SERVICE MANUAL

MH30C_35C_40M_45M 50M_55M

NILFISK

Preface

This service manual contains detailed description of the main repair work on the MH30C_35C_40M_45M 50M_55M

Repair work requires a suitable testing workplace with the necessary water and power supply.

If operating errors are evident, refer the customer to the operating instructions.

A fault in the cleaner can have several causes as described in the section on troubleshooting.

Refer to the illustrated spare parts lists during repairs. They show the assembly position and the sequence in which the individual components should be assembled.

See ”Technical Service Bulletin” (TSB) sheets. They include information on technical modifications that have been made after this repair manual was printed.

”Technical Service Bulletin” sheets are also valid as a supplement to the spare parts list until publication of a new edition.

Repair manuals and ” Technical Service Bulletin” sheets should be available at the site where repairs are carried out.

It is not permitted to give them to third parties.

Use original Nilfisk spare parts only.

Table of Content

For your own safety

Repair work should be carried out by persons instructed in electrical installations or by trained electricians only.

Observe valid safety regulations for electrical equipment. In particular, observe the following regulations:

IEC 60335-2-79

EN 60335-2-79

Additionally:

Also see national regulations before using the cleaner, always read the operating instructions and keep them readily available.

Only allow the high pressure cleaner to be used by persons who have been trained in its use and who have been explicitly authorized to use it.

ESD measures (electrostatic discharge)

Take the following ESD precautions before carrying out any repairs to the electronics:

- Touch the earth conductor before repairing the cleaner (to discharge electrostatic charge from your body).
- Wear wrist band if necessary.
- Use a conductive floor covering or a conductive table cover.
- Never touch the printed circuit board or electronic components (always hold on to plastic).
- Transport electronic components in conductive packaging (e.g. ESD bag).

Technical data

B

Item number: 107147101		Model: MH 30C-180/780 PA 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: - Customer PM: None	Created on: 01-09-2025 14:22:48 Created by: BiA Approved on: 01-09-2025 14:21:11 Approved by: JRI	Revised on: 01-09-2025 14:33:12 Revised by: - Product status: -
Product status: -		MPU item number: 107146463	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	178
Pressure p_{gun} @ Q_{nom}	bar	153
Retaining/opening pressure @ gun	bar	205
Flow Q_{nom}	l/min	11,2
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Stainless Steel
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0,41
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	8,9
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0,2
Speed	rpm	2800
Electric diagram item no	-	106421614

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3,2
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13,5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	63
UNIT DATA:		
Nozzle Size	-	NT 0400
Max. inlet temperature (suction)	°C	-
Max. inlet temperature (primed)	°C	-
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,8 ±1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	97
Cleaning Impact	kg-force	3,9
Fuse size	A	C 10
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	131
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	0

Technical data

B

Item number: 107147102		Model: MH 40M-190/940 PA 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 01-09-2025 15:07:16 Created by: BiA Approved on: 01-09-2025 15:05:57 Approved by: JRI	Revised on: 01-09-2025 15:18:17 Revised by: - Product status: Released
Product status: Released		MPU item number: 1071478974	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	200
Pressure p_{gun} @ Q_{nom}	bar	162
Retaining/opening pressure @ gun	bar	215
Flow Q_{nom}	l/min	14,6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0,75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	12,3
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0,2
Speed	rpm	1450
Electric diagram item no	-	106421617

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	4,2
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1,25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	59
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		3,3 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	5,5
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	149
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	0

Technical data

B

Item number: 107147103		Model: MH 35C-180/780 PAX 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: - Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:14 AM Revised by: - Product status: Production preparation
Product status: Production preparation		MPU item number: 107146457	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	178
Pressure p_{gun} @ Q_{nom}	bar	153
Retaining/opening pressure @ gun	bar	205
Flow Q_{nom}	l/min	11.2
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Stainless Steel
Stroke	mm	
Pump oil type	-	OIL ROTRA MP 80W-90
Pump oil amount	l	0.41
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	8,9
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	2800
Electric diagram item no	-	106421624

