Schroedahl / QM/UM - Documentation

Management | Manual

for

SCHROEDAHL GmbH

CIRCOR

SCHROEDAHL GmbH

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Legal notices and preface

Pump protection valves and control valves from SCHROEDAHL

SCHROEDAHL is a worldwide orientated company with decades of experience in development and manufacturing of high-class speciality valves for regenerative, nuclear and conventional power stations, industrial plants as well as for production, transport and refining systems in the oil and gas sector.

Power plant and process industry

Long lasting high-end valves for perfected processes, SCHROEDAHL, with its decades of experience, is one of the world leaders for high quality control valve solutions. With our intense, intelligent and highly professional engineering our products contribute to safe, economically optimised processes in power plants as well as to industrial systems.

We see ourselves as sophisticated problem solvers, who think beyond the requirements of the singular control valve to evaluate the entire process. In this way we evoke solutions beyond standards and point a way for the market.

According to the requirements, SCHROEDAHL control valves can be used in pressure, temperature and level-regulator circuits as well as in volume-regulator circuits in all areas of power plant and in many industrial processes.

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SCHROEDAHL products in the power & process segment:

- Automatic pump protection valves
- Control valves for pump protection
- Special high-pressure control valves for water- and steam-circuits
- Steam conversion valves and turbine bypass stations
- Superheated steam cooler

Specialist in the oil and gas sector

We offer you permanent, reliable pump protection for your business, particularly in oil and gas production (upstream) and processing (downstream).

Because our products are used in the toughest conditions, we manufacture to the highest quality level. The entire production and manufacturing chain is aligned to the most important national and international regulations and engineering standards (DIN, UVV, Vd TUV, AD data sheets, TRD, ASME, ANSI as well as DIN ISO 9001 / 14001 / 19443).

Furthermore, only high-quality materials are used, from carbon steel to stainless steel duplex, to ensure permanent reliability through immaculate function.

SCHROEDAHL control valve

SCHROEDAHL has been developing and producing control valves since 1962. Control valves are a conventional form of pump protection. During operation of the pump, the flow rate is continuously measured, and the results are transmitted to the control unit. The control unit regulates the control valve, the corresponding medium (for example oil, gas, seawater, chemicals) is fed to the pump. This avoids any destruction of the pump through cavitation or overheating. At the same time, our experienced mechanics and technicians will be happy to offer any maintenance, servicing or adjustment of the control system on site.

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General remarks and introduction

The manual and the other applicable documents implement the requirements of DIN EN ISO 9001:2015, DGRL 2014/68/EU, DIN EN ISO 14001:2015 and DIN EN ISO 19443.

Scope

The management systems described in this MM apply for all areas of the firm of

SCHROEDAHL GmbH
Alte Schönenbacher Straße 4
51580 Reichshof-Mittelagger

It applies together with further management documents for all employees (please refer to the organisational chart).

In the event of a contract, the management system is applied as a performance level pursuant to

- DIN EN ISO 9001, DIN EN ISO 14001 and DIN EN ISO 19443

The management system also covers the additional requirements of other standards such as

- AVS D100/50,
- EU Pressure Equipment Directive 2014/68/EU (PED)
- AD 2000 HP0
- EN ISO 3834-2.

Distribution of the management manual

The MM is kept on the network drive and Intranet.

The MM is available as a loose-leaf collection in QM for employees with no access to the central network drive. Specific instructions will be distributed with an ongoing revision service (for internal use), with a temporary revision service and without a revision service. All loose-leaf copies of the instructions are registered in the corresponding distribution lists.

The MB is responsible for the distribution of the loose leafs and the management of the return receipts.

The MM is confidential and is subject to copyright. Its disclosure and handover to customers and/or sub-contractors requires the approval of the management. All copies of the MM remain the property of SCHROEDAHL GmbH

If the employment contract is terminated, if requested by the MB and possibly on completion of an order, the MM and all instructions shall be returned to the MB.

The manual applies for all areas of SCHROEDAHL GmbH within the CIRCOR Advanced Flow Solutions (AFS) Group.

