312 380

GETRAG Production Part Approval

# DIMENSIONAL TEST RESULTS

| | | | |
|---|---|---|---|
| Organization: | GETRAG | Part Number: | 250.1.5169.76 |
| Supplier/Vendor Code: | GETRAG Modugno | Part Name: | Speed Gear 3 RD |
| INSPECTION FACILITY: | | Design Record Change Level: | T 35834 |
| NA | | Engineering Change Documents: | |

| Item | Dimension/Specification | Specification / Limits | | Test Date | Qty. Tested | Organization Measurement Results (Data) 1 | 2 | 3 | 4 | 5 | test distruttivo | Ok | Not Ok |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Axial runout kk | 0,10 | 0,00 | | 5 | 0,095 | 0,070 | 0,096 | 0,042 | 0,041 | | ok | |
| 2 | Bore diameter 42,000 | 0,025 | 0,009 | | 5 | 42,020 | 42,025 | 42,019 | 42,017 | 42,021 | | ok | |
| 3 | Surface axial runout (up) | 0,030 | 0,000 | | 5 | 0,004 | 0,009 | 0,006 | 0,004 | 0,007 | | ok | |
| 4 | Surface axial runout (down) | 0,030 | 0,000 | | 5 | 0,010 | 0,004 | 0,004 | 0,003 | 0,004 | | ok | |
| 5 | Height 36,07 | 0,030 | -0,030 | | 5 | 36,076 | 36,070 | 36,072 | 36,075 | 36,069 | | ok | |
| 6 | Cone diameter 70,6 | 0,010 | -0,010 | | 5 | 70,600 | 70,601 | 70,598 | 70,594 | 70,608 | | ok | |
| 7 | Height 31,05 | 0,040 | -0,040 | | 5 | 31,050 | 31,054 | 31,041 | 31,027 | 31,082 | | ok | |
| 8 | Angle cone 7° | 0,03° | -0,03° | | 5 | 6,975 | 6,990 | 6,987 | 6,984 | 6,993 | | ok | |
| 9 | Radial cone runout | 0,020 | 0,000 | | 5 | 0,004 | 0,005 | 0,004 | 0,005 | 0,005 | | ok | |
| 10 | Cone straightnes | 0,003 | 0,000 | | 5 | 0,002 | 0,002 | 0,001 | 0,002 | 0,002 | | ok | |
| 11 | Cone roundness | 0,004 | 0,000 | | 5 | 0,002 | 0,002 | 0,002 | 0,004 | 0,004 | | ok | |
| 12 | Waviness cone | 0,900 | 0,000 | | 5 | 0,680 | 0,670 | 0,620 | 0,820 | 0,780 | | ok | |
| 12 | Roughness cone | 0,0030 | 0,0015 | | 5 | 0,002 | 0,002 | 0,002 | 0,003 | 0,003 | | ok | |
| 13 | Bore roughness | 0,003 | 0,000 | | 5 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | | ok | |
| 14 | Surface roughness (down) | 0,0063 | 0,0000 | | 5 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | | ok | |
| 15 | Surface roughness (up) | 0,0063 | 0,0000 | | 5 | 0,002 | 0,002 | 0,002 | 0,003 | 0,003 | | ok | |
| 16 | Teeth roughness right | 0,004 | 0,000 | | 5 | 0,002 | 0,003 | 0,002 | 0,002 | 0,003 | | ok | |
| 16 a | Teeth roughness left | 0,004 | 0,000 | | 5 | 0,003 | 0,003 | 0,002 | 0,002 | 0,003 | | ok | |
| 17 | Bore parallelism | 0,007 | 0,000 | | 5 | 0,003 | 0,002 | 0,002 | 0,002 | 0,003 | | ok | |
| 18 | Bore roundness | 0,006 | 0,000 | | 5 | 0,002 | 0,002 | 0,003 | 0,003 | 0,003 | | ok | |
| 19 | Bore straightness | 0,004 | 0,000 | | 5 | 0,002 | 0,002 | 0,002 | 0,002 | 0,003 | | ok | |
| 20 | Radial teeth runout | 0,032 | 0,000 | | 5 | 0,022 | 0,023 | 0,021 | 0,027 | 0,028 | | ok | |
| 21 | M1 Case hardness HRA | 83,0 | 80,5 | | 1 | | | | | | 81,50 | ok | |
| 22 | M2 CHD Eht 550 | 0,9 | 0,5 | | 1 | | | | | | 0,760 | ok | |
| 23 | M3 CHD Eht 550 | min 0,3 | | | 1 | | | | | | 0,670 | ok | |
| 24 | M4 CHD Eht 550 | 0,8 | 0,4 | | 1 | | | | | | 0,750 | ok | |
| 25 | M5 HV 10 | min 300 | | | 1 | | | | | | 351 | ok | |
| 26 | MDK I | 114,655 | 114,569 | | 5 | 114,632 | 114,634 | 114,636 | 114,635 | 114,626 | | ok | |
| 27 | MDK II | 94,406 | 94,295 | | 5 | 94,350 | 94,351 | 94,330 | 94,341 | 94,303 | | ok | |
| 28 | KK radial runout | 0,1 | 0,0 | | 5 | 0,045 | 0,045 | 0,058 | 0,054 | 0,082 | | ok | |
| 29 | Particular Y | - | - | | 5 | OK | OK | OK | OK | OK | | ok | |

| SIGNATURE | TITLE | DATE |
|---|---|---|
| G. Russo | QPE | 10 06 2014 |

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| Supplier/Vendor Code: | GETRAG Modugno | Part Name: | Speed Gear 3 RD |
| INSPECTION FACILITY: | | Design Record Change Level: | T 35834 |
| NA | | Engineering Change Documents: | |