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3.2
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13.5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	63
UNIT DATA:		
Nozzle Size	-	NT 0400
Max. inlet temperature (suction)	°C	-
Max. inlet temperature (primed)	°C	-
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,8 ±1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	97
Cleaning Impact	kg-force	3.8
Fuse size	A	C 10
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	119
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147104		Model: MH 45M-200/960 FA 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:29 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146357	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	184
Pressure p_{gun} @ Q_{nom}	bar	161
Retaining/opening pressure @ gun	bar	209
Flow Q_{nom}	l/min	13.6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	12,5
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421624

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3.9
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1.25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	64
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		3,2 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	5.1
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	142
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Technical data

B

Item number: 107147105		Model: MH 45M-200/960 FAX 400/3/50 EU	
Nilfisk	Productline: MEH	Created on: 12/30/2024 11:25:17 AM	Revised on: 1/6/2025 11:31:32 AM
	Customer: -	Created by: BiA	Revised by: -
	Customer item number:	Approved on: 1/2/2025 12:55:00 PM	Product status: Released
	Customer PM: None	Approved by: SuH	
Product status: Released		MPU item number: 107146357	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	188
Pressure p_{gun} @ Q_{nom}	bar	160
Retaining/opening pressure @ gun	bar	206
Flow Q_{nom}	l/min	13.6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	12,7
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421624

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3.9
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1.25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	64
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		3,2 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	5.1
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	142
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147106		Model: MH 45M-200/960 PAX 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:33 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146447	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	198
Pressure p_{gun} @ Q_{nom}	bar	177
Retaining/opening pressure @ gun	bar	230
Flow Q_{nom}	l/min	14.3
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	13,0
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421624

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	4.1
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1.25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	61
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		3,3 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	5.5
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	149
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147107		Model: MH 55M-210/1100 FA 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:22 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146356	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	197
Pressure p_{gun} @ Q_{nom}	bar	167
Retaining/opening pressure @ gun	bar	220
Flow Q_{nom}	l/min	16.2
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	14,0
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421624

Data		
BOILER:		
Heating power input	kW	85
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	160
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	30
Boiler fuel consump.@ΔT=45C	kg/h	4.7
Boiler efficiency	%	92
Oil nozzle	-	1,75 60H
Oil nozzle size	-	1.75
Oil pressure	bar	12
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	69
UNIT DATA:		
Nozzle Size	-	NT 0550
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,0 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	6.1
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	174
Size - Machine alone	LxWxH (mm)	1188x700x1020
Detergent suction	% (+/-)	4

Item number: 107147108		Model: MH 55M-210/1100 FAX 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:19 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146356	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	203
Pressure p_{gun} @ Q_{nom}	bar	166
Retaining/opening pressure @ gun	bar	216
Flow Q_{nom}	l/min	16.2
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	14,4
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421624

Data		
BOILER:		
Heating power input	kW	85
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	160
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	30
Boiler fuel consump.@ΔT=45C	kg/h	4.7
Boiler efficiency	%	92
Oil nozzle	-	1,75 60H
Oil nozzle size	-	1.75
Oil pressure	bar	12
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	69
UNIT DATA:		
Nozzle Size	-	NT 0550
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,0 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	6.1
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	179
Size - Machine alone	LxWxH (mm)	1188x700x1020
Detergent suction	% (+/-)	4

Item number: 107147109		Model: MH 55M-210/1100 PAX 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:16 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146359	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	192
Pressure p_{gun} @ Q_{nom}	bar	167
Retaining/opening pressure @ gun	bar	220
Flow Q_{nom}	l/min	16.3
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	13,7
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421624

Data		
BOILER:		
Heating power input	kW	85
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	160
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	30
Boiler fuel consump.@ΔT=45C	kg/h	4.7
Boiler efficiency	%	92
Oil nozzle	-	1,75 60H
Oil nozzle size	-	1.75
Oil pressure	bar	12
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	69
UNIT DATA:		
Nozzle Size	-	NT 0550
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,0 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	6.1
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	179
Size - Machine alone	LxWxH (mm)	1188x700x1020
Detergent suction	% (+/-)	4

