NIDEC GPM Group

Quality assurance agreement for production materials

by and between

Nidec GPM GmbH
Schwarzbacher Str. 28
D-98673 Auengrund OT Merbelsrod

– hereinafter: "**NIDEC GPM**" –

and

– hereinafter: "**Supplier**" –

Date 20150316

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1 Introduction

Our customers' level of satisfaction is greatly influenced by the quality of the parts we purchase from our suppliers. Therefore a supplier's quality capability as well as the quality and reliability of their products is a decisive criterion when awarding contracts.

This quality assurance agreement is a contractual tool enabling suppliers and NIDEC GPM to mutually define technical and organisational processes aimed at manufacturing flawless products and delivering them in compliance with deadline, quantity, and specification. Jointly defined measures for error prevention and early error detection significantly help to keep the product's manufacturing costs low. The agreement contains rules for immediate and corrective measures in the event of complaints along with duties for fostering the productive efficiency of both contractual partners.

NIDEC GPM sets its suppliers a "Zero Error Target." Achieving this objective makes consistent advanced quality planning, its implementation in production, effective series monitoring, re-qualification, and continuous improvement (CI) essential.

This quality assurance agreement for production material is an indispensable component of the framework and delivery contracts, of single orders as well as of the entire business relationships between supplier and NIDEC GPM and applies to all products for delivery to NIDEC GPM (as per Appendix 2).

2 Supplier's General Obligations

2.1 The supplier delivers on the basis of the then current version of NIDEC GPM's General Conditions of Purchase. They are available for download on NIDEC GPM's company homepage at http://www.nidec-gpm.com//pdf-download.html .

2.2 Within the quality management framework the supplier is obligated to flawless deliveries of products and services. In particular, the supplier guarantees that all the products to be delivered by them (i) comply with the respective specifications and agreed conditions including service life properties; (ii) can be used for the intended purpose; and (iv) have been produced and inspected according to the rules of the requisite quality management system. In addition, the supplier assures that the then current state of the art has been followed. The supplier is to ensure compliance with the following on which the NIDEC GPM order is based: drawings; if applicable, the 3D data models; as well as the specifications / product requirements documents pursuant to the last document update valid at the time of order and/or conclusion of delivery contract. Deviations and/or changes are subject to the revision service and require NIDEC GPM's approval.

2.3 The supplier assures that they use all the required human, organisational, technical, and financial resources to ensure the products' quality. In particular, the supplier ensures by means of a distribution system that all departments involved always have

the latest technical documents available provided by NIDEC GPM. The supplier is to involve their subcontractors according to this procedure.

2.4 Generally, NIDEC GPM is to be notified by means of the "Reportable Changes to Purchased Parts" form of any changes affecting the product, production procedures, production processes, materials, inspection procedures and inspection equipment, change of sub-suppliers, movement of manufacturing sites, intended movement of production facilities at the site, etc. (available for download at www.nidec-gpm.com) within the span of 6 month before any occurs. The change must be released by NIDEC GPM. If data are exchanged electronically, a confirmation of receipt (e-mail or fax) is necessary. See trigger matrix in accordance with VDA Band 2.

New production sites of the supplier's are generally not approved by NIDEC GPM until the process audit has been passed. Production for NIDEC GPM at these sites cannot start before then.

Any changes to the product and in the process chain of components requiring initial samples are to be documented by the supplier in a product history and presented to NIDEC GPM upon request.

The documentation of the goods inward inspections (concerning vendor parts and other primary products of the sub-suppliers); the function, reliability, and endurance tests; the outward inspections; as well as, if applicable, the error analyses, are retained by the supplier across the entire product lifecycle but no less than 15 years following EOP. On request, the supplier allows NIDEC GPM inspection of these records. In individual cases, NIDEC GPM may request a longer retention period.

3 Quality Management Systems

3.1 To be able to guarantee faultless quality of their products and services, the suppliers must (i) prove existence of a suitable and functioning quality management system pursuant to DIN EN ISO 9001 in its then current version; (ii) maintain it throughout the entire term of the contract; and, in addition, (iii) proceed pursuant to the extended requirements of ISO TS 16949 and/or VDA 6.1. The supplier is to send new and/or prolonged certificates to NIDEC GPM.

