| 36 | 57,0 | 54,0 | 24 | 10 | 5 | 43 | 12 | 23 | 34 | 119-015-036 |
| 38 | 60,0 | 57,0 | 24 | 10 | 5 | 43 | 12 | 23 | 37 | 119-015-038 |
| 40 | 63,0 | 60,0 | 24 | 10 | 5 | 50 | 12 | 23 | 39 | 119-015-040 |
| 42 | 66,0 | 63,0 | 24 | 10 | 5 | 50 | 12 | 23 | 44 | 119-015-042 |
| 45 | 70,5 | 67,5 | 24 | 10 | 5 | 50 | 12 | 23 | 51 | 119-015-045 |
| 48 | 75,0 | 72,0 | 24 | 10 | 5 | 50 | 12 | 23 | 60 | 119-015-048 |
| 50 | 78,0 | 75,0 | 27 | 12 | 5 | 65 | 12 | 23 | 55 | 119-015-050 |
| 52 | 81,0 | 78,0 | 27 | 12 | 5 | 65 | 12 | 23 | 63 | 119-015-052 |
| 54 | 84,0 | 81,0 | 27 | 12 | 5 | 65 | 12 | 23 | 71 | 119-015-054 |
| 55 | 85,5 | 82,5 | 27 | 12 | 5 | 65 | 12 | 23 | 78 | 119-015-055 |
| 60 | 93,0 | 90,0 | 27 | 12 | 5 | 65 | 12 | 23 | 86 | 119-015-060 |

Stirnräder Kunststoff gespritzt

Moulded Spur gears

Module 2,0
 straight teeth
 Injection moulded
 Acetal Resin
 [Hostaform C]

Modul 2,0
 geradverzahnt
 Azetalharz [Hostaform C]



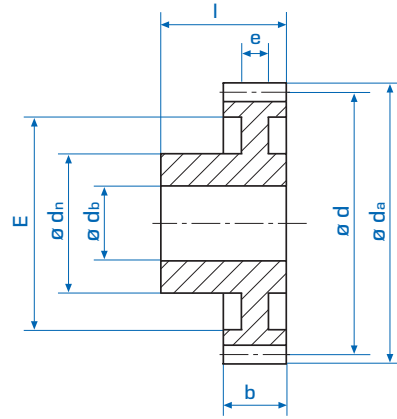
| Zähnez. No. teeth | d_a | d | d_n | d_b | e | E | b | l | [g] | Bestell Nr. Part No. |
|----------------------|-------|-----|-------|-------|-----|-----|-----|-----|-----|-------------------------|
| 12 | 28 | 24 | 18,5 | 8 | - | - | 15 | 27 | 13 | 119-020-012 |
| 13 | 30 | 26 | 18,5 | 8 | - | - | 15 | 27 | 15 | 119-020-013 |
| 14 | 32 | 28 | 18,5 | 8 | - | - | 15 | 27 | 16 | 119-020-014 |
| 15 | 34 | 30 | 18,5 | 8 | - | - | 15 | 27 | 18 | 119-020-015 |
| 16 | 36 | 32 | 17,5 | 8 | 6 | 23 | 15 | 27 | 19 | 119-020-016 |
| 17 | 38 | 34 | 17,5 | 8 | 6 | 25 | 15 | 27 | 20 | 119-020-017 |
| 18 | 40 | 36 | 17,5 | 8 | 6 | 26 | 15 | 27 | 21 | 119-020-018 |
| 19 | 42 | 38 | 17,5 | 8 | 6 | 28 | 15 | 27 | 25 | 119-020-019 |
| 20 | 44 | 40 | 20 | 10 | 6 | 29 | 15 | 27 | 29 | 119-020-020 |
| 21 | 46 | 42 | 20 | 10 | 6 | 29 | 15 | 27 | 31 | 119-020-021 |
| 22 | 48 | 44 | 20 | 10 | 6 | 29 | 15 | 27 | 32 | 119-020-022 |
| 23 | 50 | 46 | 20 | 10 | 6 | 36 | 15 | 27 | 34 | 119-020-023 |
| 24 | 52 | 48 | 24 | 10 | 6 | 36 | 15 | 27 | 37 | 119-020-024 |
| 25 | 54 | 50 | 24 | 10 | 6 | 36 | 15 | 27 | 40 | 119-020-025 |
| 26 | 56 | 52 | 24 | 10 | 6 | 40 | 15 | 27 | 42 | 119-020-026 |
| 27 | 58 | 54 | 24 | 10 | 6 | 40 | 15 | 27 | 44 | 119-020-027 |
| 28 | 60 | 56 | 24 | 10 | 6 | 40 | 15 | 27 | 47 | 119-020-028 |
| 30 | 64 | 60 | 24 | 10 | 6 | 46 | 15 | 27 | 52 | 119-020-030 |
| 32 | 68 | 64 | 26 | 10 | 6 | 46 | 15 | 27 | 56 | 119-020-032 |
| 35 | 74 | 70 | 26 | 12 | 6 | 56 | 15 | 27 | 60 | 119-020-035 |
| 36 | 76 | 72 | 26 | 12 | 6 | 56 | 15 | 27 | 64 | 119-020-036 |
| 38 | 80 | 76 | 26 | 12 | 6 | 64 | 15 | 27 | 68 | 119-020-038 |
| 40 | 84 | 80 | 26 | 12 | 6 | 64 | 15 | 27 | 72 | 119-020-040 |
| 42 | 88 | 84 | 26 | 12 | 6 | 64 | 15 | 27 | 76 | 119-020-042 |

