cutting parameter

material
mild steel

thickness
12 mm

cutting speed
3200 mm/min

technology
Contour Cut

cutting voltage
133 V

cutting current
200 A

configure

choose cutting data

Q-Source 3000+

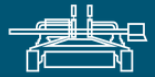
process on

Q-Gas 4500

Q-Desk

1.5.5b

control mode



EtherCAT

Q-Port 4500

Q-Torch 4500

Process parameter

Parameter

choose cutting data

configure

material	mild steel 1.0037 S235
thickness	12.0 mm
technology	Contour Cut
record number	192
version	1

cutting speed	3,200.0	mm/min
kerf	2.9	mm
ignition height	4.0	mm
cutting height	3.5	mm
cutting current	200.0	A
cutting voltage	133.0	V
pierce height	6.0	mm
pierce time	0.4	s

gas	pressure
ZG	Air
PG1	O_2 8.0 bar
WG1	O_2 4.2 bar
WG2	Air 8.0 bar

cooling tube	cathode	gas guide	nozzle	nozzle cap	swirl gas cap	protection cap
E902	E006	E1034	E2017	E3014	E4035	E501
						
.11.858.401.142	.11.858.401.360	.11.858.401.1434	.11.858.401.417	.11.858.401.1614	.11.858.401.1535	.11.858.401.131

Kjellberg FINSTERWALDE

Q-3000+

Home / Process parameter

Process parameter

Parameter

choose cutting data

configure

material	
thickness	
technology	
record number	
version	

3,200.0	mm/min	
2.9	mm	
4.0	mm	
3.5	mm	
200.0	A	
133.0	V	
6.0	mm	
0.4	s	

	gas	pressure
ZG	Air	
PG1	O_2	8.0 bar
WG1	O_2	4.2 bar
WG2	Air	8.0 bar

cooling tube	cathode	gas guide	nozzle	nozzle cap	swirl gas cap	protection cap
E902	E006	E1034	E2017	E3014	E4035	E501
.11.858.401.142	.11.858.401.360	.11.858.401.1434	.11.858.401.417	.11.858.401.1614	.11.858.401.1535	.11.858.401.131

Process parameter

Parameter

confirm

cancel

material	mild steel 1.0037 S235
thickness	12.0 mm
technology	Contour Cut
record number	192
version	1

cutting speed	3,200.0	mm/min
kerf	2.9	mm
ignition height	4.0	mm
cutting height	3.5	mm
cutting current	200	A
cutting voltage	133.0	V
pierce height	6.0	mm
pierce time	0.4	s

	gas	pressure	
ZG	Air		
PG1	O_2	8.0	bar
WG1	O_2	4.2	bar
WG2	Air	8.0	bar

cooling tube	cathode	gas guide	nozzle	nozzle cap	swirl gas cap	protection cap
E902	E006	E1034	E2017	E3014	E4035	E501
						
.11.858.401.142	.11.858.401.360	.11.858.401.1434	.11.858.401.417	.11.858.401.1614	.11.858.401.1535	.11.858.401.131

cutting data finder

Please choose your material to be cut.