Item number: 107147111		Model: MH 40M-105/750 PA 230/1/50 UK	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 02-09-2025 08:31:57 Created by: BiA Approved on: 02-09-2025 08:31:17 Approved by: JRI	Revised on: 06-11-2025 07:48:00 Revised by: BiA Product status: Released
Product status: Released		MPU item number: 107142387	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	100
Pressure p_{gun} @ Q_{nom}	bar	68
Retaining/opening pressure @ gun	bar	120
Flow Q_{nom}	l/min	11,1
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0,75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/1ph/50Hz
Current @ V1	A	11,9
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0,2
Speed	rpm	1450
Electric diagram item no	-	106421618

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3,2
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1,25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	78
UNIT DATA:		
Nozzle Size	-	NT 0600
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,7 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	88
Cleaning Impact	kg-force	2,7
Fuse size	A	C 13
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	139
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	0

Item number: 107147112		Model: MH 30C-180/780 PA 230/400/3/50 NO	
Nilfisk	Productline: MEH Customer: - Customer item number: - Customer PM: None	Created on: 01-09-2025 12:21:26 Created by: BiA Approved on: 01-09-2025 12:20:21 Approved by: JRI	Revised on: 01-09-2025 12:27:39 Revised by: - Product status: -
Product status: -		MPU item number: 107146463	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	178
Pressure p_{gun} @ Q_{nom}	bar	155
Retaining/opening pressure @ gun	bar	205
Flow Q_{nom}	l/min	11,3
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Stainless Steel
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0,41
ELECTRIC:		
Electrical data	V/ph/Hz	230V/3ph/50Hz
Current @ V1	A	15,2
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0,2
Speed	rpm	2800
Electric diagram item no	-	106421619

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3,2
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13,5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	62
UNIT DATA:		
Nozzle Size	-	NT 0400
Max. inlet temperature (suction)	°C	-
Max. inlet temperature (primed)	°C	-
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,8 ±1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	97
Cleaning Impact	kg-force	4
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	131
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	0

Item number: 107147113		Model: MH 40M-190/940 PA 230/3/50 NO	
Nilfisk	Productline: MEH	Created on: 01-09-2025 15:07:12	Revised on: 06-11-2025 07:47:53
	Customer: -	Created by: BiA	Revised by: BiA
	Customer item number:	Approved on: 01-09-2025 15:05:53	Product status: Released
	Customer PM: None	Approved by: JRI	
Product status: Released		MPU item number: 1071478972	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	200
Pressure p_{gun} @ Q_{nom}	bar	162
Retaining/opening pressure @ gun	bar	215
Flow Q_{nom}	l/min	14,6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0,75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/3ph/50Hz
Current @ V1	A	20,3
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0,2
Speed	rpm	1450
Electric diagram item no	-	106421613

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	4,2
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1,25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	59
UNIT DATA:		
Nozzle Size	-	NT 0500
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		3,3 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	4,9
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	160
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	0

Item number: 107147116		Model: MH 35C-180/780 PAX 230/400/3/50 NO	
Nilfisk	Productline: MEH Customer: - Customer item number: - Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:46 AM Revised by: - Product status: Production preparation
Product status: Production preparation		MPU item number: 107146457	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	177
Pressure p_{gun} @ Q_{nom}	bar	155
Retaining/opening pressure @ gun	bar	205
Flow Q_{nom}	l/min	11.3
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Stainless Steel
Stroke	mm	
Pump oil type	-	OIL ROTRA MP 80W-90
Pump oil amount	l	0.41
ELECTRIC:		
Electrical data	V/ph/Hz	230V/3ph/50Hz
Current @ V1	A	15,2
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	2800
Electric diagram item no	-	106421621