Stirnräder Kunststoff gespritzt

Moulded Spur gears

Module 3,0
 straight teeth
 Injection moulded
 Acetal Resin
 [Hostaform C]

Modul 3,0
 geradverzahnt
 Azetalharz [Hostaform C]



| Zähnez. No. teeth | d_a | d | d_n | d_b | e | E | b | l | [g] | Bestell Nr. Part No. |
|----------------------|-------|-----|-------|-------|-----|-----|-----|-----|-----|-------------------------|
| 12 | 42 | 36 | 24 | 12 | - | - | 19 | 34 | 32 | 119-030-012 |
| 13 | 45 | 39 | 24 | 12 | - | - | 19 | 34 | 36 | 119-030-013 |
| 14 | 48 | 42 | 24 | 12 | - | - | 19 | 34 | 41 | 119-030-014 |
| 15 | 51 | 45 | 24 | 12 | 8 | 30 | 19 | 34 | 43 | 119-030-015 |
| 16 | 54 | 48 | 24 | 12 | 8 | 30 | 19 | 34 | 51 | 119-030-016 |
| 17 | 57 | 51 | 24 | 12 | 8 | 30 | 19 | 34 | 52 | 119-030-017 |
| 18 | 60 | 54 | 24 | 12 | 8 | 38 | 19 | 34 | 53 | 119-030-018 |
| 19 | 63 | 57 | 24 | 12 | 8 | 38 | 19 | 34 | 60 | 119-030-019 |
| 20 | 66 | 60 | 24 | 12 | 8 | 38 | 19 | 34 | 68 | 119-030-020 |
| 21 | 69 | 63 | 24 | 12 | 8 | 45 | 19 | 34 | 72 | 119-030-021 |
| 22 | 72 | 66 | 24 | 12 | 8 | 45 | 19 | 34 | 77 | 119-030-022 |
| 23 | 75 | 69 | 24 | 12 | 8 | 52 | 19 | 34 | 82 | 119-030-023 |
| 24 | 78 | 72 | 24 | 12 | 8 | 52 | 19 | 34 | 90 | 119-030-024 |
| 25 | 81 | 75 | 28 | 14 | 8 | 58 | 19 | 34 | 96 | 119-030-025 |
| 26 | 84 | 78 | 28 | 14 | 8 | 58 | 19 | 34 | 105 | 119-030-026 |
| 27 | 87 | 81 | 28 | 14 | 8 | 58 | 19 | 34 | 115 | 119-030-027 |
| 28 | 90 | 84 | 28 | 14 | 8 | 68 | 19 | 34 | 124 | 119-030-028 |
| 30 | 96 | 90 | 28 | 14 | 8 | 68 | 19 | 34 | 134 | 119-030-030 |