If the supplier awards contracts to sub-suppliers they are to inform NIDEC GPM about it in a timely manner and ensure that the requirements of this quality assurance agreement are also met by these sub-suppliers. The supplier is entirely responsible to NIDEC GPM for the quality of their services and of their subcontractors. This also applies to preferred suppliers named by NIDEC GPM.

3.2 Process audits

If applicable at short notice or periodically, NIDEC GPM reserves the right to perform process audits pursuant to VDA 6.3 at the supplier's and/or, after joint clearance with the supplier, at their sub-supplier's.

The supplier permits NIDEC GPM to determine by means of an audit whether their quality assurance measures meet NIDEC GPM's requirements. In addition, NIDEC GPM reserves the right to audit the supplier's and, if applicable, the sub-supplier's quality management system, procedures and products or have them audited by third parties.

The supplier grants NIDEC GPM and, if required, its customers and/or agents, access to all operating facilities, inspection bodies, warehouses, and adjacent areas as well as inspection of quality-relevant documents. NIDEC GPM informs the supplier of the result of these audits. A positive audit result and valid certificates are a pre-requisite for awarding of contracts.

If NIDEC GPM deems measures necessary, the supplier is obligated without delay to create a catalogue of corrective and preventative measures, to implement it as per schedule, and to inform NIDEC GPM about it.

NIDEC GPM reserves the right to check the effectiveness of the introduced measures.

3.3 Voluntary supplier disclosure

On NIDEC GPM's request, the supplier performs a truthful voluntary assessment of their organisation at short notice (voluntary supplier disclosure) and sends it to NIDEC GPM together with the corresponding proof. The forms to be used are provided in the download area on NIDEC GPM's company homepage. (www.nidec-gpm.com.)

NIDEC GPM reserves the right to check the information at the supplier's.

3.4 Advanced Product Quality Planning (APQP)

The supplier is obligated to actively support the requirements of NIDEC GPM's advanced product quality planning.

Customer-specific requirements are communicated to the supplier by NIDEC GPM's respective departments and are to be considered and met by the supplier.

Unless defined otherwise by NIDEC GPM, advanced product quality planning of the suppliers is to be performed at least pursuant to AIAG Wording APQP in its then current version. In no case is APQP completed with SOP and hence to be maintained across the entire product lifecycle.

3.5 Proof of process validation

To gain proof of the capability of processes, the supplier is to perform process validations (e.g., by means of process capability analyses) in all stages of a project. VDA Volume 4, "Quality Assurance in the Process Landscape" as part of the "Quality Management in the Automotive Industry" series, provides general information on performing process capability analyses.

4 Product Creation Process

4.1 Planning and approval

NIDEC GPM makes all the present product requirements available to the supplier. In the course of contract review, the supplier conducts a feasibility study using the received technical documents such as specifications, drawings, product requirements documents, BOMs, CAD data, etc. To do so, as well as during the development stage, the supplier uses suitable preventative methods of advanced quality planning such as reliability studies and FMEAs. Experience (process sequences, process data, capability studies, etc.) from similar projects is to be considered. The supplier informs NIDEC GPM about detected defects and risks as well as improvement opportunities without delay and in a suitable format and provides proof of meeting them using an FMEA.

4.2 The supplier is to document the accomplishment of their quality assurance measures, in particular measurement values and inspection results, as well as to maintain retain samples.

4.3 On request, the supplier is to grant NIDEC GPM full inspection of their documentation and to deliver necessary samples. In addition, they are to support NIDEC GPM with analysing the documentation and samples.

4.4 Product creation process & product approval

The accomplishment of the machine capability study and the process capability study are specified in VDA Volume 4 and AIAG Wording SPC and to be performed accordingly.

Any deviations are to be agreed with NIDEC GPM.

Minimum requirements for capability variables:

- Machine capability / Short-term process capability C_{mk}: **≥ 1.67**
- Preliminary process capability P_{pk}: **≥ 1.67**
- Process capability / Long-term process capability C_{pk}: **≥ 1.33**

Deviating requirements (e.g., due to customer requirements) are coordinated by NIDEC GPM with the supplier.

