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Section C – Mechanics

Part 6: Documentation

The following delivery specifications of Wieland-Werke AG form part of the contract.
Any deviating specifications are to be agreed upon between the supplier/contractor and Wieland, and documented.

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1. General

The documentation must be executed in accordance with the specifications set out in the following sections. Any deviations from these specifications must be agreed with Wieland and shall require Wieland's approval.

Wieland reserves the right to withhold payments until all documentation is available in complete form (advance version as well as final version).

2. Nomenclature – identification

The name of the plant itself, the identification of the individual assemblies as well as the plant structuring shall be bindingly agreed upon with Wieland in advance and shall be kept the same throughout all documents (mechanics, electrics, drawings as well as documentation).

3. Changes to documentation

All changes to documentation (corrections to drawings, additions/amendments to documents, etc.) must be supplied as complete replacement sets.

4. Scope**4.1 Advance documentation**

At the latest at the time of handover of the plant to operation and maintenance, Wieland shall receive a preliminary version of the complete documentation.

1x general documentation on paper DIN A4; drawings on paper in DIN A3 format
1x version on data carrier

4.2 Final documentation

The final documentation for the plant shall be delivered to Wieland in the following scope:

General documentation on paper DIN A4; drawings on paper in DIN A3 format
(Number of copies to be agreed with Wieland)
1x version on data carrier

5. Execution

The documentation delivered on paper shall be delivered in Leitz folders with spine labels and in the defined subdivisions.

The documentation delivered on data carrier in text form (operating instructions, functional description, etc.) are to be handed over as Adobe Acrobat Reader files (*.pdf) and in editable form as Microsoft Word files (*.docx).

The execution of documentation in list form is defined in more detail for the individual requirements in section 6. As a general rule for all lists, they must be created as Adobe Acrobat Reader files (*.pdf) and as editable Microsoft Excel or Microsoft Access files. In each case, one data record must be entered completely in one table row.

All documentation (lists, plans, drawings, etc.) must be marked with the respective revision state of the document and the date of issue. All changes to a document must be marked and commented on.

All drawings are to be delivered in pdf format, generated from the supplier’s own CAD system. In addition, all drawing and 3D model data, plans and schematic diagrams shall be handed over to Wieland as CAD data. The drawing data shall be coordinated with Wieland prior to execution on the basis of sample drawings.

The 2D drawings / 3D models are to be sorted by assemblies and stored on the data carrier in separate directories for the individual assemblies.

2D drawings

It must be possible to display 2D drawings completely and true to the original; formats in accordance with the table below. All necessary additional files (font, symbol, line definitions etc.) must be supplied too.

2D drawings:	AutoCAD 2019 Siemens NX1899 - or the predecessor software versions - at least as dwg/dxf format
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Above the drawing header of the supplier, a free space of 45 x 185 mm (height x width) for Wieland’s drawing header must be added.

Example drawing header:



Legend:

DE	EN
Zeichnungskopf Lieferant	Supplier’s drawing header

3D models

It must be possible to display 3D models true to the original; format in accordance with the table below. All necessary additional files (font, symbol, line definitions etc.) must be supplied too.

3D models:	Siemens NX1899 - or the predecessor software versions - at least as STEP format (214) or parasolid x_t
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6. Structure and content

The documentation must contain all necessary data and documents of the main supplier as well as all subcontractors.

The documentation must be subdivided in accordance with the following outline structure:

- Part A – Specifications
- Part B – Test documents
- Part C – Operating instructions and functional description
- Part D – Health and safety
- Part E – Lubrication, maintenance and inspection
- Part F – Hydraulics / pneumatics
- Part G – Proactive maintenance
- Part H – Thermoprocessing equipment
- Part J – Machine tools
- Part K – Hoists and lifting devices
- Part L – Parts lists / spare parts lists and supplier directory
- Part M – Printed documents / device descriptions
- Part N – Drawing documents

The electrical documentation must be executed in accordance with the "Delivery specifications electrical engineering LvE". Each subdivision is to be executed as a separate folder or separate folder section. The individual documents shall be structured in accordance with the specified plant structuring by assemblies. Deviations in the documentation structure must be agreed with WWAG.

6.1 Part A – Specifications

- Specification data for the plant
- Design data
- Documentation of all operating points or setting values (pressures, flows, etc.)
- Characteristic curves of all units in the entire plant (e.g. for pumps, fans or heat exchangers) with indication of the corresponding operating points, as well as their design data

6.2 Part B – Test documents

- Acceptance records for individual parts and components (e.g. leak test, thermography, acceptance tests, capability studies, ...)
- Test reports (test certificates for all pressure vessels, documentation components and test documents for periodic tests, leak tests, etc.)
- Certificates (training, structural analysis certification, expert certifications, etc.)
- Measurement reports (plant measurements, linear systems, etc.)
- Reference points for the entire plant

6.3 Part C – Operating instructions and functional descriptions

- General technical description of the plant
- Operating instructions with functional description of the entire plant
- Summarised device operating instructions for the individual assemblies, sorted according to the plant structuring (integration of all operating instructions for purchased parts – consult with WWAG if necessary).

6.4 Part D – Health and safety

- Risk assessment
- Safety concept and description of the safety circuits
- Manufacturer's declaration and Declarations of Incorporation or type examinations
- EC Declaration of Conformity and CE marking
- All safety-related documents

6.5 Part E – Lubrication, maintenance and inspection

Compilation of all necessary documents for the lubrication, maintenance and inspection of the plant.

LUBRICATION

Detailed lubrication instructions for all lubrication points in the entire plant.

The specifications and documents required by Wieland are based on the standard DIN 8659 – Lubrication instructions.

– Lubrication point location plan

Schematic diagram of all lubrication points in the entire plant (including purchased assemblies and components) with sequentially numbered location designation.

The following information must be included in the lubrication diagrams:

- Assembly designation
- Number of the lubrication point

(Important: Identical lubrication points receive the same number)

For an example of a possible design of a lubrication chart, see annex (section 7 – Design examples).

– Lubrication point list

Tabular listing of all lubrication points in the entire plant (including purchased assemblies and components) with specifications for the individual lubrication points.

The structure and formatting of the list must be agreed with Wieland in advance. The structure shall correspond to the assembly structure.