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1. About ourselves

The company of **SCHROEDAHL GmbH** is located in the Oberbergische District (NRW), municipality of Reichshof, urban district of Mittelagger. It is very conveniently located in terms of transport since the premises are only approx. 4 km from the Reichshof- Eckenhagen motorway access on the A4 motorway Cologne-Olpe.

The site is located on an industrial estate and is split by the Alte Schönenbacher Straße.

The company was founded in 1966 with the construction of production and storage halls. An administrative building was built a little later.

This first phase of building lies between the Alte Schönenbacher Straße and the Breidenbach outfall.

The plot had been used agriculturally up until the start of the construction work.

In the years 2003, 2007, 2009 and 2014 the company was expanded by the construction of a new hall in each case to the east of the Schönenbacher Straße.

These halls are also used as production and storage halls.

The site borders directly on the Steinagger outfall to the north and parts of it are designated as a flood plain.

The premises border on meadows that are used for grazing in the east and south.

The company site covers an overall area of approx. 15,250 m², 5,200 m² of which are built-up.

The nearest residential buildings are approx. 100 m from the production areas.

The Breidenbach and Steinagger outfalls that border on the premises directly are each classified as second order watercourses.

The nearest water protection area (Wiehl valley reservoir catchment area) is approx. 8 km away.

The main production processes that are carried out on the site are:

Mechanical manufacturing (sawing, lathing, milling, drilling), welding, assembly, painting, packaging.

Connection to the CIRCOR Group

In April 2015, the firm of Schroedahl-Arapp was taken over by CIRCOR German Holdings GmbH und Co KG, part of the American CIRCOR group with headquarters in Burlington, MA, USA.

Since the CIRCOR Group is split over several fields of business, the rebranded SCHROEDAHL GmbH was initially assigned to the energy division.
In the course of a group reshuffle, the CIRCOR Advanced Flow Solutions (AFS) Group was created in the middle of 2016, to which SCHROEDAHL GmbH has belonged since then. There has been no change in the company's range of products as a result of the takeover.

2. Our company - philosophy / responsibility / policy

We know that the quality of our products is a very important basis for the further development of our company. Therefore, quality and quality management are key elements in our corporate policy. We pay special attention to the identification and fulfilment of customer and interesting parties and their requirements regarding satisfy their specific interests. Reliability, flexibility and on-time deliveries are constant objectives of the business policy.

As a certified supplier for the nuclear sector, we pay especially attention to the quality of our personnel and processes in order to ensure the high demands of the KTA 1401, QN100 Generic and the ISO 19443, for process reliability and quality throughout the entire process chain. We are aware that our products in this area of application must meet particularly high safety and quality standards, as well as the potential risks associated with the supply of counterfeit, fraudulent and suspicious items (CFSI) within the supply chain. For this reason, we only work with suppliers who can prove the quality and origin of the goods we require. Our processes ensure that non-compliant Counterfeit Fraudulent Suspect Items (CFSI) cannot be used. To this end, we pursue a purchasing strategy that seeks to develop and maintain strong supply chain relationships with our key strategic suppliers based on collaboration, integrity and mutual trust. Supplier qualifications are reviewed and verified at prescribed intervals by appropriately qualified and experienced personnel. This is done in accordance with the supplier selection, evaluation and re-evaluation process. All personnel involved in the procurement of goods have been informed of the potential for CFSI and advised that all goods must be purchased directly from manufacturers or from agreed and official distribution channels. If CFSI items are discovered in the supply chain, we will notify our customers to stop using that item and inform all other parties who may be using it. These items should then be quarantined and destroyed and not returned to the supplier to prevent them from re-entering the supply chain.

The exact implementation of the special nuclear requirements is constantly reviewed by a specially trained and experienced project manager and supported by trained and selected project specialists over the entire project. This specially selected "nuclear project personnel"

is regularly trained, throughout the entire process chain, as part of a project-related nuclear safety culture training to ensure always high safety and quality standards.