For non-capable or non-manageable processes, a 100% inspection is required, taking into consideration the uncertainties at the specification limits (see also DIN EN ISO 14253-1).

4.5 Interim & final inspections

For interim and final inspections on products, the supplier only uses suitable measurement and inspection equipment pursuant to VDA Volume 5 a. Inspection scopes and procedures required as per technical documents are binding. Any changes to them require NIDEC GPM's written consent.

4.6 Measurement and inspection equipment

The supplier is obligated to equip themselves with the type and scope of calibrated and suitable inspection equipment such that all product features can be inspected. If an external service provider is used for inspection tasks, their accreditation must be proven. If necessary, supplier and NIDEC GPM are to coordinate inspection equipment and methods.

Proof of the inspection equipment's suitability is to be performed pursuant to VDA Volume 5 (and/or ISO/CD 22514-7 or DIN V ENV 13005) in its then current version. Any deviating methods and acceptance criteria are to be coordinated with NIDEC GPM.
All inspection equipment is to be managed using an inspection equipment management system, to be checked at defined intervals using inspection equipment monitoring (maintenance, calibration, repairs) and to be documented in the inspection equipment management.

Inspection equipment monitoring is to be performed by suitably qualified personnel. End-to-end usability by means of intended use and storage at times of non-use is to be ensured.

4.7 Storage, packaging & shipment of products

Storage of the products at the supplier's has to be such that they are sufficiently safeguarded from loss / theft and that damage and/or changes to the material properties from environmental influences are excluded. Likewise, any damage to the goods during transport or shipment must be excluded.

Deliveries always occur in clean packaging units as defined by mutually confirmed packaging guidelines. Transport containers must be marked by a VDA label as well as equipped with accompanying documents pursuant to VDA 4902 to guarantee unambiguous identification. With regard to the labelling of products, parts and packaging, the provisions of the NIDEC GPM container and packaging guidelines for suppliers (see www.nidec-gpm.com) are to be followed.

Any deviations from the existing labelling obligation require a written agreement between supplier and NIDEC GPM. Detailed cleanliness requirements are defined for the specific parts and conveyed to the supplier. In this respect, the supplier waives their entitlement to object to obligation of notification without delay. NIDEC GPM is to inform the supplier immediately of defects with regard to packaging and cleanliness detected during incoming inspection.

4.8 Material testing

All material testing (not older than one year) is to be performed following specified standards and inspection requirements. In addition, suitable / capable measurement and inspection equipment must be used for this. In particular for aluminium die casting components, compliance with the pore classification is to be proven in a suitable man-

ner and/or, following an individual requirement by NIDEC GPM, using, e.g., a CT or x-ray analysis, polished cut images, etc. This applies both to initial sampling and change sampling as well as to follow-on tools.

4.9 Traceability

The supplier is obligated to ensure traceability of the products they have delivered. In the event of a determined deviation traceability must be possible such that at least the affected deliveries can be identified. NIDEC GPM informs the supplier of the available data necessary for tracing.

4.10 Other samples

Other samples pursuant to VDA are products produced using resources, procedures and conditions not yet intended for later series production (e.g., prototypes and pilot series parts). For other samples, the supplier coordinates the manufacturing and inspection conditions with NIDEC GPM and documents them.

The aim is to manufacture other samples under production-oriented conditions. Depending on agreement and definition by NIDEC GPM, other samples are to be delivered including documentation and inspection report and such that they are attributable. Pursuant to NIDEC GPM guideline "Component Indicator", packaging and shipping documents are to indicate this clearly (see http://www.nidec-gpm.com//pdf_download.html).

4.11 Initial samples

Initial samples are products that have been manufactured and inspected under series conditions (machines, systems, operating and inspection equipment, processing conditions) and that correspond, given a robust production process, to the series production with regard to dimension, material, material properties, and function. This is based on the specifications of VDA Volume 2 and/or the requirements as per AIAG Wording PPAP.