1.0330 DC01	1.0037 S235	1.4301 CrNi	3.3535 AlMg3
mild steel	mild steel	stainless steel	aluminium

cutting history

#	material	thickness	cutting current	technology	cutting speed	cutting voltage	gases	consumables
192	1.0037 S235	12 mm	200 A	Contour Cut	3200 mm/min	133 V	ZG Air PG1 O2 8.0 bar WG1 O2 4.2 bar WG2 Air 8.0 bar	cooling tube E 902 cathode E 006 gas guide E 1034 nozzle E 2017 nozzle cap E 3014 swirl gas cap E 4035 protection cap E 501
191	1.0037 S235	12 mm	200 A	Contour Cut Speed	3400 mm/min	133 V	ZG Air PG1 O2 8.0 bar WG1 O2 4.2 bar WG2 Air 8.0 bar	cooling tube E 902 cathode E 006 gas guide E 1034 nozzle E 2017 nozzle cap E 3014 swirl gas cap E 4035 protection cap E 501
75	1.0037 S235	12 mm	150 A	Contour Cut Speed	3400 mm/min	131 V	ZG Air PG1 O2 8.0 bar WG1 O2 3.0 bar WG2 Air 5.5 bar	cooling tube E 902 cathode E 005 gas guide E 1034 nozzle E 2013 nozzle cap E 3014 swirl gas cap E 4030 protection cap E 501
56	1.0037 S235	20 mm	300 A	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG1 O2 6.5 bar WG2 Air 3.5 bar	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
56	1.0037 S235	20 mm	**400 A**	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG1 O2 6.5 bar WG2 Air 3.5 bar	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
182	1.0037 S235	8 mm	**123 A**	Contour Cut	2200 mm/min	131 V	ZG Air PG1 O2 8.0 bar WG1 O2 2.2 bar WG2 Air **0.1** bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2008 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
4	1.0330 DC01	3 mm	**123 A**	Contour Cut	1200 mm/min	126 V	ZG Air PG1 O2 5.5 bar WG1 O2 4.5 bar WG2 Air **0.1** bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2007 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
182	1.0037 S235	8 mm	60 A	Contour Cut	2200 mm/min	131 V	ZG Air PG1 O2 8.0 bar WG1 O2 2.2 bar WG2 Air 2.6 bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2008 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
56	1.0037 S235	20 mm	300 A	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG1 O2 6.5 bar WG2 Air **0.1** bar	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
4	1.0330 DC01	3 mm	35 A	Contour Cut	1200 mm/min	126 V	ZG Air PG1 O2 5.5 bar WG1 O2 4.5 bar WG2 Air **0.1** bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2007 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501

cutting data finder

back

material
1.0037 S235

Please choose your material thickness.

0 mm	4 mm	5 mm	6 mm	8 mm	10 mm	12 mm	15 mm	20 mm	25 mm	30 mm	35 mm	40 mm	50 mm	60 mm	70 mm	80 mm

cutting history

#	material	thickness	cutting current	technology	cutting speed	cutting voltage	gases	consumables
192	1.0037 S235	12 mm	200 A	Contour Cut	3200 mm/min	133 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 4.2 bar WG_2 Air 8.0 bar	cooling tube E 902 cathode E 006 gas guide E 1034 nozzle E 2017 nozzle cap E 3014 swirl gas cap E 4035 protection cap E 501
191	1.0037 S235	12 mm	200 A	Contour Cut Speed	3400 mm/min	133 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 4.2 bar WG_2 Air 8.0 bar	cooling tube E 902 cathode E 006 gas guide E 1034 nozzle E 2017 nozzle cap E 3014 swirl gas cap E 4035 protection cap E 501
75	1.0037 S235	12 mm	150 A	Contour Cut Speed	3400 mm/min	131 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 3.0 bar WG_2 Air 5.5 bar	cooling tube E 902 cathode E 005 gas guide E 1034 nozzle E 2013 nozzle cap E 3014 swirl gas cap E 4030 protection cap E 501
56	1.0037 S235	20 mm	300 A	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG_1 O_2 6.5 bar WG_2 Air 3.5 bar	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
56	1.0037 S235	20 mm	**400 A**	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG_1 O_2 6.5 bar WG_2 Air 3.5 bar	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
182	1.0037 S235	8 mm	**123 A**	Contour Cut	2200 mm/min	131 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 2.2 bar WG_2 Air **0.1 bar**	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2008 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
4	1.0330 DC01	3 mm	**123 A**	Contour Cut	1200 mm/min	126 V	ZG Air PG_1 O_2 5.5 bar WG_1 O_2 4.5 bar WG_2 Air **0.1 bar**	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2007 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
182	1.0037 S235	8 mm	60 A	Contour Cut	2200 mm/min	131 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 2.2 bar WG_2 Air 2.6 bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2008 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
56	1.0037 S235	20 mm	300 A	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG_1 O_2 6.5 bar WG_2 Air **0.1 bar**	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
4	1.0330 DC01	3 mm	35 A	Contour Cut	1200 mm/min	126 V	ZG Air PG_1 O_2 5.5 bar WG_1 O_2 4.5 bar WG_2 Air **0.1 bar**	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2007 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501

cutting data finder

back

material	thickness
1.0037 S235	10 mm

Please choose your cutting technology.