The topic of environmental protection has always played a major role in our company. To ensure that we remain a reliable and safe partner for all in future, the next step for us is to maintain an environmental management system. As a result, we are committed to not only observing all environmentally relevant laws and regulations but also to continuously and systematically improving internal environmental protection. We are committed to protecting the environment, which includes preventing environmental impacts.

The health and safety of our employees take top priority. Human capital is one of our most important investments, which is why it is our job to protect this accordingly. Health and safety objectives are set and monitored on a regular basis. We aim for continuous improvement in this field through further training, instructions, the identification of hazards, protective equipment and other measures.

The corporate strategy is defined annually insofar as the management sets quality, environmental and safety objectives. These objectives are substantiated in individual programmes in cooperation with the different departments. The programmes that are drawn up and their results are communicated to employees in an open an objective manner.

The management believes that one of its jobs is to encourage the employees' sense of responsibility and quality and their awareness of environmental protection, to define basic responsibilities, corporate processes and procedures, to monitor the efficacy of the defined measures and to ensure the availability of the necessary means. To this end, the management has implemented rules in this management manual (MM) that are anchored in the following standards.

The international standards DIN EN ISO 9001, ISO 14001 and DIN EN ISO 19443 form the basis of the MM. The MM is binding for the company.

We are committed to following the rules set out ion the corporate manual and to meet our binding obligations.

All employees are invited to constantly cooperate in improving the management system.

The management's goal is to consolidate and expand the market position with the defined corporate strategy, to spare the environment and its natural resources and to protect and uphold the health of the employees.

The Quality Management (QMB) and Environment Management Officer (UMB) as well as the Coordinator for Nuclear Safety are authorised by the management to ensure that the stipulations laid down in the MM are applied. They report directly to the management on a regular basis after internal audits and on special occasions about compliance with and the efficacy of the M system.

If contractually agreed, we disclose this MM and any M documents that are relevant for the order to our customers and are also prepared to haver the application of the M system verified.

Markus Schlosser	**Peter Heine**	**Dr. Joachim Krägeloh**
Vice President EMEA	**Director OPS**	**Director Quality**
SCHROEDAHL GmbH	**SCHROEDAHL GMBH**	**SCHROEDAHL GmbH**

3. Management of resources

Communication, information and exchanges in our organisation take place through personal talks and regular meetings.

The occupational health and safety requirements are looked after by the external occupational safety specialist (FASI). The FASI is supported internally by safety officers and the EHS Manager.
Because our company is part of an American group, an EHS system has also been introduced in the German subsidiaries at their instigation. This means that not only are German and European laws and regulations observed, but the much stricter intragroup American standards also have to be satisfied.

Environmental protection, energy efficiency and a careful use of resources have long taken priority for us. This is why we believe that it is very important to keep our environmental management system according to ISO 14001 up to date at all times.

The management is responsible for compliance with and communication of the statutory/official requirements, and for the infrastructure, working and process environment.

Trained and qualified employees are a key cornerstone for a successful company. Employee qualification and motivation is a natural motor in our organisation. Our employees enjoy regular further training.

4. Our processes – our landscape

Management processes

The management processes represent a clearly defined structure in our company. To this end, goals are defined, and their achievement monitored systematically in the management review and measures are also derived to ensure the achievement of the goals.

Value-creation processes

Our value-creation processes are based on our customers' requirements. This results in a continuous adaptation to the demands and wishes of our customers.

Support processes

Support processes are provided to ensure the smooth course of the value-creation processes. This guarantees the implementation of the customer requirements.

Documented procedures

DIN ISO 9001 explicitly and without exception calls for documented procedures, also called an obligatory procedure.

These procedures ensure a documented process and that the content of the documentation of all of our activities satisfies internal and external expectations.

5. Measurement, improvement, deviation, correction

The efficacy of the system is monitored by analysing the customer satisfaction-dissatisfaction as well as the results of both internal and customer audits.

The management system is subject to scheduled and unscheduled audits.
Our audits provide objective proof of compliance with the applicable instructions and the efficacy of any measures taken.
Any necessary corrective measures are initiated, and their implementation is monitored. Continuous improvement and a consideration of possible risks form an essential part of planning and changes as well as chances.