The inspection results of all features are to be documented and clearly indicated in a VDA initial sample inspection report and/or PPAP documents. The EC safety data sheet forms part of the initial sample inspection reports just as does a valid IMDS entry. Measured parts are to be clearly and consecutively numbered to guarantee attribution of the parts to the measurement results. If needed, the manner of labelling is to be coordinated with NIDEC GPM.

Incomplete initial samples and/or initial sample documentation are not accepted and rated by NIDEC GPM with the inspection decision "rejected."

The number of initial samples for delivery can be found in the initial sample order and is to be coordinated with NIDEC GPM, if necessary. Packaging and the shipping documents of the initial sample shipment are to be clearly labelled as "Initial Sample."

Expenditure from additional sampling loops at NIDEC GPM or its customers due to drawing deviations or incomplete documentation are billed to the supplier. Initial sample inspection reports rated only with the overall decision of "approved on condition" or "rejected" are to be resampled free of charge.

If no version in accordance with the drawings is achieved, the initial samples can only be delivered if the initial sample inspection report includes a deviation permit on the deviations which was approved by NIDEC GPM. These parts are to be labelled according to the above specifications.

For the inspection decision on a sampling activity presented to NIDEC GPM, the supplier must generally plan for a minimum handling time of four weeks. For the decision by the OEM (if required), a further eight weeks are to be allocated. Within this time frame, the supplier guarantees a robust and quality-conforming delivery of the currently approved component version. Planning and producing the necessary follow-on tools is also to be based on this approval period (twelve weeks).

4.12 Series deliveries can only take place following initial sample approval by NIDEC GPM. Pursuant to the specifications of VDA Volume 2 and/or the specifications as per PPAP, it is necessary to present the initial samples again.

4.13 The supplier assures themselves by inspections during production as well as regular product, shipping and process audits that all specifications valid for delivery, including preservation, packaging, cleanliness, and delivery documents have been met. The supplier performs an internal process approval and documents these results as well as the initiated measures. The findings and/or documentation of the internal PPF pursuant to VDA Volume 2 or PPAP is to be enclosed with the initial sample inspection report together with the achievement test (part of process validation) and delivered to NIDEC GPM.

4.14 Requalification

To prove a steady level of quality, the supplier performs at least one annual requalification inspection per product, starting on the date of initial sample approval, unless otherwise agreed with NIDEC GPM. Following prior clearance with NIDEC GPM, requalification of similar parts for NIDEC GPM can occur per product group ("family") and/or include results from current series inspections, such as:

- cyclical series approvals;
- product audits (units, modules, components, parts, etc.);
- records on first and last itemised inspection;
- SPC analyses;
- initial sampling; or
- goods inward inspection.

The requalification inspection occurs pursuant to the specifications for initial sample inspection and must include all the specifications for material, dimension, and function as indicated for the product by the purchaser.

Any other inspection scopes are to be agreed with NIDEC GPM. Planning of the requalification inspection is to be presented to NIDEC GPM at the same time as initial sampling. The requalification inspection must be designated in the production control plan. The results must be documented and be available for customer assessments. The results can be documented on the form of the initial sample inspection report. In case of a negative inspection result, the supplier must contact NIDEC GPM without delay. The risk for NIDEC GPM, the cause of the error, and remedial measures are to be stated.

4.15 In case of tool damage and/or machine faults the supplier ensures by means of suitable measures that provision of the client with products is guaranteed (e.g., fast, contractually assured access to tool maker and/or machine maintenance of the respective manufacturer, material safety stock). To avoid process interruptions, the supplier maintains preventative and anticipatory repairs / maintenance.

The necessary capacities are to be identified within the framework of contract review and their provisioning is to be ensured at any time. Necessary redundancies are to be kept ready by the supplier. In the event of special machines / equipment being used, an emergency strategy is to be developed. Changes to the approved process are to be announced in advance to NIDEC GPM for approval.

5 Defective Products

5.1 Without delay and following receipt of the delivery, NIDEC GPM performs an identity and quantity check as well as checks the delivery for any visible packaging and transport damage. NIDEC GPM informs the supplier about any detected defects without delay. NIDEC GPM announces undetected defects after an appropriate period as soon as they have been detected according to the conditions of orderly course of business. In this respect, the supplier waives their entitlement to object to delayed notification of defects.