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3.2
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13.5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	62
UNIT DATA:		
Nozzle Size	-	NT 0400
Max. inlet temperature (suction)	°C	-
Max. inlet temperature (primed)	°C	-
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,8 ±1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	97
Cleaning Impact	kg-force	3.8
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	119
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147117		Model: MH 45M-200/960 FA 230-400/3/50 NO	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:35 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146357	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	184
Pressure p_{gun} @ Q_{nom}	bar	161
Retaining/opening pressure @ gun	bar	209
Flow Q_{nom}	l/min	13.6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/3ph/50Hz
Current @ V1	A	21,7
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421621

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3.9
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1.25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	64
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		3,2 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	5.1
Fuse size	A	C 25/16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	144
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147118		Model: MH 45M-200/960 FAX 230-400/3/50 NO	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:37 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146357	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	188
Pressure p_{gun} @ Q_{nom}	bar	160
Retaining/opening pressure @ gun	bar	206
Flow Q_{nom}	l/min	13.6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/3ph/50Hz
Current @ V1	A	22
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421621

Data		
BOILER:		
Heating power input	kW	66
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	155
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	3.9
Boiler efficiency	%	92
Oil nozzle	-	1,25 60H
Oil nozzle size	-	1.25
Oil pressure	bar	14
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	64
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		3,2 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	5.1
Fuse size	A	C 25/16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	147
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147121		Model: MH 55M-210/1100 FAX 230/400/3/50 NO	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:12 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146356	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	203
Pressure p_{gun} @ Q_{nom}	bar	166
Retaining/opening pressure @ gun	bar	216
Flow Q_{nom}	l/min	16.2
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/3ph/50Hz
Current @ V1	A	25,0
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421621

Data		
BOILER:		
Heating power input	kW	85
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	160
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	30
Boiler fuel consump.@ΔT=45C	kg/h	4.7
Boiler efficiency	%	92
Oil nozzle	-	1,75 60H
Oil nozzle size	-	1.75
Oil pressure	bar	12
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	69
UNIT DATA:		
Nozzle Size	-	NT 0550
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,0 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	6.1
Fuse size	A	C 25/16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	180
Size - Machine alone	LxWxH (mm)	1188x700x1020
Detergent suction	% (+/-)	4

Item number: 107147123		Model: MH 45M-100/680 PA 230/1/50 UK	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:23 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146445	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	88
Pressure p_{gun} @ Q_{nom}	bar	80
Retaining/opening pressure @ gun	bar	118
Flow Q_{nom}	l/min	9.6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/1ph/50Hz
Current @ V1	A	13,1
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421622

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	2.7
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13.5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	73
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,7 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	88
Cleaning Impact	kg-force	2.5
Fuse size	A	C 13
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	138
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147124		Model: MH 45M-100/680 PAX 230/1/50 UK	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:26 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146445	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	90
Pressure p_{gun} @ Q_{nom}	bar	80
Retaining/opening pressure @ gun	bar	120
Flow Q_{nom}	l/min	9.6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/1ph/50Hz
Current @ V1	A	13,4
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421622

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	2.7
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13.5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	73
UNIT DATA:		
Nozzle Size	-	NT 0475
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,7 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	88
Cleaning Impact	kg-force	2.5
Fuse size	A	C 13
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	141
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147125		Model: MH 55M-100/760 PA 230/1/50 UK	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:29 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146446	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	92
Pressure p_{gun} @ Q_{nom}	bar	84
Retaining/opening pressure @ gun	bar	122
Flow Q_{nom}	l/min	10.6
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/1ph/50Hz
Current @ V1	A	14,2
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421622

Data		
BOILER:		
Heating power input	kW	78
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	160
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	30
Boiler fuel consump.@ΔT=45C	kg/h	3
Boiler efficiency	%	92
Oil nozzle	-	1,75 60H
Oil nozzle size	-	1.75
Oil pressure	bar	10
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	97
UNIT DATA:		
Nozzle Size	-	NT 0500
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,1 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	88.4
Cleaning Impact	kg-force	2.7
Fuse size	A	C 13
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	167
Size - Machine alone	LxWxH (mm)	1188x700x1020
Detergent suction	% (+/-)	4