The QM system is assessed and improved with the regular management review.

The satisfaction of customer requirements is ensured by measuring and monitoring the processes.

Systematic corrections and improvements are introduced in the ongoing processes, and their implementation is monitored.

6. Other applicable documents

Appendix 1 Process map

<u>Appendix to the management manual:</u>

Appendix 2 Organisational chart for SCHROEDAHL GmbH

Appendix 3 List of other applicable documents

Management instructions (documented procedure)

Environmental management instructions (documented procedure)

List of abbreviations used

Our processes have proven their worth.

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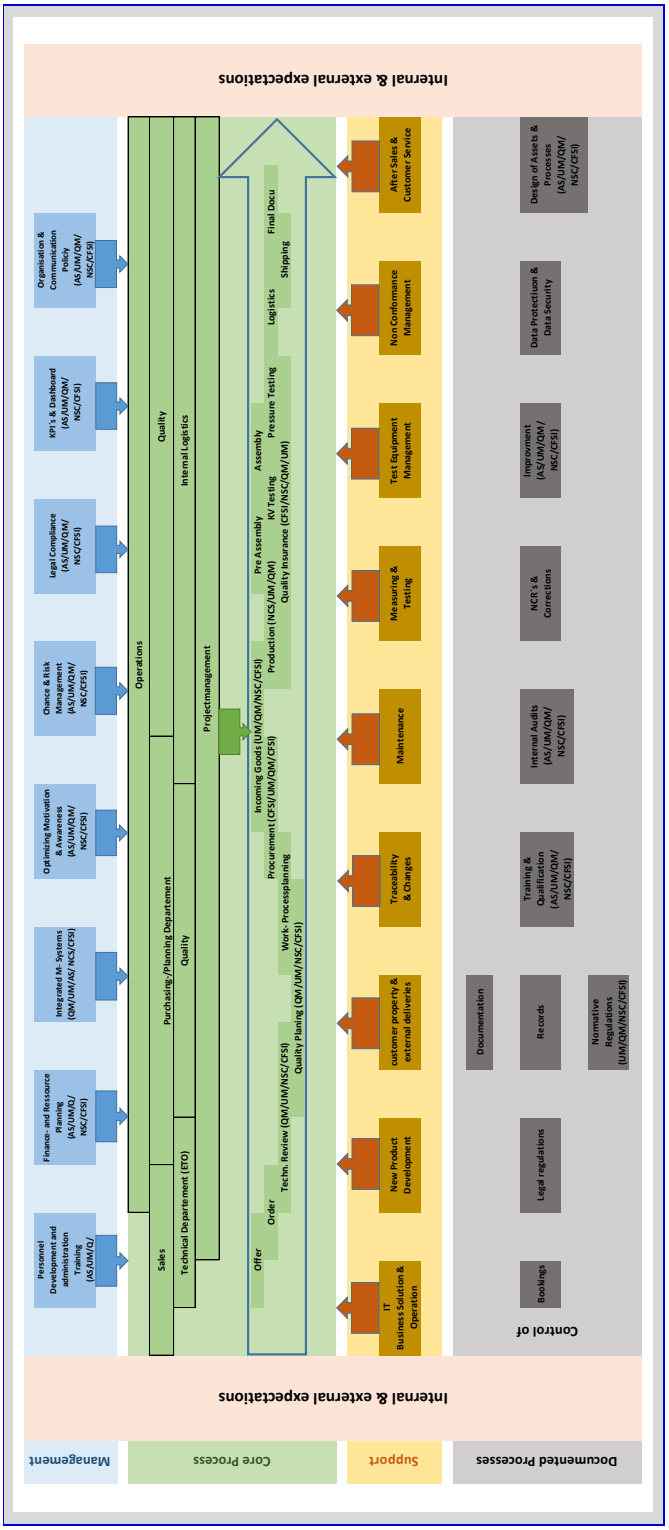
Appendix 1 Process map