If the supplier suspects delivery of defective products, they immediately inform the purchaser's supplier management and purchasing departments. This information serves the purpose of limiting potentially occurring or already occurred damage.

5.2 If defective parts have been delivered, the supplier assures rework of the defective parts without delay—where possible—insofar as they are responsible for the error. If this is not possible due to time constraints, the supplier effects a replacement delivery. The supplier guarantees that only specification-conforming products are being shipped.

5.3 Should defective products of the supplier's cause interruptions or downtime at the purchaser's customers, the supplier reimburses the purchaser for the incurred costs for

the supplier's defective products. In the same way, expenses for internal and external complaint handling in terms of complaint handling and logistics expenditure are claimed. Additional expenditure arising from this at NIDEC GPM consists pro rata of the following elements, among others:

- inspection and complaint creation costs (administration);
- costs for anticipated activities (goods inward inspection);
- internal logistics costs;
- return costs (administration and handling);
- administration costs for 8D report;
- administration costs for direct debit; or
- expenses for technical revisions.

5.4 Recourse action

A recourse action is necessary every time NIDEC GPM has to bear additional expenditure, caused by the supplier, such as T&E costs for NIDEC GPM auditors, which fails to have the requested effect (meeting the target) at the supplier's. The recourse action is based on activities performed, depending on daily expenditures incurred (number of man days of the NIDEC GPM auditors at the supplier's) and travel costs at a fixed national or international rate.

In the following cases, recourse action for additional expenditure by NIDEC GPM is planned:

- if a process audit or problem analysis must be scheduled due to the supplier's unacceptable response time;
- if the supplier's delivery or quality issues cause extra-curricular activities or problem analyses;
- if the supplier's self-assessment cannot be confirmed by a self audit (SL with A rating) during process audit;
- if the A rating cannot be achieved in the agreed time and hence requires an additional process audit;
- if production scopes already awarded or existing are moved to another production site by a supplier, requiring a new assessment of the new production site; and
- if significant process changes and also changes in the supply chain or outsourced process sequences require resampling and/or assessment of quality capability.

If the accomplishment of a safeguarding measure pursuant to this QAA, such as a technical revision, necessitates the definition of direct safeguards, or if the technical revision has been rated "Red," the travel costs and further costs incurred can be billed to the supplier. NIDEC GPM reserves the right to perform a process and product audit at any time during critical projects and/or in case of unacceptable supplier response times.

5.5 Objections

In case of objections by NIDEC GPM the supplier responds without delay. On a working day, they will send an initial statement / 8D report in writing within 24 hours (e-mail).

In case of objections that are demonstrably the supplier's fault at goods receipt, at the conveyor belt, and/or at NIDEC GPM's customer, the objected products are normally returned. In such cases, the supplier is to effect a flawless subsequent delivery without delay. For products with low stock the supplier can also be prompted to rework / sort their stock to avoid conveyor belt standstills. They are to comply with these requests without delay, i.e., normally on the next working day following the objection. In exceptional cases, rework / sorting can be conducted by NIDEC GPM or by firms assigned by NIDEC GPM. The supplier is being informed of this.

In these exceptional cases, in particular for avoiding conveyor belt standstills, NIDEC GPM will obtain prior consent of the supplier's, who cannot refuse it without good reason; in case the supplier is unavailable, NIDEC GPM can start with the rework / sorting or assign an external service provider if it is a matter of urgency.

In such cases, however, NIDEC GPM will obtain the supplier's consent in retrospect on the next working during regular business hours. Again, this retrospective consent cannot be refused without good reason. Costs that have demonstrably been caused by the supplier from objections are to be borne by the supplier.

In any event of rework / remedy by NIDEC GPM or an external service provider, which the supplier is responsible for, they have to send a suitable rework briefing / operating procedure with regard to the activities to be performed to NIDEC GPM within three hours following announcement of the error / defect. The supplier is obliged to obtain detailed information. The rework briefing / operating procedure to be sent as per schedule is assessed by NIDEC GPM in terms of quality. Based on this assessment, rework as per the supplier's specifications is performed at NIDEC GPM or the customer. Costs for creating a corresponding rework briefing / operating procedure by NIDEC GPM due to time delays of the supplier's are borne by the supplier as the responsible party.