Item number: 107147126		Model: MH 55M-100/760 PAX 230/1/50 UK	
Nilfisk	Productline: MEH Customer: - Customer item number: Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:30:25 AM Revised by: - Product status: Released
Product status: Released		MPU item number: 107146446	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	95
Pressure p_{gun} @ Q_{nom}	bar	84
Retaining/opening pressure @ gun	bar	130
Flow Q_{nom}	l/min	10.5
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0.75
ELECTRIC:		
Electrical data	V/ph/Hz	230V/1ph/50Hz
Current @ V1	A	14,5
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	1450
Electric diagram item no	-	106421622

Data		
BOILER:		
Heating power input	kW	78
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	160
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	30
Boiler fuel consump.@ΔT=45C	kg/h	3
Boiler efficiency	%	92
Oil nozzle	-	1,75 60H
Oil nozzle size	-	1.75
Oil pressure	bar	10
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	98
UNIT DATA:		
Nozzle Size	-	NT 0500
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,1 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	88.4
Cleaning Impact	kg-force	2.7
Fuse size	A	C 13
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	170
Size - Machine alone	LxWxH (mm)	1188x700x1020
Detergent suction	% (+/-)	4

Item number: 107147153		Model: MH 35C-145/600 PA 230/1/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: - Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:18 AM Revised by: - Product status: Production preparation
Product status: Production preparation		MPU item number: 107146453	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	142
Pressure p_{gun} @ Q_{nom}	bar	126
Retaining/opening pressure @ gun	bar	165
Flow Q_{nom}	l/min	8.4
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Stainless Steel
Stroke	mm	
Pump oil type	-	OIL ROTRA MP 80W-90
Pump oil amount	l	0.41
ELECTRIC:		
Electrical data	V/ph/Hz	230V/1ph/50Hz
Current @ V1	A	16,4
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	2800
Electric diagram item no	-	106421623

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	2.4
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13.5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	84
UNIT DATA:		
Nozzle Size	-	NT 0340
Max. inlet temperature (suction)	°C	-
Max. inlet temperature (primed)	°C	-
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,8 ±1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	96
Cleaning Impact	kg-force	2.6
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	115
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147155		Model: MH 35C-145/600 PAX 230/1/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: - Customer PM: None	Created on: 12/30/2024 11:25:17 AM Created by: BiA Approved on: 1/2/2025 12:55:00 PM Approved by: SuH	Revised on: 1/6/2025 11:31:21 AM Revised by: - Product status: Production preparation
Product status: Production preparation		MPU item number: 107146453	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	142
Pressure p_{gun} @ Q_{nom}	bar	126
Retaining/opening pressure @ gun	bar	165
Flow Q_{nom}	l/min	8.4
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Stainless Steel
Stroke	mm	
Pump oil type	-	OIL ROTRA MP 80W-90
Pump oil amount	l	0.41
ELECTRIC:		
Electrical data	V/ph/Hz	230V/1ph/50Hz
Current @ V1	A	16,4
Control voltage	V	230
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0.2
Speed	rpm	2800
Electric diagram item no	-	106421623

Data		
BOILER:		
Heating power input	kW	53
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	145
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	15
Boiler fuel consump.@ΔT=45C	kg/h	2.4
Boiler efficiency	%	93
Oil nozzle	-	1,0 60H
Oil nozzle size	-	1
Oil pressure	bar	13.5
Fuel	-	1
CO_2 in fluegas	%	10,70
Soot		0
ΔT @ working pressure	°C	84
UNIT DATA:		
Nozzle Size	-	NT 0340
Max. inlet temperature (suction)	°C	-
Max. inlet temperature (primed)	°C	-
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,8 ±1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	96
Cleaning Impact	kg-force	2.6
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	119
Size - Machine alone	LxWxH (mm)	1010x700x1016
Detergent suction	% (+/-)	4