Appendix 2 Organisational Chart for SCHROEDAHL GmbH

See extra appendix

Appendix 3 List of other applicable documents

Management procedure instructions (documented procedures)

lfd. Nr.:	MV Nr.:	Titel
1	MH	Management Manual Fa. Schroedahl GmbH
2	0Q 100	Control of documents
3	0Q 101	Control of records
4	0Q 102	Drafting / amending and structure of instructions
5	0Q 104	Internal-external communication
6	0Q 110	Standards office: managing standards, regulations and specifications
7	0Q 200	Drafting / amending / verifying order-related documentation
8	0Q 201	Project-related instructions
9	0Q 210	Drafting and verifying welding documents
10	0Q 300	Planning the product realisation: supporting, value-creating and management processes
11	0Q 301	Sales process
12	0Q 302	Development/engineering/technology D+E process
13	0Q 303	Quality management QM process
14	0Q 304	Planning AV process
15	0Q 305	Purchasing EK process
16	0Q306	Process Planning SIOP
17	0Q307	Process Export Control
18	0Q 309	Customer Satisfaction Analyzation
19	0Q 311	Operations OPS process
20	0Q 320	Manufacturing and testing pressure equipment
21	0Q 330	Identification/marking and traceability
22	0Q 352	Coating specification – definition and report
23	0Q 400	Subcontracting to service providers
24	0Q 500	Dealing with deviations / control of faulty products
25	0Q 501	Preventive measures to eliminate possible deviations
26	0Q 502	Identification of risks and opportunities
27	0Q 505	Environmental Health & Safety – violation of security
28	0Q 600	Internal audits – planning, performance and documentation
29	0Q 610	Subcontractors and service providers – assessment, selection and documentation
30	0Q 620	Analysis, monitoring and measurement of processes and products
31	0Q 700	Personnel, personnel development and training
32	0Q 800	Management review
33	0Q 801	KAIZEN – Annual planning

34	**0Q 802**	Continuous Improvement (CI)
35	**0Q 900**	Management Commitment of the management to a safety culture
36	**0Q 901**	Handling NPP orders – planning, performance, documentation
37	**1Q 305**	Incoming goods
38	**1Q 306**	Products provided by the customer
39	**1Q 321**	Heat treatment of steels
40	**1Q 322**	Welding work /welding supervision
41	**1Q 323**	Kanban crates - Circuit and re-charging
42	**1Q 324**	Kanban cards
43	**1Q 325**	Rules for production of single- and serial parts
44	**1Q 330**	Re-stamping
45	**1Q 331**	Marking of parts with article number
46	**1Q 332**	Caulking of bolted components
47	**1Q 340**	Cleaning and handling valves
48	**1Q 352**	Standard coating specification
49	**1Q 354**	Packing valves
50	**1Q 355**	Longterm Storage Procedure
51	**1Q 401**	Pickling instruction
52	**1Q 621**	Using the acceptance dispatch note
53	**1Q 901**	Packing valves for the nuclear field
54	**1Q 902**	Cleaning and handling valves for the nuclear field
55	**1Q 903**	Storage and transport of valves for the nuclear field
56	**1Q 904**	Receipt and material flow of filler metals
57	**1Q 905**	Chloride free marking for nuclear parts
58	**2Q 311**	Identity check _ PMI OES
59	**2Q 312**	Identity check _ PMI XRF
60	**2Q 320**	Dimensional check
61	**2Q 322**	Monitoring the welding shop
62	**2Q 352**	Checking the nominal film thickness
63	**2Q 601**	Checking the measurement and control equipment
64	**2Q 610**	External checking of test equipment
65	**2Q 621**	Dye penetrant testing
66	**2Q 622**	Visual inspection
67	**2Q 624**	Ultrasound test instruction for welding ends tests pursuant to AVS 22.2/50
68	**2Q 625**	Ultrasound test instruction for welding seam tests pursuant to AVS 22.2/50
69	**2Q 630**	Water pressure test of the pressure retaining housing
70	**2Q 631**	Leak test of the pressure retaining housing
71	**2Q 632**	Seat leak test