5.6 If, in the event of an objection (initial sample or series), a deviation permit with a temporal or quantitative restriction is issued by NIDEC GPM, this does not relieve the supplier of their obligation to perform corrective action as soon as possible. Any additional expenses resulting from this are billed to the responsible party of the deviation permit. This also applies to potentially incurred costs for approval by the OEM.

5.7 The supplier has to ensure that rework on their products has no negative effects (dimensions, function, stability, appearance, life expectancy).

5.8 Product-specific agreements are defined and specified in the order, contract, or the construction and specification documents (e.g., drawings, product requirements document, etc.).

6 Insurance

The supplier contracts a product liability insurance, an extended product liability, and a recall insurance, each covering an amount of at least EUR 2.5M.

7 Supplier Escalation Process

To ensure continuous quality performance, NIDEC GPM uses a supplier escalation process classifying the quality performance in escalation levels from S0 (standard process) up to S4 (disqualifying the supplier). The supplier is informed by Purchasing or Supplier Management about changes to this classification and ensures that the necessary measures for transition to the standard process are implemented immediately. Detailed information on the supplier escalation process can be viewed and downloaded in its current valid version on NIDEC GPM's company homepage at http://www.nidec-gpm.com//pdf_download.html .

8 Sub-Suppliers

8.1 The supplier is to enforce at their sub-suppliers the essence of the quality requirements described in this quality assurance agreement.

8.2 Generally, the supplier is responsible for developing their sub suppliers. NIDEC GPM reserves the right to also audit sub-suppliers. This does not, however, relieve the supplier of their obligation towards the sub-supplier and NIDEC GPM.

9 Confidentiality

9.1 The contractual partners are mutually obligated to confidentiality about such facts as come to their attention in the course of accomplishing this agreement and concern the operations of the other contractual partner, insofar as the contractual partner calls the respective fact confidential or is evidently interested in keeping it confidential. This obligation applies beyond the term of this agreement.

9.2 The obligation to maintain confidentiality pursuant to Para. 1 does not apply insofar as the fact is demonstrably a publicly accessible state of the art

- or becomes such without the help of the partner receiving this information; or
- was already known to the receiving partner; or
- was made public by a third party entitled to passing on the information; or
- is developed by the receiving partner without the help of the other partner and without
- using other information or knowledge gained from the

- contractual contact.

9.3 The obligation to maintain confidentiality applies for an additional five years after the end of this agreement, unless otherwise agreed.

10 Final Provision

10.1 To measure and assess the achieved quality, the supplier defines internal and external quality targets. In so doing, the management defines strategies and targets for the individual technical departments that develop the required measures and implement them jointly with the management.

10.2 Changes and additions to this agreement must be made in writing. If a provision of this contract is ineffective, the effectiveness of the remaining provisions remains unaffected. The ineffective provision is replaced as quickly as possible by a provision coming as close as possible to this provision.

10.3 This translation of the German version of the AEB serves for reference purposes only. In case of any discrepancies between the German version of the AEB and this translation the German version shall prevail.

11 International Standards

The supplier is to inform themselves of all national / international standards concerning their contractual products.

12 Place of Fulfilment / Jurisdiction

Place of fulfilment for all deliveries of the supplier is the Merbelsrod address for shipment.
Place of jurisdiction is the Chamber for Commercial Matters at the district court of Meiningen, Germany.

13 Term

This agreement takes effect upon mutual signature. It is prolonged by a further twelve months unless one of the two contractual partners makes use of the agreed right of termination. The period of notice for both parties is twelve months to the end of the quarter.

For Nidec GPM GmbH (NIDEC GPM)
Date:
Signature:

Torsten Friedrich
Group Director Procurement

Matthias Schmidt
Leader Supplier Quality Nidec GPM

Member of the Management Board Nidec GPM

For **(Supplier)**
Date:
Signature:

Name printed:
Nidec GPM Company (authorized representative)

Appendix 1
Porosities in cast iron parts
(only applies to cast iron suppliers)

Appendix 2
Agreement on delivery quality