The lubrication point list must contain the following information:

- Consecutive number according to lubrication point location plan
 - Assembly designation
 - Lubrication point name
 - Lubrication point number
 - Indication of lubrication type
 - (if necessary with pictogram – see example)
 - Number of identical intervention points / lubrication points in the whole plant
 - Lubricant recommendation / lubricant type; designation with indication of WWAG identification (e.g. W17 – hydraulic oil HCP 46) in accordance with the delivery specification
 - Lubricant quantity or filling quantity
 - Lubrication interval (if necessary, specify in operating hours)
 - Notes or remarks
- Listing of detailed lubrication and maintenance instructions or manufacturers' instructions taken from operating instructions (documentation)

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For an example of a possible design of a lubrication point list, see annex (section 7 – Design examples).

– Lubricant table

Summary of all lubricant types recommended by the manufacturer of the plant as well as their product data sheets in tabular form. The structure and formatting of the list must be agreed with Wieland in advance.

The lubricant types must be identified with indication of the Wieland identification (e.g. W17 – hydraulic oil HCP 46) in accordance with the delivery specification.

MAINTENANCE AND INSPECTION

Tabular listing of all inspection and maintenance instructions for the entire plant (including purchased assemblies and components) with details of all units, components, elements, assemblies to be inspected regularly and the activities to be carried out.

The structure and formatting of the list must be agreed with WWAG in advance. The structure shall correspond to the assembly structure.

The inspection and maintenance list must contain the following information:

- Consecutive number
 - Installation point or assembly designation
 - Designation of inspection point or component
 - Information about work to be carried out
 - Frequency or time interval
 - Indication of measured value or test value
 - Indication of necessary operating and auxiliary materials
 - Notes or remarks
- Listing of detailed inspection and maintenance instructions or manufacturers' instructions taken from operating instructions (documentation)

These specifications are based on the standards DIN 31051 – Fundamentals of maintenance and 31052 – Maintenance; instructions for maintenance.

For an example of a possible design of an inspection and maintenance list, see annex (section 7 – Design examples).

6.6 Part F – Hydraulics / pneumatics

- The hydraulic plan and pneumatic plan are to be executed with symbols in accordance with **DIN ISO 1219**.
- The parts or spare parts list must contain the complete data for type designation, make specification of the installed devices.
- We must receive the hydraulic plan and pneumatic plan with parts lists and, where applicable, the steel structure plan for the unit, at the latest before the start of production of the plant, in duplicate for inspection and approval. We reserve the right to make changes and additions.

One copy will be returned to you with a note of amendments and approval. **However, a written approval of the design and the use of devices does not release you from the obligation to comply with the Wieland delivery specifications;** this applies in particular to design variants not evident in the plans.

- With the delivery of the plant, we shall receive the hydraulic and pneumatic plan, parts and spare parts lists, where applicable the piping plan as well as a listing of hose lines. The function of the valves must be stated in plain text. The set values must be indicated on pumps, pressure valves, pressure switches, temperature switches and accumulators.

In the parts lists, the quantity installed must be apparent from the item specification.

- We must receive the hydraulic and pneumatic plan as well as any existing design drawings of valve blocks at the latest during acceptance at the time of commissioning. Our guidelines for CAD data exchange apply here (see section 1.5). The naming of functions in the plans must be absolutely identical to the designations in the electrical circuit diagram, and after being determined by the electrical supplier, the electrical device identifier must be entered in the plans.
- In good time before delivery of the plant, the factory certificates of conformity for the pressure vessels and for the safety valves must be sent in duplicate by separate mail to the plant purchaser.

6.7 Part G – Proactive maintenance

For preventive maintenance and inspection, for all rotating machinery, i.e. electric motors, fans, pumps and gear units, the exact designations of the installed roller bearings (or slide bearings), with indication of the manufacturer, must be stated in the documentation (e.g. SKF 6305).

For gear units or other rotating machinery with built-in gear wheels, e.g. positive displacement blowers, the number of teeth must be listed in a table.

For belt drives, the pulley diameter and belt type shall be indicated.

Measurement reports must be prepared for all balanced and aligned units and submitted to the Wieland project manager prior to acceptance.

For pumps and fans, the characteristic curve with performance data of the unit as well as impeller diameter and number of blades must be stated in the documentation.

6.8 Part H – Thermoprocessing equipment

For thermoprocessing and cooling plants, the following shall additionally be taken into account and documented:

The schematics and flow diagrams must be executed with standardised symbols in accordance with DIN EN ISO 10628. The diagram shall contain type data as well as nominal sizes and pressure ratings of the devices and piping. All operating data (pressures, temperatures, flow rates, times, etc.) must be indicated.

The setting values must be recorded in a table in the annex and shall not be listed in the documentation text. The data for gas volumes shall relate to standard reference conditions (273.15 K, 1013.25 mbar).

The naming of functions in the plans must be absolutely identical to the designations in the electrical circuit diagram, and after being determined by the electrical supplier, the electrical device identifier must be entered in the plans. Corresponding location designations shall be integrated into the plans.

The parts or spare parts list must contain the complete data for manufacturer or type designation, make specification of the installed devices.

The standard documentation must be supplemented with the following documents:

- Functional specification document
- Process sequence diagram
- Table with setting data
- Permissible heating and cooling speeds
- Calculation sheets for measuring orifices
- Report on the leakage check and pressure test for the gas installation
- Piping diagrams
- Process flow chart for the entire plant with device list and functional description
- Cooling and process water flow chart with device list and functional description
- A list of safety-relevant parts and assemblies that need to undergo regular checks. The maintenance steps must be described.

Operating and maintenance instructions as well as manufacturers' printed documents concerning the gas installation shall be delivered 1x additionally.

6.9 Part J – Machine tools

For machine tools, the following shall additionally be taken into account and documented:

Prior to the start of production, Wieland shall receive and approve the following documents:

- Overall layout plan
- Drawing of the oil pan (execution and marking in accordance with section 19 of the German Water Resources Act (WHG)).
- Documents, drawings of all safety equipment (guards and protective devices) – these must be executed in compliance with the legal requirements and coordinated with Wieland.

A geometric report shall be handed over with the delivery.

All criteria relating to the capability study

- Material
- Machining/treatment data
- Ancillary conditions (e.g. coolant temperature, ambient temperature, installation position and warm-up time)

must be documented.

The results of the DIN acceptance test and the capability study must be fully documented. Any deviations from the agreements on number of pieces, cycle, etc. must be justified in writing. Measuring equipment used must be subjected to a measuring equipment capability study with report.

6.10 Part K – Hoists and lifting devices

Cranes and lifting devices are to be manufactured and documented in accordance with the Machinery Directive 2006/42/EC; cranes in accordance with the rules in BGV D6; lifting accessories in accordance with DGUV Rule 100-500 and, depending on the application, in accordance with the DIN EN 13155 and DIN EN 13001 standards.