72	**2Q 633**	Function check
73	**2Q 634**	Test bench – check the design of TD valves
74	**0U 100**	Operating report
75	**0U 101**	Energy management
76	**0U 102**	Environmental aspects (interested parties, risk & opportunities, lifecycle assessment, risk matrix)
77	**0U 103**	Schedule of legal provisions
78	**0U 200**	Hazardous substances
79	**0U 201**	REACH/RoHS Conformity; Material Compliance Coordination
80	**0U 202**	Guideline on the implementation of 2023/1115 EUDR
81	**0U 300**	Waste management
82	**0U 400**	Emergency precautions and hazard prevention
83	**1U 110**	Check and clean the sludge trap
84	**1U 111**	Checking various drip trays for hazardous substances and the sludge trap
85	**1U 201**	Leak of substances hazardous to water at the chip container
86	**1U 202**	Handling the oil skimmer's collecting tank at CNC machines
87	**1U 203**	Storing hazardous substances
88	**1U 301**	Disposal of the coloured water from the coating booth
-	~~**1U 400**~~	~~Issue and assessment of the safety and environmental instructions for external companies~~
89	**1U 401**	Named helpers
90	**1 EK 01**	Inquiry
91	**1 EK 02**	Order
92	**1 EK 03**	Order confirmation
93	**1 EK 04**	Incoming goods
94	**1 EK 05**	Invoice verification
95	**1V01**	Invoice processing
96	**1V02**	Order processing
97	**1V03a**	Invoice generation
98	**1V03b**	Payment in advance
99	**1V03c**	Invoicing for partial delivery
100	**1V04**	Order Processing Sales & Customer Service
101	**1V05**	Creation and compilation of customer documentation
102	**1 KD 01**	Invoice processing
103	**1 KD 02**	Order processing
104	**1 KD 03**	Dispatch
105	**1 KD 04**	Invoice generation
106	**1 KD 05**	Warranties
107	**1 KD 06**	Complaints
108	**1 KD 07**	Radiation protection instruction

109	**1 KD 07-01**	Regular training for radiation protection
110	**1 KD 08**	Guidelines for installation personnel
111	**1 KD 09**	Guidelines for installation personnel
112	**1 AV 01**	Order Processing
113	**1 AV 02**	Processing accruing orders in the AV
114	**1 AV 03**	Controlling the production documents in production
115	**1 E+K 01**	Type code for control valves
116	**1 E+K 02**	Drawing filing system
117	**1 E+K 03**	Amending drawings and parts lists in the D+E department
118	**1 E+K 04**	Filing system for installation reports in the D+E department
119	**1 E+K 05**	Order processing in the D+E department
120	1 E+K 06	Type code for minimum flow valves
121	1 E+K 07	Drawing filing system for minimum flow valves
122	1 E+K 08	Preparing, changing and distributing the workshop note (WZ) for minimum flow valves
123	1 E+K 09	Preparing, changing and distributing the workshop note (WZ) for control valves
124	1 E+K 10	Preparing calculation sheets using Mathcad (D+E)
125	1 E+K 11	Preparing welding plans
126	1 E+K 12	Filing scheme for the WinWord program
127	1 E+K 13	Working with the P2 program

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List of abbreviations / initials used

Initial	Title / Description
AV	Job preparation
B/HR	Accounting / personnel management – Human Resources
BA	Company medical officer
BL	Plant management
D+E	Development/engineering/technology
IT / EDP	Electronic data processing
EK	Purchasing
GF	Management
KD	Customer service
L	Store
MA	Management instruction
MAU	External installation
MM	Management Manual
MP	Management test instruction
M-Plan	Management plan
M-System	Management system
MV	Management procedure instruction
P	Production
QMB	Quality management officer
MB	Management representative
SiFa	Occupational safety specialist
UMB	Environmental management officer
V	Sales
VE	Dispatch
QC	Quality clinic
COS	Circor Operating System
OTD	On Time Delivery
FB	Form sheet