Contour Cut Speed | notching | notching+ | marking | **Contour Cut** | hole 1:1 | hole 0.75:1

cutting history

#	material	thickness	cutting current	technology	cutting speed	cutting voltage	gases	consumables
192	1.0037 S235	12 mm	200 A	Contour Cut	3200 mm/min	133 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 4.2 bar WG_2 Air 8.0 bar	cooling tube E 902 cathode E 006 gas guide E 1034 nozzle E 2017 nozzle cap E 3014 swirl gas cap E 4035 protection cap E 501
191	1.0037 S235	12 mm	200 A	Contour Cut Speed	3400 mm/min	133 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 4.2 bar WG_2 Air 8.0 bar	cooling tube E 902 cathode E 006 gas guide E 1034 nozzle E 2017 nozzle cap E 3014 swirl gas cap E 4035 protection cap E 501
75	1.0037 S235	12 mm	150 A	Contour Cut Speed	3400 mm/min	131 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 3.0 bar WG_2 Air 5.5 bar	cooling tube E 902 cathode E 005 gas guide E 1034 nozzle E 2013 nozzle cap E 3014 swirl gas cap E 4030 protection cap E 501
56	1.0037 S235	20 mm	300 A	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG_1 O_2 6.5 bar WG_2 Air 3.5 bar	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
56	1.0037 S235	20 mm	**400 A**	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG_1 O_2 6.5 bar WG_2 Air 3.5 bar	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
182	1.0037 S235	8 mm	**123 A**	Contour Cut	2200 mm/min	131 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 2.2 bar WG_2 Air **0.1 bar**	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2008 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
4	1.0330 DC01	3 mm	**123 A**	Contour Cut	1200 mm/min	126 V	ZG Air PG_1 O_2 5.5 bar WG_1 O_2 4.5 bar WG_2 Air **0.1 bar**	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2007 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
182	1.0037 S235	8 mm	60 A	Contour Cut	2200 mm/min	131 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 2.2 bar WG_2 Air 2.6 bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2008 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
56	1.0037 S235	20 mm	300 A	Contour Cut Speed	2500 mm/min	121 V	ZG Air PG_1 O_2 6.5 bar WG_2 Air **0.1 bar**	cooling tube E 922 cathode E 022 gas guide E 1264 nozzle E 2228 nozzle cap E 3228 swirl gas cap E 4250 protection cap E 501
4	1.0330 DC01	3 mm	35 A	Contour Cut	1200 mm/min	126 V	ZG Air PG_1 O_2 5.5 bar WG_1 O_2 4.5 bar WG_2 Air **0.1 bar**	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2007 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501

cutting data finder

back

confirm

material	thickness	technology
1.0037 S235	10 mm	Contour Cut

Please choose one of the listed records

#	material	thickness	cutting current	technology	cutting speed	cutting voltage	gases	consumables
39	1.0037 S235	10 mm	60 A	Contour Cut	1500 mm/min	131 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 1.7 bar WG_2 Air 4.0 bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2008 nozzle cap E 3014 swirl gas cap E 4020 protection cap E 501
9	1.0037 S235	10 mm	100 A	Contour Cut	2500 mm/min	130 V	ZG Air PG_1 O_2 8.0 bar WG_1 O_2 2.5 bar WG_2 Air 5.0 bar	cooling tube E 902 cathode E 012 gas guide E 1034 nozzle E 2011 nozzle cap E 3014 swirl gas cap E 4025 protection cap E 501

cooling tube	cathode	gas guide	nozzle	nozzle cap	swirl gas cap	protection cap
E902	E012	E1034	E2008	E3014	E4020	E501
						
.11.858.401.142	.11.858.411.320	.11.858.401.1434	.11.858.401.408	.11.858.401.1614	.11.858.401.1520	.11.858.401.131

Components

Q-Source 3000+

process on

- Status
- Technical Specifications
- Manual
- Machine Information
- Log

Status	Q-Source
last error	E-0 no error
cutting current	200 A
cutting voltage	148 V
conductor voltage	368 V
coolant fill level	ok
coolant temperature	28 °C
coolant_flow	5.2 l/min
fan 1	on
fan 2	on
operation mode	EtherCAT
EtherCAT - OP	ok
CAN	ok
Ethernet	ok
Q-Unit processor unitiliazion	51 %
M2MI processor utilization	70 %
Q-Unit memory usage	31 %
M2MI memory usage	10 %

