

Supplier questionnaire

This supplier questionnaire is used to analyse potential new suppliers of Aerzener Maschinenfabrik GmbH.

General information of the company	
Company name:	
Address:	
Managing director Name: Tel.: E-Mail:	
Plant manager Name: Tel.: E-Mail:	
Sales manager Name: Tel.: E-Mail:	
Quality manager Name: Tel.: E-Mail:	
Founding year:	
Product range of supplier:	
Annual turnover:	
Number of employees: Productive employees:	
Size of storage area: Share of heated / covered area	

Appendix:

- Basic data
- Compliance
- Commercial Information
- Machining
- Cast parts
- Electrics
- Weldment
- Three phase motor
- Packager
- Confirmation of accuracy

Additional data have to be filled out suitable to the department of suppliers

Basic data		
1	Is the supplier certified according to DIN EN ISO 9001?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please attach a copy and proceed to step 5.
2	Is a quality management system available comparable with DIN EN ISO 9001?	
3	Is a quality assurance manual with process instructions available or instructions for quality influencing activities?	
4	Are job descriptions available? (Have tasks, responsibility and competence for quality influencing activities been determined)?	
5	Who is the responsible person in the company for judgement of an inquiry for technical feasibility?	
6	Are working plans/manufacturing instructions prepared as fabrication documentation? Are device numbers included? Do they manufacture according to flow chart?	
7	How does the supplier make sure, that production is effected only in accordance with the current fabrication documentation?	
8	Is the fabrication documentation subject to an updating service? (current status documented by means of index, revisions)	
9	How do they make sure, that AERZEN stipulations (drawings, manufacturing specifications, test plans) are considered during production?	
10	Does the supplier inform Aerzener Maschinenfabrik when modifying the manufacturing process, if there are stipulations from AERZEN?	
11	Does the supplier manufacture himself or do they outsource their manufacturing? Do they inform Aerzener Maschinenfabrik in case they appoint a sub-supplier?	
12	How does the supplier inspect purchased parts upon receipt of goods? (raw material, prefabricated parts)	
13	Goods provided by Aerzener Maschinenfabrik: Is Aerzener Maschinenfabrik informed, if the supply shows faults or is damaged?	
14	How are production parts marked? Is the stamping resistant? By what is it possible to assign drawings/flow charts definitely to a component?	
15	Importance of environmental protection at the company? – DIN EN ISO 14001?	
16	Are intermediate and final inspections carried out?	

**Supplier questionnaire**

17	Are intermediate testings carried out 100 % or on a random basis? (if on a random basis: which tests and how many?)	
18	Is the measuring equipment calibrated at regular intervals? (connection to a system of German calibration service or similar procedure) By what is the applicability of measuring equipment identifiable?	
19	How does the supplier make sure, that inspected products are supplied only? How is the final inspection documented? (test record enclosed, stamp, ...)	
20	Are faulty products stored or marked in a way that an accidental delivery is avoided?	
21	Who decides on the usability or the steps to be taken in case of faulty products? Do they inform Aerzener Maschinenfabrik?	
22	Does a system for control of nonconformities exist? Which measures will be initiated in case of variation in quality?	