Item number: 107147165		Model: MH 50M-220/1100 PA 400/3/50 EU	
Nilfisk	Productline: MEH Customer: - Customer item number: - Customer PM: None	Created on: 29-08-2025 09:57:19 Created by: BiA Approved on: 28-10-2016 10:40:24 Approved by: SuR	Revised on: 06-11-2025 07:48:04 Revised by: BiA Product status: -
Product status: -		MPU item number: 107146480	

Data		
PUMP:		
Pressure p_{pump} @ Q_{nom}	bar	192
Pressure p_{gun} @ Q_{nom}	bar	167
Retaining/opening pressure @ gun	bar	220
Flow Q_{nom}	l/min	16,3
Suction height dry	m	
Suction height primed	m	
Pump type	-	
Number of pistons	-	
Pump piston type	-	Full Ceramic
Stroke	mm	
Pump oil type	-	
Pump oil amount	l	0,75
ELECTRIC:		
Electrical data	V/ph/Hz	400V/3ph/50Hz
Current @ V1	A	13,7
Control voltage	V	400
High voltage test voltage	V	1500
HV insulation resistance min.	MΩ	1
Earth circuit resistance max.	Ω	0,2
Speed	rpm	1450
Electric diagram item no	-	106421615

Data		
BOILER:		
Heating power input	kW	85
Max. CO in fluegas	ppm	75
Exhaust temperature	°C	160
Ambient temperature @ burner values	°C	20±10
Fuel tank (Boiler)	l	30
Boiler fuel consump.@ΔT=45C	kg/h	4,7
Boiler efficiency	%	92
Oil nozzle	-	1,75 60H
Oil nozzle size	-	1,75
Oil pressure	bar	12
Fuel	-	1
CO_2 in fluegas	%	10,50
Soot		0
ΔT @ working pressure	°C	69
UNIT DATA:		
Nozzle Size	-	NT 0550
Max. inlet temperature (suction)	°C	0
Max. inlet temperature (primed)	°C	0
Max. inlet temperature (pressure fed)	°C	40
Gun Type	-	ERGO 2000 STD INCL. SWIVEL NILFISK
Lance primary/secondary	-	1/None
Vibration ISO 5349 Lance 1		2,0 +/-1
High pressure hose	-	???
Sound power (LWA) manuals	dBA	92
Cleaning Impact	kg-force	6,3
Fuse size	A	C 16
Protection Class	-	IPX5
Weight - Machine incl. standard acc.	kg	206
Size - Machine alone	LxWxH (mm)	1188x700x1020
Detergent suction	% (+/-)	0