Components

Q-Source 3000+

process on

- Status
- Technical Specifications
- Manual
- Machine Information
- Log

Log — **Q-Unit**

	error code	error description
2019-04-10 07:08:32	136	variance in prozess - PG1
2019-04-10 06:21:27	171	no dataset loaded
2019-04-10 06:17:16	171	no dataset loaded
2019-04-10 06:17:15	168	defective relais A1:K15 emergency stop 1
2019-04-10 06:17:15	168	defective relais A1:K15 emergency stop 1
2019-04-10 06:17:15	120	emergency stop
2019-04-09 16:03:13	120	emergency stop
2019-04-09 09:04:09	120	emergency stop
2019-04-09 06:19:39	171	no dataset loaded
2019-04-09 06:15:31	171	no dataset loaded

Q-Gas 4500

- Status
- Technical Specifications
- Manual
- Machine Information

Status — **Q-Gas**

last error: E-0 no error

	gas	reference value	actual value
ZG	Air		
PG1	O_2	8.0 bar	8.0 bar
WG1	O_2	4.2 bar	4.3 bar

Components

Q-Source 3000+

ready

- Status
- Technical Specifications
- Manual
- Machine Information
- Log

Manual	Q-Source
Q-Unit 3000	

Q-Gas 4500

- Status
- Technical Specifications
- Manual
- Machine Information

Status	Q-Gas
last error	E-0 no error

	gas	reference value	actual value
ZG	Air		
PG1	O_2	8.0 bar	8.0 bar
WG1	O_2	4.2 bar	4.8 bar
WG2	Air	8.0 bar	4.8 bar
CAN			ok
Ethernet			ok
processor utitiliazion			46 %
memory usage			20 %
used disk space			31 %

Q-Gas 4500

- Status
- Technical Specifications
- Manual
- Machine Information

Status			Q-Gas
last error			E-0 no error
	gas	reference value	actual value
ZG	Air		
PG1	O_2	8.0 bar	8.0 bar
WG1	O_2	4.2 bar	4.8 bar
WG2	Air	8.0 bar	4.8 bar
CAN			ok
Ethernet			ok
processor utitiliazion			38 %
memory usage			20 %
used disk space			31 %

Q-Port 4500

- Status
- Technical Specifications
- Manual
- Machine Information

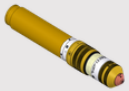
Status	Q-Port
current error	E-0 no error
CAN	ok
Ethernet	ok
processor unitiliazion	64 %
memory usage	18 %
used disk space	31 %

Q-Port 4500

- Status
- Technical Specifications
- Manual
- Machine Information

Status	Q-Port
current error	E-0 no error
CAN	ok
Ethernet	ok
processor unitiliazion	64 %
memory usage	19 %
used disk space	31 %

Q-Torch 4500



- Technical Specifications
- Manual

Technical Specifications		Q-Torch
cuting current		450 A
duty cycle		100 %
clamping diameter		50.8 mm
length of the hose set		1.5 mm
weight m	1.2 kg 0.8 kg 3.8 kg	(change head) (Shaft without hose set) (Shaft + 1.5 m hose set)

Q-Desk

- Machine Information
- Manual

Machine Information	hardware version	Q-Desk software version
Q-Desk		1.5.5b
kDatabase		4.3.o

Settings

Complex name

configure

Complex name: **Q-3000+**

control mode

configure

control mode: **EtherCAT**

Parameter	value
explicit device id	0x15

Interval

configure

Name	Interval	Unit	Renew
cleaning_request	180	days	
electrical_inspection	365	days	
coolant_pump	80000	hours	☐
fan_T1	50000	hours	☐
fan_T2	50000	hours	☐
fan_T3	50000	hours	☐
fan_cooling	80000	hours	☐
Q0	2000000	switching cycles	☐
Q1	1000000	switching cycles	☐
Q2	1200000	switching cycles	☐
Q3	1200000	switching cycles	☐

Network

configure

reload

network configuration:	extern-dhcp
IP address:	172.29.2.39/16
MAC address:	00:05:B6:06:6F:03

fan_T2	50000	hours
fan_T3	50000	hours
fan_cooling	80000	hours
Q0	2000000	switching cycles
Q1	1000000	switching cycles
Q2	1200000	switching cycles
Q3	1200000	switching cycles