Compliance		
Responsibilities		
1.	One responsible management persons for all ESG topics	<input type="checkbox"/> Yes <input type="checkbox"/> No
Or		
Dedicated responsible management person for		
2.	Environmental topics	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.	Social topics	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.	Health and safety	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.	Management of substances with restrictions	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.	Compliance	<input type="checkbox"/> Yes <input type="checkbox"/> No
Policies		
7.	Policy/local certificate environment management	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.	Policy/local certificate working conditions and human rights	<input type="checkbox"/> Yes <input type="checkbox"/> No
9.	Policy/local certificate health & safety	<input type="checkbox"/> Yes <input type="checkbox"/> No
10.	Policy to manage substances with restrictions and dangerous goods	<input type="checkbox"/> Yes <input type="checkbox"/> No
11.	Policy Anti-corruption	<input type="checkbox"/> Yes <input type="checkbox"/> No
12.	Policy Anti-trust	<input type="checkbox"/> Yes <input type="checkbox"/> No
13.	Policy Export-control & Sanctions	<input type="checkbox"/> Yes <input type="checkbox"/> No
14.	Grievance procedure	<input type="checkbox"/> Yes <input type="checkbox"/> No
Certifications		
15.	Listed at the evaluation platform Ecovadis or comparable	<input type="checkbox"/> Yes <input type="checkbox"/> No
16.	Bronze medal at the evaluation platform Ecovadis or comparable	<input type="checkbox"/> Yes <input type="checkbox"/> No
17.	Silver medal or better at the evaluation platform Ecovadis or comparable	<input type="checkbox"/> Yes <input type="checkbox"/> No
18.	Environmental management system (ISO 14001)	<input type="checkbox"/> Yes <input type="checkbox"/> No
19.	Management system for working conditions/human rights (SA 8000)	<input type="checkbox"/> Yes <input type="checkbox"/> No
20.	Management system for health and safety (ISO 45001)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sustainability management suppliers		
21.	Sustainability requirements towards suppliers	<input type="checkbox"/> Yes <input type="checkbox"/> No

If applicable, provide us with evidence to support the answers in the self-assessment.

The questionnaire distinguishes between management systems that are certified according to internationally recognized standards and those that are certified according to local standards. This allows a differentiated picture to be drawn at the supplier level.

Commercial Information		
1	For what reason do you apply at AERZEN?	
2	In which sectors are you active?	
3	What was the company's turnover in the last two years? What are the planned annual sales figures for the current year?	
4	What does your customer structure look like? How many customers are on your books? What does the turnover of the biggest customer look like?	
5	Please name some reference customers and the corresponding reference parts.	
6	Which of AERZEN's market competitors do you supply?	
7	Are our terms of delivery and payment accepted? (https://www.aerzen.com/company/purchasing/supplier-information.html)	
8	Does a secrecy agreement already exist with AERZEN? If so, have there already been any offers?	
9	How high are the investments in research and development? (in % of turnover)	
10	Do you use an ERP system? If so, which?	
11	Is there any capacity planning? If so, how is it implemented in the company?	
12	Do you support planning logistics systems? If so, which?	
13	How is it guaranteed that the first confirmed delivery date will be met?	
14	What did your personnel development look like in the last 3 years?	
15	What is the reaction time for complaints? Which contact person has AERZEN?	
16	Can you create initial samples and initial sample test reports?	
17	Can the procurement objects be marked and packed according to AERZEN specifications?	
18	Is Lean Management actively implemented?	

**Supplier questionnaire**

Machining		
1	Which other parts to be produced have the same tolerance class as the parts to be manufactured for Aerzener Maschinenfabrik?	
2	Which measuring equipment is used in production? Is the measuring method appropriate? (the measuring target achieved?)	
3	How is the inspection effected? By the machine operator (inspection by the worker himself) or by an inspector?	
4	Does the inspector use his own measuring equipment or the machine operator's?	
5	Does the supplier work with statistical process control, for example: control charts?	
6	Is the supplier's measuring system appropriate for the job? Interaction: human being - measuring equipment - environment	
7	Referred to the machinery → what is the finishing accuracy?	
8	Are machine capability or process capability existing?	