Side door release
Cap for fuel
Side door release
Fuel level view
NILFISK

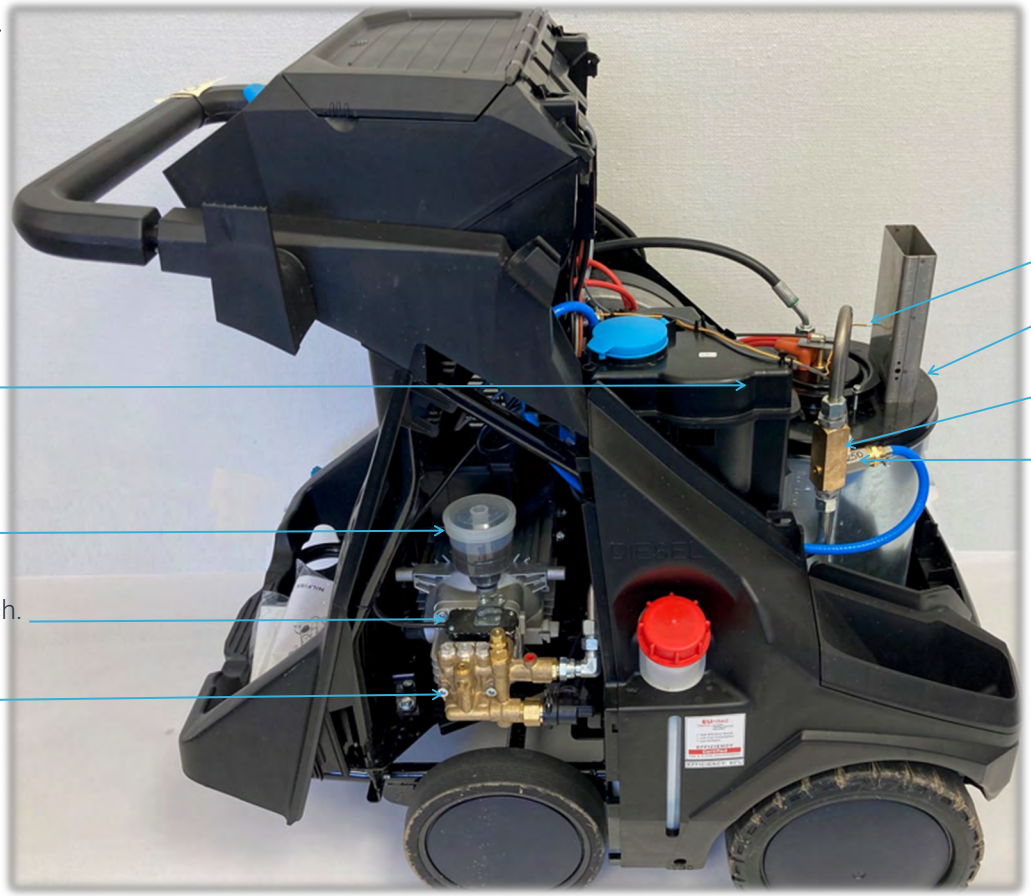

Tunable cable hook
Parking brake
NILFISK