Network

configure

reload

network configuration:	extern-dhcp
IP address:	172.29.2.39/16
MAC address:	00:05:B6:06:6F:03

Security

configure

To renew the security certificate, click on confirm.

hostname:	IP Address:172.29.2.39, IP Address:192.168.33.6
expiration date:	24/03/2020, 10:20:47

After changing the network configuration or assigning a new IP address to the cutting system, a new certificate has to be created.
For your browser to permanently trust certificates from Kjellberg Finsterwalde, click -CA Download and Import Certificate the certificate as a certification authority in your browser.

download
CA certificate

System time

configure

device	year	month	day	hour	minute	second	timezone
NTP SERVER	2019	04	10	07	01	06	UTC
QUNIT	2019	04	10	09	01	07	Europe/Berlin
QUNIT M2MI	2019	04	10	09	01	08	Europe/Berlin
QGAS	2019	04	10	09	01	08	Europe/Berlin
QPORT	2019	04	10	09	01	09	Europe/Berlin

Help

FAQ

Q: How to align the plasma torch correctly ?

A: The precise alignment of the plasma torch to guiding systems and robots as well as the alignment of bevel cutting heads is essential for achieving good cutting results. For this purpose Kjellberg offers a number of tools...

Q: How to change consumables correctly?

A: Instruction for PerCut 4000

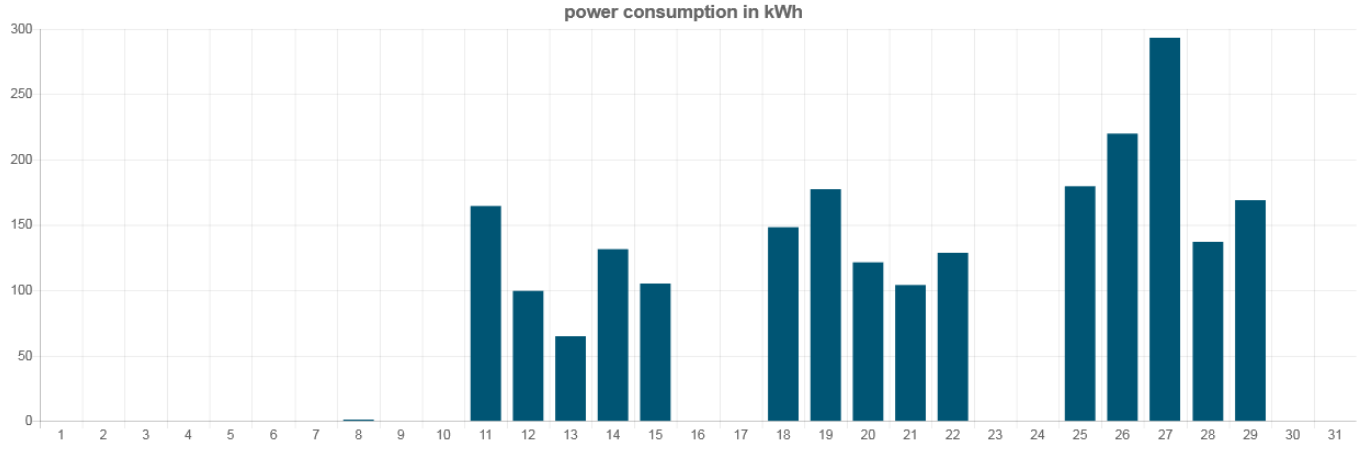
Whitepaper

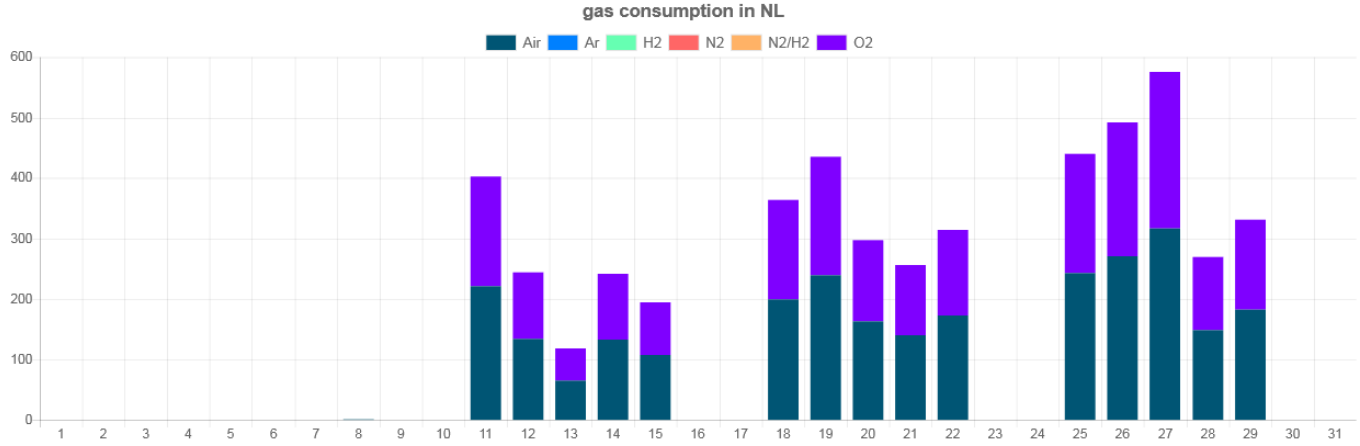
Consumables Guide

Instructions

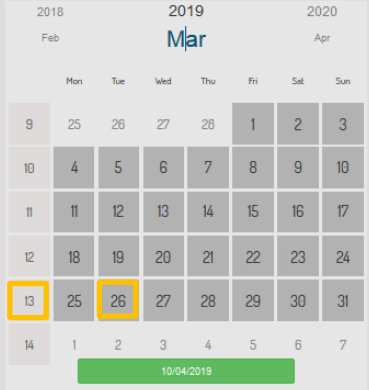
Cleaning

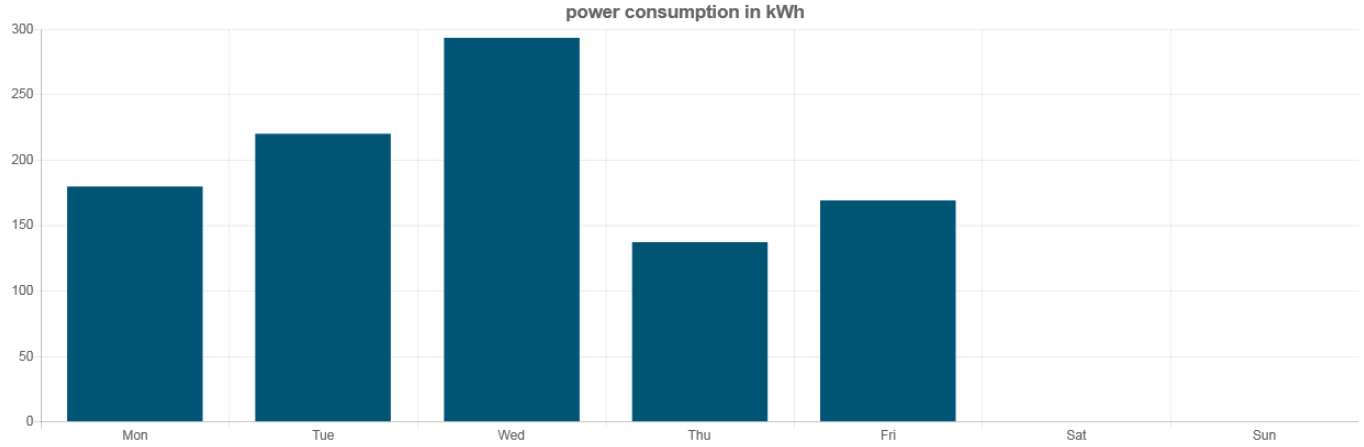
Electical revision

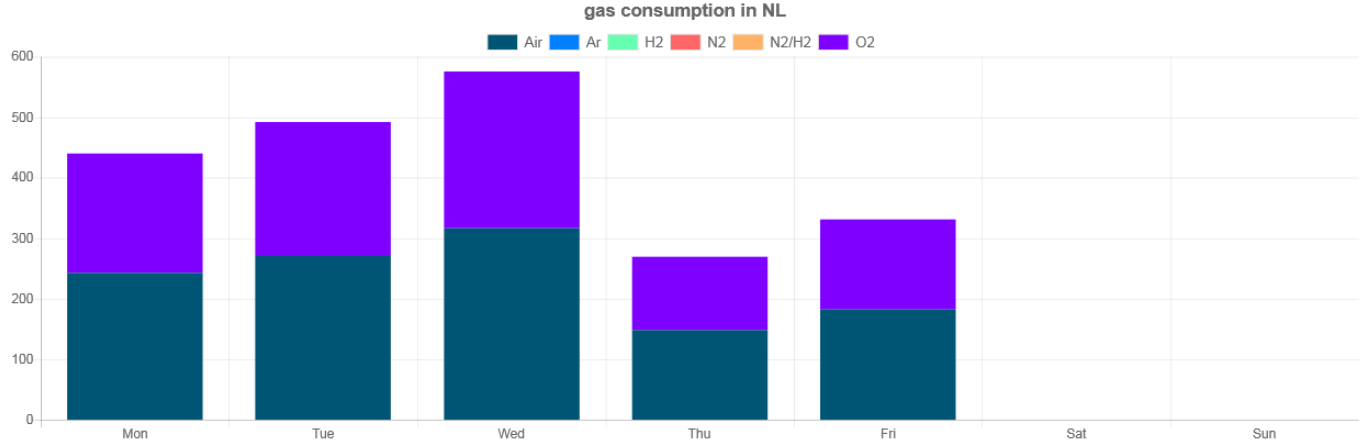




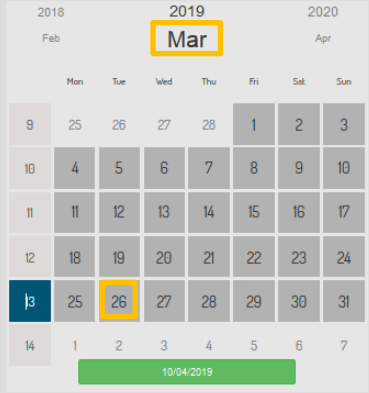
operating time	163:55:00	
cutting time	55:59:03	
power consumption	2,245.78	kWh
gas consumption		
Air	2,742.68	NL
Ar	0	NL
H_2	0	NL
N_2	0	NL
N_2/H_2	0	NL
O_2	2,239.16	NL