Cranes and lifting devices are to be procured with digital documents (drawings, 3D model as .prt or .step, operating instructions, inspection book, etc.) and painted in RAL 3028.

6.11 Part L – Parts lists / spare parts lists and supplier directory– Supplier directory

Tabular listing of all suppliers in alphabetical order with complete addresses including phone and fax numbers as well as email and internet addresses. The supplier directory must be placed immediately before the parts lists / spare parts lists.

– Parts lists / spare parts lists

A complete parts list and a spare parts list covering the entire scope of the plant must be submitted. These lists must contain all relevant order details for all individual parts – including purchased parts and assemblies.

The structure and formatting of the list must be agreed with Wieland in advance. The structure shall correspond to the assembly structure.

The header must contain the following information:

- Manufacturer or equipment supplier
- Project designation (order text)
- Project number and order number from the supplier
- Wieland order number
- File name
- Revision status
- Date

The complete parts list / spare parts list must contain the following information:

- Consecutive numbering of the individual items
- Change index / revision status; nature of change
- Total number of units of the individual component in the whole plant
- Number of units of the individual component in the respective assembly
- Drawing number of assembly drawing (if necessary with indication of the item number)
- Drawing number of individual part drawings
- Designation of assemblies / subgroups
- Indication of type of component
- Article number (or serial number, part identification number, etc.)
Unique identification of the individual component (purchased and manufactured parts), it must be possible to identify identical components by means of unique article numbers, if necessary marking of identical components with index!
- Article designation
Unique designation of the individual item or component
- Original type designation of component
- Spare part identification
Designation as wearing part or spare part, with indication of urgency levels (1 or 2)
- Manufacturer or supplier
- Order designation
Complete order details – order number of individual item from manufacturer, if necessary also indication of commission numbers

If all the information listed above is contained in the complete parts list, a separate spare parts list is not required.

For an example of a possible design of a parts list / spare parts list, see annex (section 7 – Design examples).

6.12 Part M – Printed documents / device descriptions

Compilation and delivery of all printed documents and device descriptions for all components contained in the entire plant.

- Sorting of printed documents and device descriptions in alphabetical order of manufacturers with tab dividers
- Prepare a list of all printed documents in alphabetical order

Important:

For each device description in the plant documentation, an exact identifiability of the component used must be guaranteed (if necessary by separate marking). It must be possible to assign device descriptions to the parts list.

For an example of a possible design of the list of printed documents / device descriptions from the manufacturer see annex (section 7 – Design examples).

6.13 Part N – Drawing documents

The total scope of the drawing documentation must contain the following:

- Drawing lists sorted according to the plant structure / assemblies
- Assembly overview according to the plant structure
- Assembly drawings
- Parts lists
- Overviews, layout plans, foundation plans
- Individual part drawings
- Drawings for wearing parts
- Lubrication plans
- Dimensional records
- Roller diagrams / tool diagrams
- Flow diagrams, schematics
(including specification of the setting values in the respective operating points of the plant / pressures, flow rates, etc.)

In general, all documents existing for this project (drawings, parts lists, etc. as per the list specified above) are to be handed over to Wieland in their entirety.

Missing original drawings shall be delivered subsequently free of charge on request at any time. An exception is possible for assemblies or parts involving specific technical know-how, but only subject to consultation with Wieland. Drawings may be given to third parties for repair purposes and for spare part procurement.

Roller diagram / roller specification or tool diagram / tool specification

For each project, the supplier of the plant must prepare a separate roller diagram / tool diagram as well as a detailed roller specification / tool specification.

In the drawing documentation for the overall project, these documents are to be placed in a separate “Rollers” / “Tools” assembly group. This “Rollers” / “Tools” assembly group contains the roller diagram, the roller specification / tool specification and all individual part drawings for the rollers/tools.

Specifications and requirements for roller diagram / tool diagram:

- In the roller diagram / tool diagram, all rollers without exception must be drawn to scale in their size and position (template: overall layout plan).
- All rollers/tools must be identified with their function (see following sample – e.g. control roller 1, tension measuring roller).
- All rollers/tools are numbered consecutively and uniquely in the strip running direction. This number is called the mounting location number.
- In addition, all rollers/tools in the roller diagram / tool diagram are given a type number. All identical rollers/tools with the same drawing numbers, which have the same underlying roller specification / tool specification, are given the same type number. The type number must be entered in the roller diagram / tool diagram immediately below the mounting location number and in brackets.

For an example of a possible design of a roller diagram / tool diagram, see annex (section 7 – Design examples).

Specifications and requirements for roller specification / tool specification

All specifications for all rollers/tools listed in the roller diagram / tool diagram must be summarised by the supplier of the plant in a detailed roller specification / tool specification in the form of an Excel spreadsheet and made available to Wieland.

The structure and formatting of the list must be agreed with Wieland in advance. The following information or roller data must be included in the roller specification / tool specification:

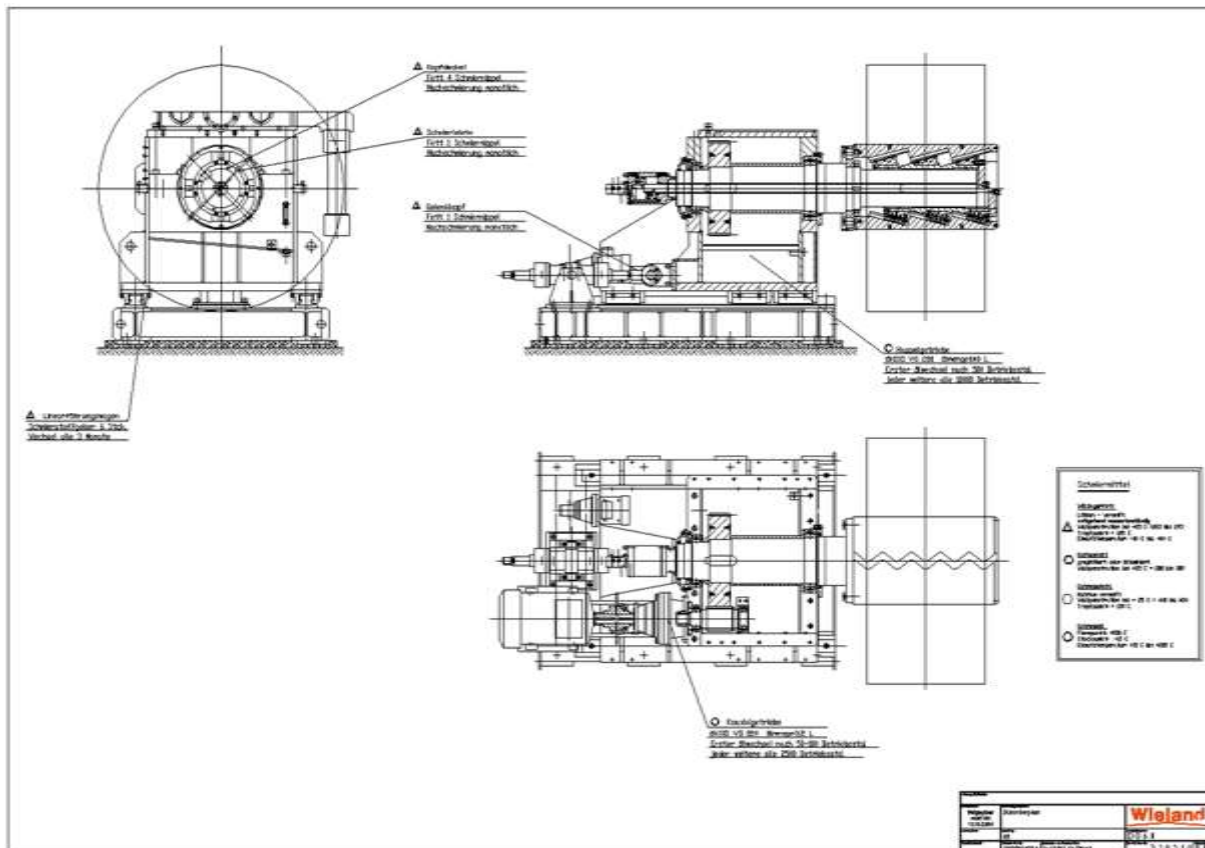
- Mounting location number(s)
- Type number
- Wieland drawing number (blank column – will be filled in later)
- Supplier's drawing number
- Designation or name of the roller (e.g. control roller, deflection roller, etc.)
- Maximum roller diameter (outer diameter of the roller)
- Minimum roller diameter
- Roller body diameter
- Barrel length
- Total length
- Roller body material
- Finish or material of the surface coating (rubber coating, fleece, etc.)
Quality of the surface coating or of the surface (manufacturer or quality designation)
- Barrel form (convex or cylindrical)
- Surface roughness of the surface coating or of the surface (R_z value)
- Number of units (specify number of rollers of this roller type installed in the plant)

For an example of a possible design of the roller specification, see annex (section 7 – Design examples).

7. Design examples

The following examples represent an ideal state of the plant documentation. If there are deviations, or rather if changes to the design of the plant documentation are necessary, this must be discussed with and approved by Wieland.

Lubrication plans



Lubrication point list

BETRIEBSANLEITUNG

Blatt: 5007

Auftrag Nr.: B370

Abschnitt: 5.2 Angaben zur Durchführung der Instandhaltung

5.2.1 Schmieranleitung

5.2.1.2 Schmierstellen-Liste

Lfd.-Nr.	Benennung	Eingriffstelle/ Schmierstelle	Nr. (Symbol)	Anzahl/ Stück	Schmierstoff-Typ Bez. nach DIN	Füllmenge	Schmier- Intervall	Anmerkungen
ACHTUNG! Vor der Schmierung alle Eingriffstellen reinigen.								
1	Bundaufgabewagen mit Ablagerost / Bg. 12							
1.1	Bundheber-Hubantrieb	Führungsschlitten	1 (V)	4	Δ KP2K	req	3.000 h	
1.2	Prismenmulde- Drehantrieb	Kegelradgetriebe (DS-Motor)	2 (III)	1	□ CLP 220	Q= 9,7 l	10.000 h	siehe Dokum. Fa. Nord
1.2.1	Prismenmuldenzapfen	Lagerung	3 (V)	1	Δ KP2K	req	500 h	
1.2.2	Prismenmulde- Kippantrieb	Führungsbuchse	4 (VI)	1	Δ OGPF1G	req	200 h	
1.3	Bundwagen- Fahrantrieb	Kegelradgetriebe (DS-Motor)	5 (III)	1	□ CLP 220	Q= 2,0 l	10.000 h	siehe Dokum. Fa. Nord
1.3.1		Zahnrad/Zahnstange	6 (IV)	2	Δ OGPF1G	req	200 h	
1.4	Roll-Abdeckung	Getriebe-Motor	7 (III)	2	□ CLP 220	Q= 0,75 l	10.000 h	siehe Dokum. Fa. Bauer
1.4.1		Kettenrieb	8 (IV)	2	Δ OGPF1G	req	200 h	

Legend:

DE	EN
BETRIEBSANLEITUNG	OPERATING INSTRUCTIONS
Blatt:	Sheet:
Auftrag Nr.:	Order no.:
Abschnitt:	Section:
5.2 Angaben zur Durchführung der Instandhaltung	5.2 Details on how to carry out maintenance
5.2.1 Schmieranleitung	5.2.1 Lubrication instructions
5.2.1.2 Schmierstellen-Liste	5.2.1.2 Lubrication point list
Lfd.-Nr.	Consecutive number
Benennung	Description
Eingriffstelle/Schmierstelle	Intervention point / lubrication point
Nr. (Symbol)	No. (Symbol)
Anzahl/Stück	Quantity/pieces
Schmierstoff-Typ	Lubricant type
Bez. nach DIN	Designation according to DIN
Schmierintervall	Lubrication interval
Anmerkungen	Remarks
ACHTUNG!	PLEASE NOTE:
Vor der Schmierung alle Eingriffstellen reinigen.	Clean all intervention points before lubrication.
Bundaufgabewagen mit Ablagerost / Bg. 12	Coil feed trolley with storage grid / Assembly 12
Bundheber-Hubantrieb	Coil lifter lift drive
Führungsschlitten	Guide carriage
req	req (request)
Prismenmulde-Drehantrieb	Prismatic trough rotary drive
Kegelradgetriebe (DS-Motor)	Bevel gear (AC motor)
siehe Dokum. Fa. Nord	See documentation by manufacturer Nord
Prismenmuldenzapfen	Prismatic trough pin
Lagerung	Bearing
Prismenmulde-Kippantrieb	Prismatic trough tilting drive
Führungsbuchse	Guide bush
Bundwagen-Fahrantrieb	Coil car traction drive
Roll-Abdeckung	Roller cover
Getriebe-Motor	Gear motor
siehe Dokum. Fa. Bauer	See documentation by manufacturer Bauer
Kettenrieb	Chain drive