**Supplier questionnaire**

Cast parts		
1	Does the supplier give advice regarding – design (for casting) – model making	
2	Model making: Does the supplier have an independent model making division? Which model materials are processed? How are the models stored?	
3	Which tolerances regarding dimension and shape can be observed by default?	
4	<u>Hand moulding: (min. - max.)</u> – box size? – weight? – lot size? <u>Machine moulding: (min. - max.)</u> – plant? – box size? – weight? – lot size?	
5	Which material can be cast?	
6	– Furnace plant (cupola furnace, electric furnace, ..)? – Melting capacity? (tons per lot)? – How is the melting made available?	
7	How are the cooling down conditions of the cast material monitored? (remaining in the mould up to $t = x \text{ }^{\circ}\text{C}$)	
8	Which surface treatments can be performed? – blasting – colour coatings Fettling shop: – have the employees been instructed? – at the factory / mechanized? – is there a bottleneck?	
9	Can cast parts be treated and assembled mechanically? – as per machine list (cover sheet) – mounting possibility – external machining / assembly	
10	Which inspections do the cast parts have to pass prior to delivery? – visual inspection – dimensional inspection 100% or on a random basis	
11	Which nondestructive testings can be carried out? – X-ray radiographic test – ultrasonic – magnetic powder method – red/white (penetration method) Are the employees concerned trained appropriately? (certificate)	

**Supplier questionnaire**

12	Which material testings can be carried out? – hardness measurements – tensile test – microsection of structure – chemical analysis (melt/batch) – notched bar impact bending test	
13	How frequently is recycled material used?	
14	How is the process for repairs regulated?	
15	Can heat treatments be carried out?	
16	Can supplies be documented on request with material certificates according to DIN EN 10204? For example: 2.2 , 3.1 or 3.2	
17	Do the foundries comply with the contents of a revision-proof documentation required by Aerzener Maschinenfabrik? For example work plans, parts lists, solidification simulation, consideration of material-conditioned shrinkage values, casting positions, position and number of gates, feeder, chill, cores, temperature?	
18	Are primers used exclusively according to QP00200?	

**Supplier questionnaire**

Electrics		
1	Does the supplier give advice regarding – Installation – design – control	
2	Are the following rules and standards available to the supplier: – EN 60204 T1 (VDE 0113 T1) electrical equipment of machines – VDE 0100 building high-voltage installations up to 1000 V – VDE 0166 operating material in hazardous areas – EN 50014/18/19/20 electrical operating material for explosive areas – EN 60439 low-voltage switchgears Does the supplier prepare documentations according to EN 60204 T1 (VDE 0113 T1) paragraph 19?	
3	Can ex-proof components be supplied?	
4	According to which ex class can components be supplied?	
5	Is a CE Ex representative available?	
6	Are inspections carried out according to EN 60204 T1 (VDE 0113 T1) paragraph 20: – 10 A inspection: continuous connection of protective conductor system – 500 V inspection: insulation resistance between conductor circuit and protective conductor – 1000 V inspection: high-voltage test or double rated voltage – test for electromagnetic compatibility	
7	Is a test bench available for functional testing? Are the control systems / switch cabinets inspected as far as their function is concerned?	
8	Can instruments, fittings etc. be mounted (switch cabinet construction)? Can a pressure test (strength test and leakage test) be carried out? Have the available measuring instruments been calibrated and do they have a sufficient measuring range?	
9	Is the supplier able to programme programmable logic controllers on the basis of functional descriptions and instrument lists?	

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Weldment		
1	Does the supplier give design support regarding welding-oriented design?	
2	Metal work: mechanical cutting (max. sheet thickness): oxy-fuel/plasma/laser technology (max. sheet thickness): sheet forming (max. sheet thickness) – pressing – edging – bending – rolling pipes	
3	Can stainless steels be processed (iron-free mounting equipment and devices,...) Which types of steel are used? Separate production / tools for austenitic steel CrNi? How are materials stored? (ferritic austenitic steel)	
4	Which wall thicknesses can be welded and processed?	
5	Are the filler metals in use are tested? (VdTÜV data sheet) Are measures prepared and implemented for storage and usage of the filler metals?	
6	Which welding procedures did they learn? (WIG, MIG, MAG, electrode, autogenous,, manual, welding robot, ...)?	
7	Do internal welding regulations exist?	
8	Do the employees in the production work according to the welding procedure specification (WPS), the welding procedure test (PQR) and the welding schedule?	
9	Are work samplings welded according to the rules and regulations?	
10	Are there internal provisions as to the realization and responsibility of the contract and design inspection with regard to welding requirements?	
11	Does the bidder have devices for welding seam preparation? Are appliances used for welding?	
12	Lifting devices, crane systems in production: – max. lifting weight? – max. lifting height?	
13	Can welded parts be treated and assembled mechanically? – as per machine list – mounting possibilities exist – external machining/ assembly	