| Item | Dimension/Specification | Specification / Limits | | Test Date | Qty. Tested | Organization Measurement Results (Data) 1 | 2 | 3 | 4 | 5,0 | test distruttivo | Ok | Not Ok |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | Particular X | - | - | | 5 | OK | OK | OK | OK | OK | | ok | |
| 31 | Particular Z | - | - | | 5 | OK | OK | OK | OK | OK | | ok | |
| 32 | Particular V | - | - | | 5 | OK | OK | OK | OK | OK | | ok | |
| 33 | Particular R | - | - | | 5 | OK | OK | OK | OK | OK | | ok | |
| 34 | Particular W | - | - | | 5 | OK | OK | OK | OK | OK | | ok | |
| 34a | Diameter | 28,22 | 28,02 | | 5 | 28,158 | 28,16 | 28,166 | 28,162 | 28,161 | | ok | |
| 35 | Particular U | - | - | | 5 | OK | OK | OK | OK | OK | | ok | |
| 36 | Tip diameter | 118,00 | 117,74 | | 5 | 117,931 | 117,927 | 117,932 | 117,928 | 117,916 | | ok | |
| 37 | Root diameter | 106,65 | 106,20 | | 5 | 106,477 | 106,467 | 106,473 | 106,467 | 106,476 | | ok | |
| 38 | Particular D-D | 2 | 0 | | 5 | 1,388 | 1,679 | 1,854 | 1,893 | 1,694 | | ok | |
| 39 | Paricular C-C | | | | 5 | OK | OK | OK | OK | OK | | ok | |
| 40 | Height 28,75 | 28,85 | 28,65 | | 5 | 28,778 | 28,783 | 28,763 | 28,76 | 28,781 | | ok | |
| 41 | Height 28,749 | - | - | | 5 | 28,747 | 28,748 | 28,745 | 28,75 | 28,752 | | ok | |
| 42 | Height 28,12 | 28,22 | 28,02 | | 5 | 28,11 | 28,119 | 28,131 | 28,142 | 28,159 | | ok | |
| 43 | Height 25,55 | 25,65 | 25,45 | | 5 | 25,571 | 25,562 | 25,548 | 25,555 | 25,55 | | ok | |
| 44 | Height 24,05 | 24,35 | 23,75 | | 5 | 24,231 | 24,238 | 24,227 | 24,22 | 24,239 | | ok | |
| 45 | Height 9,16 | 9,46 | 8,86 | | 5 | 9,121 | 9,128 | 9,136 | 9,141 | 9,173 | | ok | |
| 46 | Height 5,34 | 5,44 | 5,24 | | 5 | 5,341 | 5,321 | 5,327 | 5,322 | 5,33 | | ok | |
| 47 | Teeth Chamfer | -- | -- | | 5 | OK | OK | OK | OK | OK | | ok | |
| 48 | Cleanliness requirements GN 4340-1 | OK | NOK | | 5 | OK | OK | OK | OK | OK | | ok | |
| 49 | Height 38,35 | 38,45 | 38,25 | | 5 | 38,362 | 38,372 | 38,358 | 38,355 | 38,352 | | ok | |
| 50 | Diameter 65 | 65,5 | 64,5 | | 5 | 65,21 | 65,22 | 65,21 | 65,21 | 65,22 | | ok | |
| 51 | Diameter 54 | 54,3 | 53,7 | | 5 | OK | OK | OK | OK | OK | | ok | |
| 52 | Height 13 | 13,1 | 12,9 | | 5 | 13,071 | 13,068 | 13,05 | 13,041 | 13,072 | | ok | |
| 53 | Diameter 60 | 61 | 59 | | 5 | 60,58 | 60,54 | 60,51 | 60,52 | 60,53 | | ok | |
| 54 | Angle 25° | 28° | 22° | | 5 | 25,033 | 25,199 | 24,988 | 24,905 | 24,978 | | ok | |
| 55 | Angle 30° | 33° | 27° | | 5 | 30,375 | 30,332 | 30,419 | 30,385 | 30,366 | | ok | |
| 56 | Chamfer 0,7 | 1,1 | 0,30 | | 5 | 0,681 | 0,765 | 0,769 | 0,759 | 0,711 | | ok | |
| 57 | Chamfer 0,7 | 1,1 | 0,3 | | 5 | 0,746 | 0,83 | 0,793 | 0,768 | 0,739 | | ok | |
| 58 | Chamfer 1 | 1,5 | 0,5 | | 5 | 0,877 | 0,908 | 0,792 | 0,863 | 0,837 | | ok | |
| 59 | Radius 3 | 3,5 | 2,5 | | 5 | 3,003 | 3,395 | 3,043 | 3,37 | 3,469 | | ok | |
| 60 | Radius 3 | 3,5 | 2,5 | | 5 | 2,980 | 3,043 | 3,047 | 2,960 | 2,987 | | ok | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | Tickness 2,2 | 2,4 | 2 | | 5 | 2,21 | 2,352 | 2,161 | 2,164 | 2,264 | | ok | |
| 62 | Tickness 2,2 | 2,4 | 2 | | 5 | 2,081 | 2,086 | 2,083 | 2,098 | 2,077 | | ok | |
| 63 | Chamfer 1 | 1,5 | 0,5 | | 5 | 1,214 | 1,294 | 1,28 | 1,22 | 1,409 | | ok | |
| 64 | Outside diameter kk (by hand) | 87,6 | 87,38 | | 5 | 87,51 | 87,52 | 87,52 | 87,53 | 87,51 | | ok | |
| 65 | Root diameter kk (by hand) | 84,2 | 83,8 | | 5 | 83,98 | 83,95 | 83,98 | 83,92 | 83,9 | | ok | |

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