Inspection and maintenance list

BETRIEBSANLEITUNG

Blatt: 5054

Auftrag Nr.: B370

Abschnitt: 5.3 WARTUNG / INSPEKTION
5.3.9 HASPEL-WECHSELTROMMEL(N)

Lfd.-Nr.	Maschine - Anlage, Baugruppe, Bauelement EINBAUSTELLE	Begriff/ Auszuführende Arbeiten	Häufigkeit Zeitintervall	Maß- und Prüfgröße, Betriebs- und Hilfsstoffe	Anmerkungen
0	Haspeltrommel(n)	Funktion / prüfen Zustand / kontrollieren Verschleiß / kontrollieren ggf. Teile / wechseln	w w w in		siehe Dokum. Hersteller (Fa.)
0.1	Haspeltrommel(n)	kpl. demontieren alle Teile / reinigen, schmieren	in in req	geeignete Reinigungsmittel Graphitschmierstoff Bez. nach DIN: 51502 / 51825 Δ OGPF1G	Spezial-Werkzeuge Lappen o. ä.
0.1.1	Wechseltrommel	Spannflächen, Zentrieransatz, Zentrierbohrungen / reinigen	(#) r		(#) vor Programmwechsel (Trommelwechsel)

Legend:

DE	EN
BETRIEBSANLEITUNG	OPERATING INSTRUCTIONS
Auftrag Nr.:	Order no.:
Abschnitt:	Section:
5.3 Wartung/Inspektion	5.3 Maintenance/inspection
5.3.9 Haspel-Wechseltrommel(n)	5.3.9 Coiler change drum(s)
Lfd.-Nr.	Consecutive number
Machine -Anlage, Baugruppe, Bauelement EINBAUSTELLE	Machinery equipment, assembly, element INSTALLATION POINT
Begriff/ Auszuführende Arbeiten	Term / Work to be carried out
Häufigkeit Zeitintervall	Frequency Time interval
Maß- und Prüfgröße, Betriebs- und Hilfsstoffe	Measurement and test size, operating materials and auxiliary materials
Anmerkungen	Remarks
Haspeltrommel(n)	Coiler drum(s)
Funktion / prüfen Zustand / kontrollieren Verschleiß / kontrollieren ggf. Teile / wechseln	Function / test Condition / check Wear / check If necessary, parts / replace
w	w (weekly)
in	in (inspection)
sehe Dokum. Hersteller (Fa.)	See documentation by manufacturer (company name)
kpl. demontieren alle Teile / reinigen, schmieren	Completely dismantle All parts / clean, lubricate
geeignete Reinigungsmittel Graphitschmierstoff Bez. nach DIN:	Suitable cleaning agent graphite lubricant Designation according to DIN:

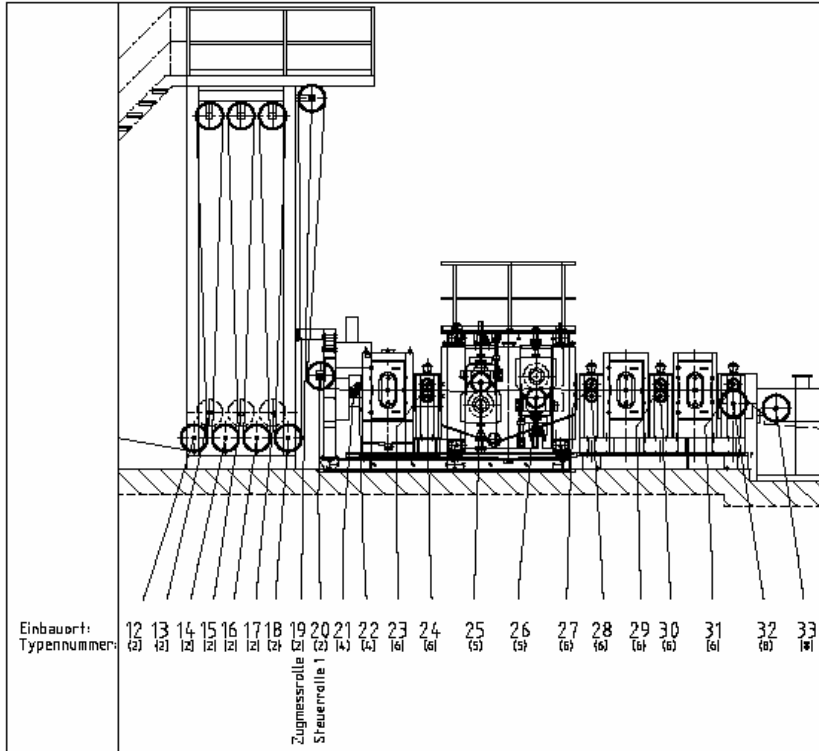
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Spezial-Werkzeuge	Special tools
Lappen o. ä.	Cloths or similar
Wechseltrommel	Change drum
Spannflächen	Clamping surfaces
Zentrieransatz, Zentrierbohrungen / reinigen	Centring attachment, Centring holes / clean
(#) vor Programmwechsel (Trommelwechsel)	(#) before program change (drum change)

List of printed documents / device descriptions

Manufacturer/supplier	Article designation	Folder
Achenbach	Contactless limit switch	1
Achenbach	Optiroll-d SFC system	1
Achenbach	Roller grinding	1
AFL Lufttechnik	Roller shutter with electric drive	1
Airwell	Air-conditioning system	1
Alfa Laval	Plate heat exchanger	1
Arca	Pressure control system	1
Arca	Temperature control system	1
Babcock	Axial fans	2
Bantleon	Avia Antifrost C	2
Bornebusch....	Slide bearings	2
Bosch	Hydraulic accumulator	2
Bosch	Radial-piston pumps	2
Böttcher	Rubber roller grinding	2
Brandt	Pressure sensor	2
....
Z...