Supplier questionnaire

14	<p>Surface treatment methods:</p> <ul style="list-style-type: none"> - blasting (steel pellets, sand, glass) - layers of paint - galvanizing (company-owned equipment, subcontracting) 	
15	<p>Manufacturer approvals:</p> <ul style="list-style-type: none"> - HPO ? - TÜV ? - DGRL 97/23/EG PED/ AD 2000 - DGRL 97/23/EG PED/ DIN EN 13445 - ASME / U-Stamp Holder - DIN EN ISO 3834-2 / 3834-3 / 3834-4 - OHSAS 18001 - Construction product directive 89/106/EWG - China License - TR 032/2013 (Russian regulations) 	
16	<p>According to which rules and standards of those mentioned under item 15 can strength calculations be performed?</p>	
17	<p>Are risk assessments performed and can they be reviewed?</p>	
18	<p>Are the welders supervised independently by means of a welding-related inspecting authority?</p> <ul style="list-style-type: none"> - welding certifications are available - repeat testing can be documented: - who supervises the welding? - are the welding supervisors authorised to arrange for necessary measures? - are tasks and responsibilities stipulated? - are welders deployed who were tested according to ASME IX or DIN EN ISO 9606/DIN EN 287-1? If so, will the testing be repeated on a regular basis? 	
19	<p>Number and classification of welding specialists</p>	
20	<p>Do the welders receive adequate training on a regular basis concerning the technical basics of the welding quality criteria?</p>	
21	<p>Is the work carried out in closed areas? Are sufficient cooling down conditions achieved?</p>	
22	<p>Can strength tests and leakage tests be carried out on boilers, pipings and reservoirs? Which procedures are available? Do the pressure gauges have an applicable calibration mark? Are the inspections documented with personal marking stamps?</p>	
23	<p>Which inspections are carried out prior to dispatch of the product?</p> <ul style="list-style-type: none"> - visual inspection (corrosion, preservation) - dimensional inspection 	

**Supplier questionnaire**

24	Non-destructive test procedures: <ul style="list-style-type: none">– X-ray radiographic test– ultrasonic– magnetic powder method– red/white (penetration method)– PMI (spectral analysis)– leakage test (Nekal, helium etc.)– Are certificates of qualification of the inspectors available according to DIN EN 473 / ISO 9712 concerning the application of these methods?– Do operational stipulations exist for the quality test before, during and after the welding process?	
25	Can material supplies be documented with certificates according to DIN EN 10204 as 2.2, 3.1 or 3.2	
26	Does CE conformity according to DIN EN 1090-1 exist?	
27	Is the weld quality assessed according to DIN EN ISO 5817?	



Supplier questionnaire

Three phase motor		
1	<p>Which final inspections are carried out on the motors?</p> <ul style="list-style-type: none">– Insulation resistance– Balancing test– Performance test <p>How are the inspections marked on the product? (for example, balancing on the shaft end face or name plate)?</p> <p>Are the inspections made on a random basis?</p> <p>How are the lots to be tested arranged?</p> <p>Are the tests performed in accordance with DIN EN 60034-1 / 60034-14?</p>	
2	<p>Are test records prepared?</p> <p>Can works certificates concerning balancing / performance / efficiency according to EN 10204 3.1 or 3.2 be prepared based on the test records?</p>	
3	<p>Are operating manuals assigned to the motors?</p> <p>Where are the operating manuals fixed?</p> <p>In which languages are operating manuals enclosed?</p>	
4	<p>Maintenance of motors:</p> <p>With which bearings is the motor shaft of a standard motor equipped (preferably single row ball bearings of heavy series 63..)?</p> <p>Relubrication periods at least 2000 hours?</p> <p>How is reference made to relubrication periods? (adhesion, operating manual)?</p> <p>Is the sticker clearly visible?</p> <p>Which grease type is prescribed?</p> <p>Are grease type and grease quantity indicated in the relubrication note?</p> <p>At which point does the used grease escape?</p>	
5	<p>Can ex-proof motors be supplied?</p> <p>According to which ex class can components be supplied?</p> <p>Is a Ce Ex representative available?</p>	
6	<p>Frequency converter operation:</p> <p>Standard motors are subject to which limitations upon frequency converter operation? (speed limits, performance reduction)</p> <p>Which aspects are to be considered concerning commissioning of electric motors with frequency converter?</p> <p>Which arrangements does the motor manufacturer make concerning design in case of frequency converter operation?</p> <p>Starting from which motor size are the constructive measures taken? (for example, isolated bearing external rings)</p> <p>Which experiences does the manufacturer have concerning operation on frequency converter?</p>	