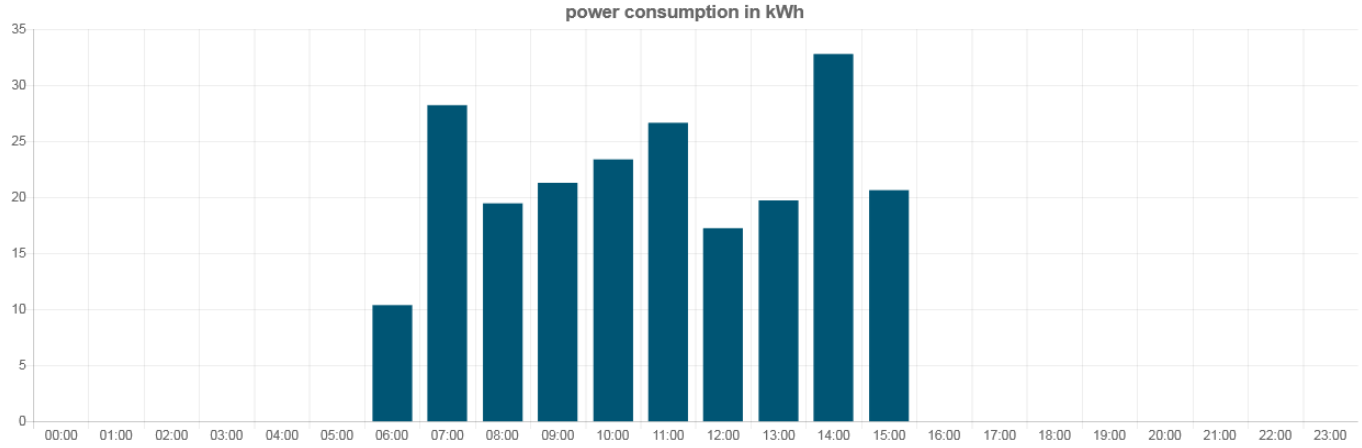


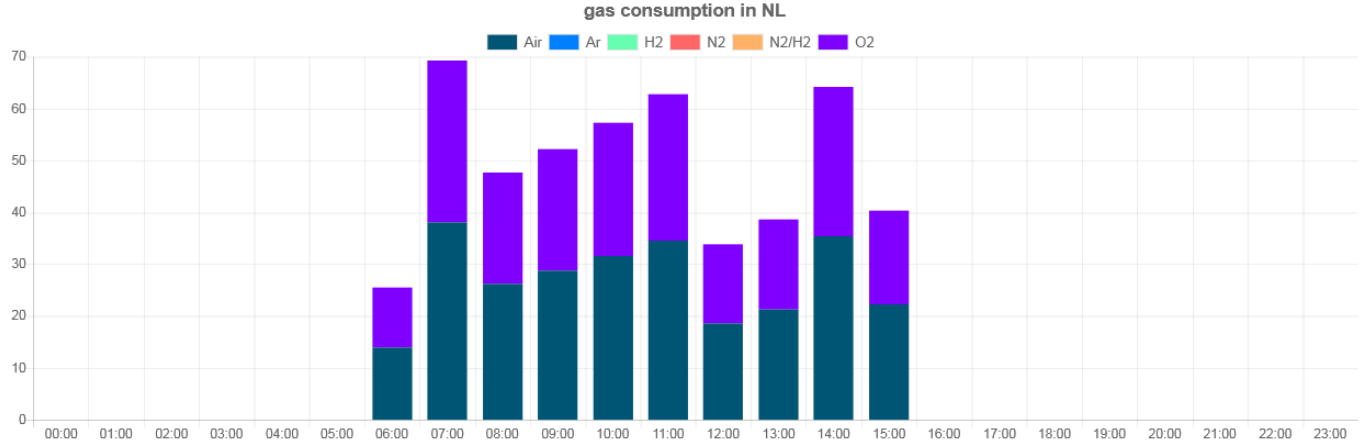




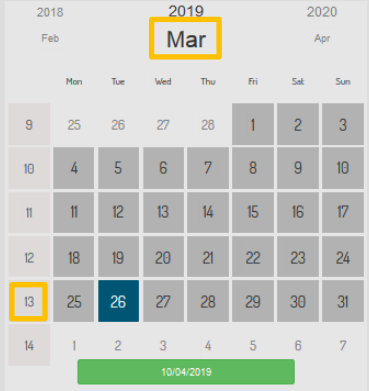
operating time	46:17:00	
cutting time	23:41:32	
power consumption	998.96	kWh
gas consumption		
Air	1,160.92	NL
Ar	0	NL
H_2	0	NL
N_2	0	NL
N_2/H_2	0	NL
O_2	947.69	NL







operating time	09:40:00	
cutting time	05:31:39	
power consumption	219.74	kWh
gas consumption		
Air	270.9	NL
Ar	0	NL
H_2	0	NL
N_2	0	NL
N_2/H_2	0	NL
O_2	221.14	NL



update

configure

Installed software bundle:

anlage_update_1__debug

remote servicing

activate

The remote maintenance connection is **deactivated**.
To enable remote servcicing, an internet connection is required. Make sure your firewall allows the following connections:
Protocol: UDP
Port: 2392

Maintenance

Regular tasks

type	remaining days	task created
cleaning request	2	01/10/2018, 15:29:01
electrical inspection	174	01/10/2018, 15:29:08

Individual tasks

type
gas test

Device lifespan

device	lifetime	expired life in %
nozzle contactor	8427 shift change	0%
fan T1	165 hours	0%
fan T2	161 hours	0%
fan cooling	164 hours	0%
coolant pump	165 hours	0%
main contactor	351 shift change	0%
flying contactor	316 shift change	0%
pcb contactor	109 shift change	0%

Log

maintenance task performed	type	task created	task expired
01/10/2018, 15:29:08	electrical inspection	01/10/2018, 15:21:16	01/10/2019, 15:21:16
01/10/2018, 15:29:01	cleaning request	01/10/2018, 14:20:43	30/03/2019, 14:20:43
01/10/2018, 15:21:16	electrical inspection	07/05/2018, 15:57:18	07/05/2019, 15:57:18
01/10/2018, 14:20:43	cleaning request	07/05/2018, 15:57:18	03/11/2018, 15:57:18