Roller diagram / tool diagram



Legend:

DE	EN
Einbauort:	Mounting location:
Typennummer:	Type number:
Zugmessrolle	Tension measuring roller
Steuerrolle 1	Control roller 1

Roller specification / tool specification

Einbauort- Nummer	Typ- Nr.	Wieland Zeichnungs- nummer	Lieferant Zeichnungs- nummer	Benennung	Maximaler Rollen-Ø [mm]	Minimaler Rollen-Ø [mm]	Ø Rollen- körper [mm]	Ballen- länge [mm]	Gesamt- länge [mm]	Werkstoff des Rollen- körpers	Ausführung bzw. Werkstoff des Besatzes	Qualität des Besatzes bzw. der Oberfläche	Ballenform	Oberflächen- rauigkeit Rz - Wert	Stück- zahl
1	10			Andruckrolle	200		170	200	297	S355J2G3	gummiert	Schäfer 7P41	zylindrisch	40 - 60	1
4, 5, 6, 7, 8, 9	11			Richtrolle	80		60	300	476	S355J2G3	gummiert	Hoechst D15	zylindrisch	40 - 60	6
2, 3, 18, 19	12			Treibrolle	250		220	300	594	S355J2G3	gummiert	Schäfer 7P41	ballig	40 - 60	4
10, 11, 12, 13	13			Andruckrolle	300		285	300	300	1.4305	gummiert	Westland A009-80	zylindrisch	15 - 25	4
14, 15, 16, 17	14			Abquetschrolle	170		140	250	694	1.4305	gummiert	Schäfer 7P41	zyl. mit Rauten	15 - 25	4
20, 21	15			Anpressrolle	180		101,6	500	1368	S355J2G3	Vlies	JVM CY2P4	zylindrisch		2
22	16			Andruckrolle	180		----	1000	1590	S355J2G3	kein Besatz	gehärtet	zylindrisch	4	1

Legend:

DE	EN
Einbauortnummer	Mounting location number
Typ. Nr.	Type no.
Wieland Zeichnungsnummer	Wieland drawing number
Lieferant Zeichnungsnummer	Supplier drawing number
Benennung	Description
Maximaler Rollen-Ø [mm]	Maximum roller Ø [mm]
Minimaler Rollen-Ø [mm]	Minimum roller Ø [mm]
Ø Rollenkörper [mm]	Roller body Ø [mm]
Ballenlänge [mm]	Barrel length [mm]
Gesamtlänge [mm]	Total length [mm]
Werkstoff des Rollenkörpers	Roller body material
Ausführung bzw. Werkstoff des Besatzes	Finish or material of surface coating

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Qualität des Besatzes bzw. der Oberfläche	Quality of surface coating or of the surface
Ballenform	Barrel shape
Oberflächenrauigkeit Rz - Wert	Surface roughness Rz value
Stückzahl	Quantity
Andruckrolle	Pressure roller
Richtrolle	Straightening roller
Treibrolle	Transport roller
Abquetschrolle	Squeeze roller
Anpressrolle	Pressure roller
Andrückrolle	Pressure roller
gummiet	Rubberised
Vlies	Fleece
kein Besatz	No coating
gehärtet	Hardened
zylindrisch	Cylindrical
ballig	Convex
zyl. mit Rauten	Cylindrical with rhombus pattern

Parts list / spare parts list

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	19		20	21	16	17	18	22	23
															Artikelbezeichnung								
fortf'd. Nr.	Änderungsindex Rev.xx	Art der Änderung	Preis /Stück (Beispielpreise sind willkürlich)	Lieferzeit in Wochen	Menge pro Baugruppe	Zeichnungs-Nr. der zugehörigen Disposition			Baugruppe	Untergruppe	Art Bauteil	Artikelnummer (Stammnummer / Teildatennummer)	Bündelbezeichnung	Benennung Teil 1	Benennung Teil 2	Typbezeichnung		Ersatzteilanzahl II	Ersatzteilmenge III	Hersteller / Lieferant	Bestellnummer / Bezeichnung		
						Auftrags-Erzeugnis	Auftrags-Baugruppe	Auftrags-Untergruppe								Auftrags-Position	Benennung Teil 1					Benennung Teil 2	
1			50,00 €	4	2	2	66006104	01	01	07	Bundübergabeposition	Z	20273343	Puffer		E1	0	0					
2			80,00 €	4	4	4	66006104	01	02	02	Bundübergabeposition	Z	20273349	Verschleißplatte		E2	0	2					
3			40,00 €	1	1	1	66006108	01	02	42	Verschubrollen u. Bundabsteiler	F	WALR-0466009-A	Rollenkugellager	8009	E1	0	4					
4			1.500,00 €	10	2	1	66006108	01	04	10	Verschubrollen u. Bundabsteiler	Z	20474639	Verschubrolle		V1	1	1					
5			120,00 €	2	4	2	66006108	01	04	43	Verschubrollen u. Bundabsteiler	F	WALPR-08022316SB	Pendelleitlager	80170x68	V2	0	0	SKF				
6			10,00 €	1	4	2	66006108	01	04	44	Verschubrollen u. Bundabsteiler	M	M9708225	Wellendichtung	DIN 3760 A 95x125x12	V1	1	2					
7			1,50 €	1	4	2	66006108	01	04	47	Verschubrollen u. Bundabsteiler	M	M9413066	O-Ring	SN 430 158,12x 6,99xN	E1	2	2					
8			1.500,00 €	10	2	1	66006108	01	05	10	Verschubrollen u. Bundabsteiler	Z	20474639	Verschubrolle		E2	1	1					
9			120,00 €	2	4	2	66006108	01	05	43	Verschubrollen u. Bundabsteiler	F	WALPR-08022316SB	Pendelleitlager	80170x68	V1	0	0	SKF				
10			10,00 €	1	4	2	66006108	01	05	44	Verschubrollen u. Bundabsteiler	M	M9708225	Wellendichtung	DIN 3760 A 95x125x12	E1	1	2					
11			1,50 €	1	4	2	66006108	01	05	47	Verschubrollen u. Bundabsteiler	M	M9413066	O-Ring	SN 430 158,12x 6,99xN	V2	2	4					
12	01	N	150,00 €	2	13	1	66006111	10	95	07	Andrückrolle unten Eihlauf	F	VENRÜ-HR0161A507	Rückschlagventil DN 16		E2	2	2	RE-XROTH			R900328797	
12	01	N	150,00 €	4	17	1	66006111	10	95	47	Andrückrolle unten Eihlauf	F	VENMAV/ZHR0061B547	4/2-Wege-Magnetventil DN6		V2	0	0	RE-XROTH			00561276	
13			245,00 €	6	11	1	66006111	10	95	81	Andrückrolle unten Eihlauf	F	VENMAV/DHR0161C581	4/3-Wege-Magnetventil	DN 16	E1	0	0	RE-XROTH			R900926887	

Rev.00 Stand 02.07.2003
Rev.01 Stand 12.09.2003

Hinweise:

- 3 – Art der Änderung
- N= neuer Eintrag
- S= Streichung
- A= Textänderung/Ergänzung
- Z= Zeichnungsänderung

- 14 – Kennzeichnung Art.Bauteil
- Z= nach Zeichnung gefertigtes Teil
- F= Kaufteil/Fremdteil
- L= lagerhaltig bei Anlagelieferant
- M= mechanisches Bauteil
- P/H= pneumatisches/hydraulisches Bauteil
- E= elektrisches Bauteil
- G= gastechnisches Bauteil

- 15 – Artikelnummer
- Eindeutige Kennzeichnung Bauteil (Kauf-/Fertigungsteil)
- Ggf. Index für gleiche Bauteile
- (identische Einzelpositionen in unterschiedlichen Baugruppen)

Wichtig:
Angaben in den Ersatzlisten hinsichtlich Dichtungen bzw. Lager sind im Vorfeld mit WWAG abzustimmen.