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7	NU-bearings Are the rotors provided with axial transport protection? How is the transport protection realised? Is attention drawn to the transport protection in a commissioning sticker and in the operating manual? How is the shaft protected against damages or corrosion?	
8	In which colour are the standard motors varnished? Can a customer-specific varnishing be carried out for AERZEN? Are motor varnish and AERZEN varnish compatible? (comparison based on technical data sheets)	



Supplier questionnaire

Packager		
1	Experiences / knowledge available and if so, gained with: <ul style="list-style-type: none"> – which kind of machines / systems – which kind of customers / references – served branches of industry – rules and standards (API, PED, etc.) known 	
2	Does the supplier assume full responsibility for the conformity of the unit (incl. engineering, preparation of operating instructions and risk assessment) or does he act as an extended workbench (without operating instructions and risk assessment)?	<input type="checkbox"/> Engineering incl. purchasing <input type="checkbox"/> Contract manufacturing
3	Can the supplier procure the main components himself or should AERZEN provide them?	
4	Welche max. Abmessungen/Gewichte können produziert werden?	
5	How many units can be set up in parallel?	
6	Is the staff able to read schemes and drawings?	
7	Which calculation systems are available? ASME, PED, etc.? Which calculations are subcontracted?	
8	Does a CAD system exist for the performance of design? If so, which one?	
9	Does an ERP system exist in which the flow of logistics and processes is regulated?	
10	Do project management system and project management exist?	
11	Qualification of the staff for unit testing <ul style="list-style-type: none"> – process engineering skills available? – qualification for the testing (LT-Leak tightness, etc.) available? – SPS skills available? – electrical engineering technicians available for the operation of medium voltage? 	
12	Qualification of the employees in the incoming goods inspection <ul style="list-style-type: none"> - Can welds be evaluated? - VT Qualification available? 	
13	Is it possible to apply various types of oil? (logistics, storage up to 3,000 liters, etc.)	
14	What are the degrees of purity that can be guaranteed for oil systems according to ISO 4406?	
15	Is calibrated measuring equipment available? (torque wrench, alignment of coupling, vibrations, temperature, pressure, electr. power measurement, volume flow, etc.)	

**Supplier questionnaire**

16	Is the test bench equipped with own controls? (e.g. Siemens S7 or the like)	
17	Are supply and connected loads available? Please indicate quantities and values (compressed air, cooling water, electrical connected load and supply voltages), see also TV-00075-4	
18	Are there limits in terms of noise emissions in the surrounding area?	
19	Is it possible to perform the leak test with max. 25 bar overpressure?	
20	Can working at heights be implemented? (Fall protection, railings, platforms)	
21	Possibilities of the transmitter and controller settings via simulation tools as Hard Communicator or something like that	
22	Is it possible to laser signs? Can the units be signposted?	
23	Which types of preservation are possible?	
24	Which types of surface coating are applied? Can the layer thickness be measured?	
25	Are packing and dispatch done internally or by an external company?	



Confirmation of accuracy	
This document was completed by:	
Name: Position: Tel.: E-Mail:	
I hereby confirm accuracy of all the above information	
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