



New GMN precision class P4+

Within the scope of continuous product and manufacturing improvements GMN is implementing the new precision class **P4+**. This precision class will gradually replace the existing precision classes P4 and ABEC7 as the new standard precision class.

Definition GMN P4+

The goal of this measure is to further increase the reliability and performance of GMN spindle ball bearings and set new standards in terms of precision and quality.

Form and running accuracies according to P2

Example: HY SM 6008 C TXM P4+ UL T274

Radial runout $K_{ia} = 2,5 \mu\text{m}$

Side runout $S_d = 1,5 \mu\text{m}$

Axial runout $S_{ia} = 2,5 \mu\text{m}$ (inner ring)

Inner and outer ring width variation $VBS_{\text{max}} = 1,5 \mu\text{m}$

Dimensional accuracies according to P4

Example: HY SM 6008 C TXM P4+ UL T274

Bore diameter $\Delta_{\text{dmp}} = 0 / -6 \mu\text{m}$

Outside diameter $\Delta_{\text{Dmp}} = 0 / -7 \mu\text{m}$

Deviation of bore diameter within one bearing pair / set

$\frac{1}{3}$ of bore diameter tolerance

Example: HY SM 6008 C TXM P4+ DUL T274

$\Delta_{\text{dmp}} = 0 / -6 \mu\text{m}$

⇒ max. deviation within bearing pair / set : $2 \mu\text{m}$

Bearing designation

New: HY SM 6008 C TXM P4+ UL T274

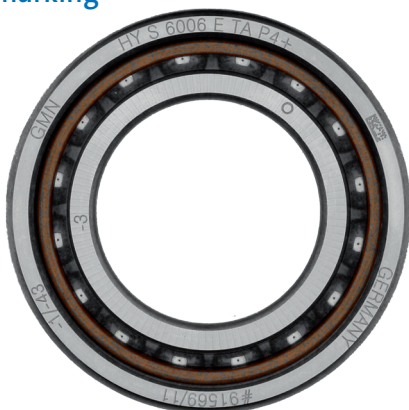
Old: HY SM 6008 C TXM P4 UL/80N L252 or
HY SM 6008 C TXM ABEC7 UL/80N L252

Item number

New: 033 - 06008 - 03 62 70 - 001

Old: 033 - 06008 - 03 62 40 - 001 or
033 - 06008 - 03 62 48 - 001

Bearing marking



Outer ring

Brand:	GMN
Manufacturing country:	Germany
Bearing designation:	HY S 6006 E TA P4+
Internal GMN code# / counting number#:	#91569/11
Deviation of outside diameter:	-1
Width deviation:	-43

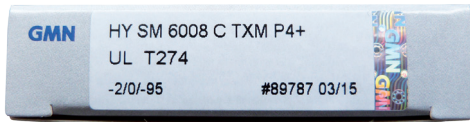
Inner ring

Deviation of bore diameter:	-3
High point marking :	o



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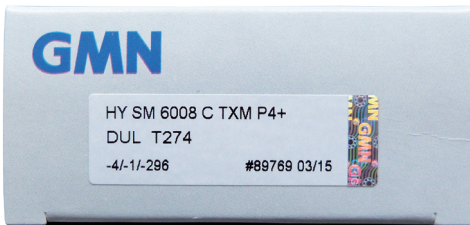
Marking of packaging



Single bearing

Example: HY SM 6008 C TXM P4+ UL T274

d / D / B [μm]: -2/0/-95
 Internal GMN code: #89787
 Month / year of production: 03/15



Bearing pair

d = Smallest value within the bearing pair
 D = Largest value within the bearing pair
 B = Total width deviation within the bearing pair

Example: HY SM 6008 C TXM P4+ DUL T274

[μm] d / D / B
 Bearing 1: -3 / -1 / -146
 Bearing 2: -4 / -3 / -150

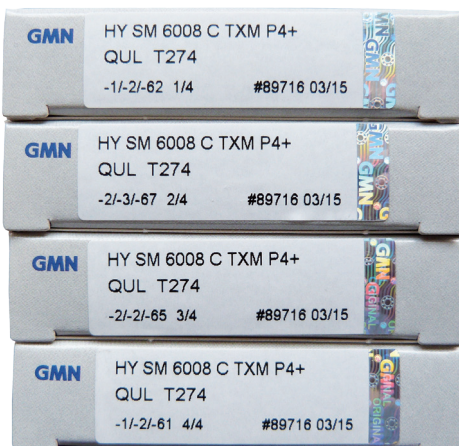


Bearing set with 3 bearings

d = / D = / B = Single bearing
 1/3 ... 3/3 = Set counting number

Example: HY SM 6008 C TXM P4+ TUL T274

[μm] d / D / B
 Bearing 1: -1 / -1 / -89 ... 1/3
 Bearing 2: -2 / -1 / -81 ... 2/3
 Bearing 3: -1 / 0 / -85 ... 3/3



Bearing set with 4 bearings

d = / D = / B = Single bearing
 1/4 ... 4/4 = Set counting number

Example: HY SM 6008 C TXM P4+ QUL T274

[μm] d / D / B
 Bearing 1: -1 / -2 / -62 ... 1/4
 Bearing 2: -2 / -3 / -67 ... 2/4
 Bearing 3: -2 / -2 / -65 ... 3/4
 Bearing 4: -1 / -2 / -61 ... 4/4