(Problematik: Dichtsätze von Zylindern – Angabe von Einzelzeichnungen erforderlich / Typenbezeichnung von Wälzlagern etc.)

- 16 – Ersatzteilkennzeichnung
- V = Verschleißteil
- E = Ersatzteil
- Angabe von Dringlichkeitsstufen
- 1= höchste Priorität (z.B. E1)
- (sollen unbedingt als Reserveerteile bevorzugt werden)
- 2= niedrige Priorität (z.B. V2)
- (Reserveerteile, deren Lagerhaltung empfohlen wird)
- (bei Ausfall Teil kein direkter Anlagensstillstand)

Section C – Mechanics

Part 6: Documentation

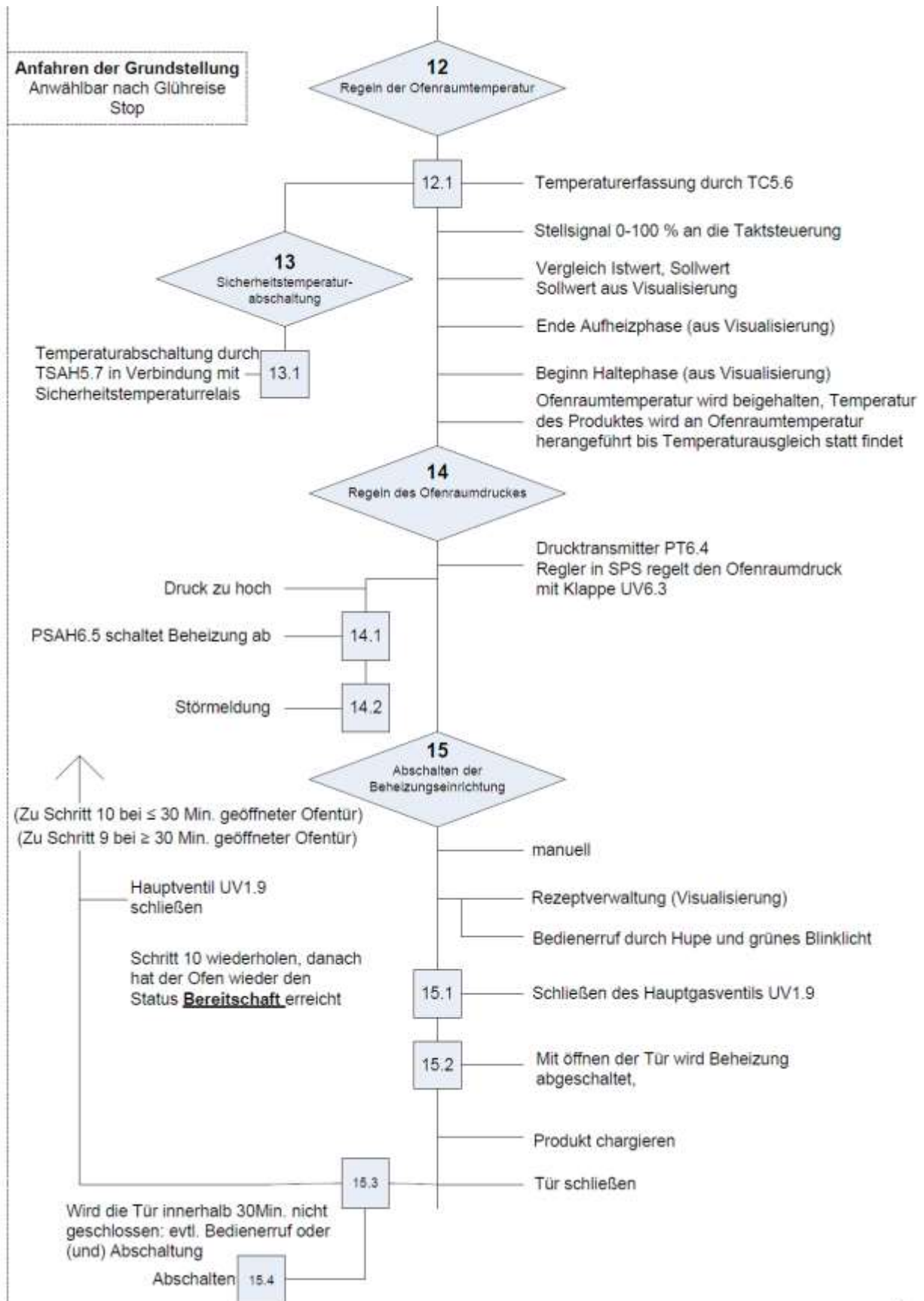
Legend:

DE	EN
fortlfd. Nr.:	Consecutive number:
Änderungsindex Rev.xx	Change index revision .xx
Art der Änderung	Nature of change
Preis /Stck (Beispielpreise sind willkürlich)	Price per unit (example prices are arbitrary)
Lieferzeiten in Wochen	Delivery times in weeks
eingeb. Gesamtmenge	Total quantity installed
Menge pro Baugruppe	Quantity per assembly
Zeichnungs-Nr. der zugehörigen Dispo oder:	Drawing number of the associated assembly drawing or:
Auftrags-Erzeugnis	Order product
Auftrags-Baugruppe	Order assembly
Auftrags-Untergruppe	Order subgroup
Auftrags-Position	Order item
Baugruppe	Assembly
Untergruppe	Subgroup
Art Bauteil	Type of component
Artikelnummer /Stammnummer / Teileidentnummer)	Article number / serial number / part identification number)
Artikelbezeichnung	Article designation
Benennung Teil 1	Name part 1
Benennung Teil 2	Name part 2
Typbezeichnung	Type designation
Ersatzteilmenge II	Spare part quantity II
Ersatzteilmenge III	Spare part quantity III
Hersteller / Lieferant	Manufacturer / supplier
Bestellbezeichnung / Bestellnummer	Order designation / order number
Bundübergabeposition	Coil transfer station
Vorschubrolle u. Bundabtaster	Feed roller and coil scanner
Andrückrolle unten Einlauf	Pressure roller bottom infeed
ND-Ventilstand L2	Low pressure valve stand L2
Z	Z
F	F
M	M
Bundablage Einlauf	Coil rack inlet
Bundwagen	Coil car
Rillenkugellager	Deep groove ball bearings
Vorschubrolle	Feed roller
Pendelrollenlager	Self-aligning roller bearings
Wellendichtring	Shaft seal
O-Ring	O-ring
Rückschlagventil DN 16	Non-return valve DN 16
4/2-Wege-Magnetventil DN6	4/2-way solenoid valve DN6
4/3-Wege-Magnetventil	4/3-way solenoid valve
Puffer	Buffer
Verschleissplatte (Zwischenplatte)	Wear plate (Sandwich plate)
Rev.00 Stand 02.07.2003	Rev.00 last revised 02 July 2003
Rev.01Stand 12.09.2003	Rev.01 last revised 12 September 2003
Hinweise:	Notes:
3 – Art der Änderung	3 – Nature of change
N= neuer Eintrag	N= new entry
S= Streichung	S= deletion
Ä= Textänderung/Ergänzung	Ä= text amendment/addition
Z= Zeichnungsänderung	Z= drawing change
14 – Kennzeichnung Art Bauteil	14 – Indication of type of component
Z= nach Zeichnung gefertigtes Teil	Z= part manufactured according to drawing
F= Kaufteil/Fremdteil	F= purchased part / OEM part
L= lagerhaltig bei Anlagelieferant	L= in stock at plant supplier
M= machanisches Bauteil	M= mechanical component
P/H= pneumatisches/hydraulisches Bauteil	P/H= pneumatic/hydraulic component

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E= elektrisches Bauteil	E= electrical component
G= gastechnisches Bauteil	G= gas component
15 – Artikelnummer	15 – Article number
Eindeutige Kennzeichnung Bauteil (Kauf-/Fertigungsteil)	Unique identification of component (purchased/manufactured part)
Ggf. Index für gleiche Bauteile	Where necessary, index for identical components
(identische Einzelpositionen in unterschiedlichen Baugruppen)	(identical individual items in different assemblies)
Wichtig:	Important:
Angaben in den Ersatzteillisten hinsichtlich Dichtungen bzw. Lager sind im Vorfeld mit WWAG abzustimmen.	Details in the spare parts lists regarding seals or bearings must be agreed with WWAG in advance.
(Problematik: Dichtsätze von Zylindern – Angabe von Einzeldichtungen erforderlich / Typenbezeichnung von Wälzlagern etc.)	(Problem: seal sets for cylinders – specification of individual seals required / type designation of roller bearings etc.)
16 – Ersatzteilkennzeichnung	16 – Spare part identification
V= Verschleißteil	V= wearing part
E= Ersatzteil	E= spare part
Angabe von Dringlichkeitsstufen	Indication of urgency levels
1= höchste Priorität (z.B. E1) (sollen unbedingt als Reserveteile bevorratet werden)	1= highest priority (e.g. E1) (must be kept in stock as spare parts)
(bei Ausfall Teil kommt es zu Anlagenstillstand)	(failure of part will lead to plant downtime)
2= niedrige Priorität (z.B. V2) (Reserveteile, deren Lagerhaltung empfohlen wird) (bei Ausfall Teil kein direkter Anlagenstillstand)	2= low priority (e.g. V2) (reserve parts which are recommended to be kept in stock) (failure of part will not directly lead to plant downtime)

Process flow diagram – example presentation



Section C – Mechanics**Part 6: Documentation**

Legend:

DE	EN
Anfahren der Grundstellung Anwählbar nach Glühreise Stop	Move to basic position Selectable after annealing run Stop
12 Regeln der Ofenraumtemperatur Temperaturerfassung durch TC5.6	12 Control of furnace chamber temperature Temperature recorded by TC5.6
Stellsignal 0-100% an die Taktsteuerung	Control signal 0-100% to the time-relay control
13 Sicherheitstemperaturabschaltung Vergleich Istwert, Sollwert Sollwert aus Visualisierung	13 Safety temperature switch-off Compare actual value, set value Set value from HMI
Temperaturabschaltung durch TSAH5.7 in Verbindung mit Sicherheitstemperaturrelais Ende Aufheizphase (aus Visualisierung)	Temperature switch-off by TSAH5.7 in conjunction with safety temperature relay End of heating phase (from HMI) [display output for operator]
Beginn Haltephase (aus Visualisierung)	Start of holding phase (from HMI) [display output for operator]
Ofenraumtemperatur wird beigehalten, Temperatur des Produktes wird an Ofenraumtemperatur herangeführt bis Temperaturlausgleich statt findet	Furnace chamber temperature is maintained, temperature of the product is brought to the furnace chamber temperature until temperature equalisation takes place
Regeln des Ofenraumdruckes Drucktransmitter PT6.4 Regler in SPS regelt den Ofenraumdruck mit Klappe UV6.3	Control of furnace chamber pressure Pressure transmitter PT6.4 Control implemented in PLC controls furnace chamber pressure with flap UV6.3
Druck zu hoch PSAH6.5 schaltet Beheizung ab Störmeldung	Pressure too high PSAH6.5 switches heating off Fault message
Abschalten der Beheizungseinrichtung (Zu Schritt 10 bei ≤ 30 Min. geöffneter Ofentür)	Switch off the heating system (To step 10 in case of ≤ 30 min. furnace door open)
(Zu Schritt 9 bei ≥ 30 Min. geöffneter Ofentür) manuell	(To step 9 in case of ≥ 30 min. furnace door open) Manual
Hauptventil UV1.9 schließen Rezeptverwaltung (Visualisierung) Bedienerruf durch Hupe und grünes Blinklicht	Close main valve UV1.9 Recipe administration (HMI) Operator call by means of horn and flashing green light
Schritt 10 wiederholen, danach hat der Ofen wieder den Status Bereitschaft erreicht	Repeat step 10, then the furnace has reached the standby status again.
Schließen des Hauptgasventils UV1.9 Mit öffnen der Tür wird Beheizung abgeschaltet	Close the main gas valve UV1.9 Heating is switched off when the door is opened
Produkt chargieren Tür schließen	Load product Close door
Wird die Tür innerhalb 30 Min. nicht geschlossen: evtl. Bedienerruf oder (und) Abschaltung Abschalten	If the door is not closed within 30 minutes: possibly operator call or (and) switch off Switch off