Construction — **MH overview**

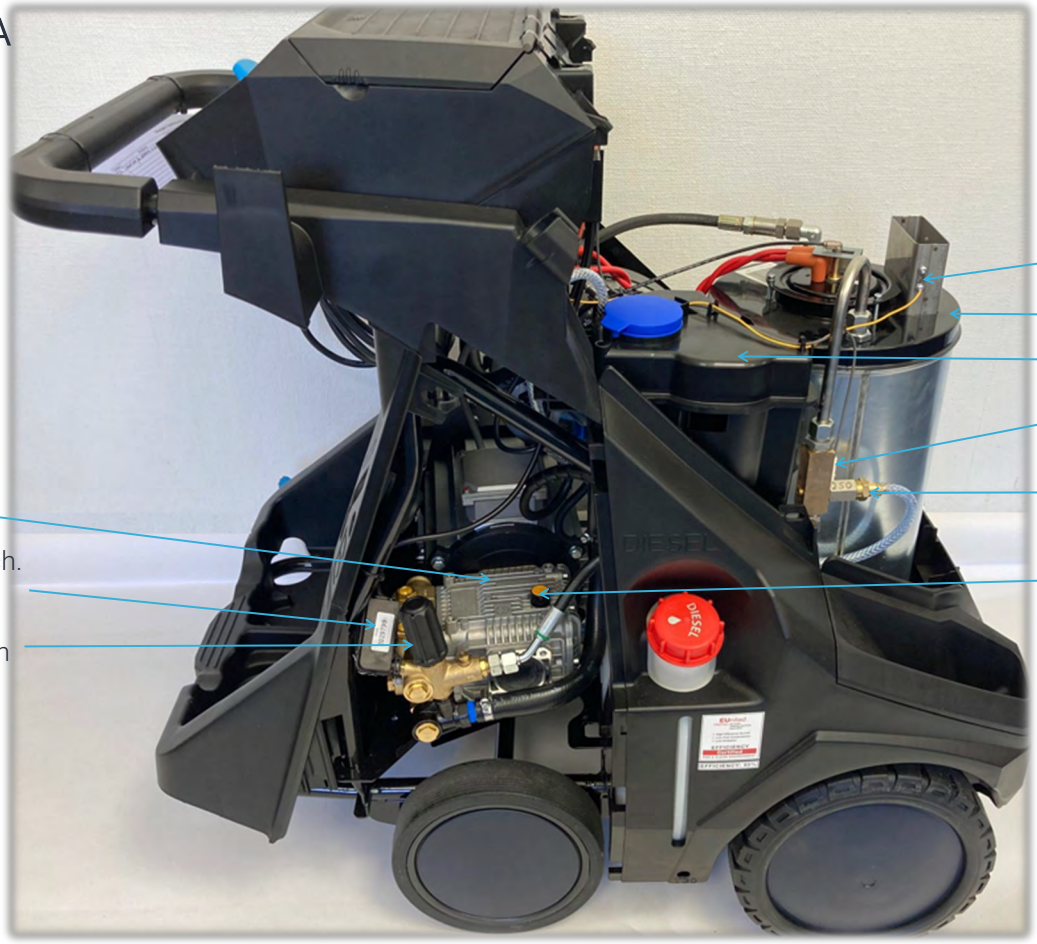
* Depending on model

* Depending on model

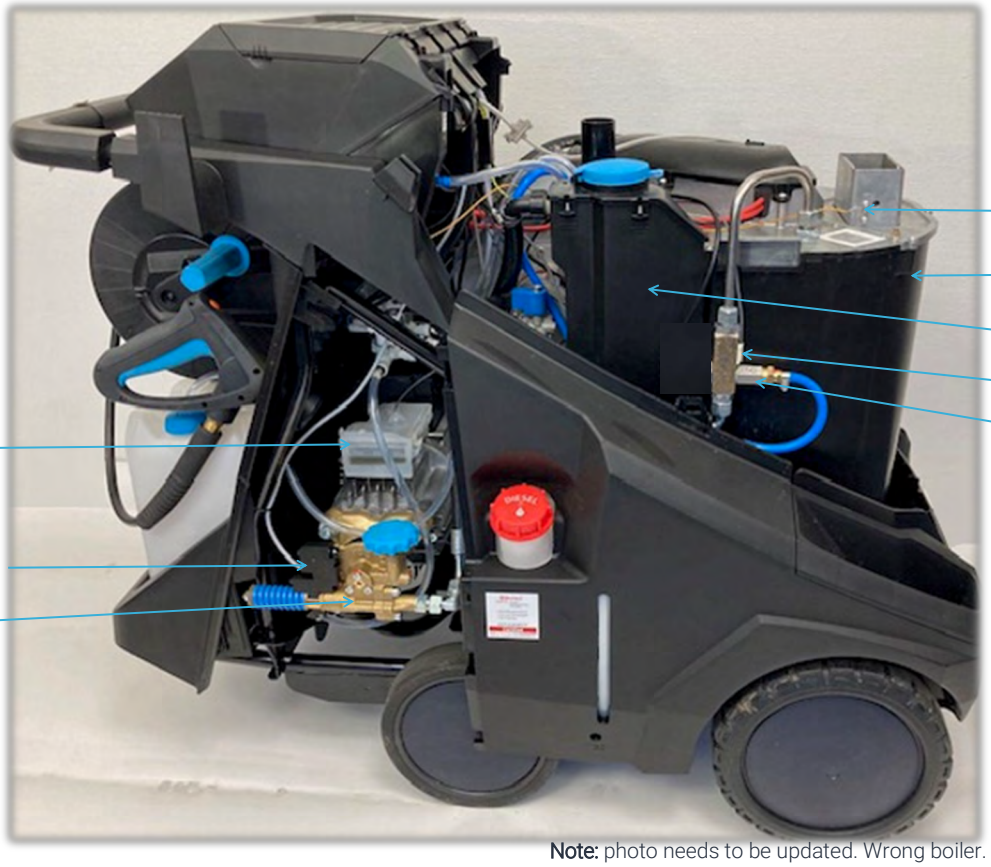
MH30C PA



MH40M PA

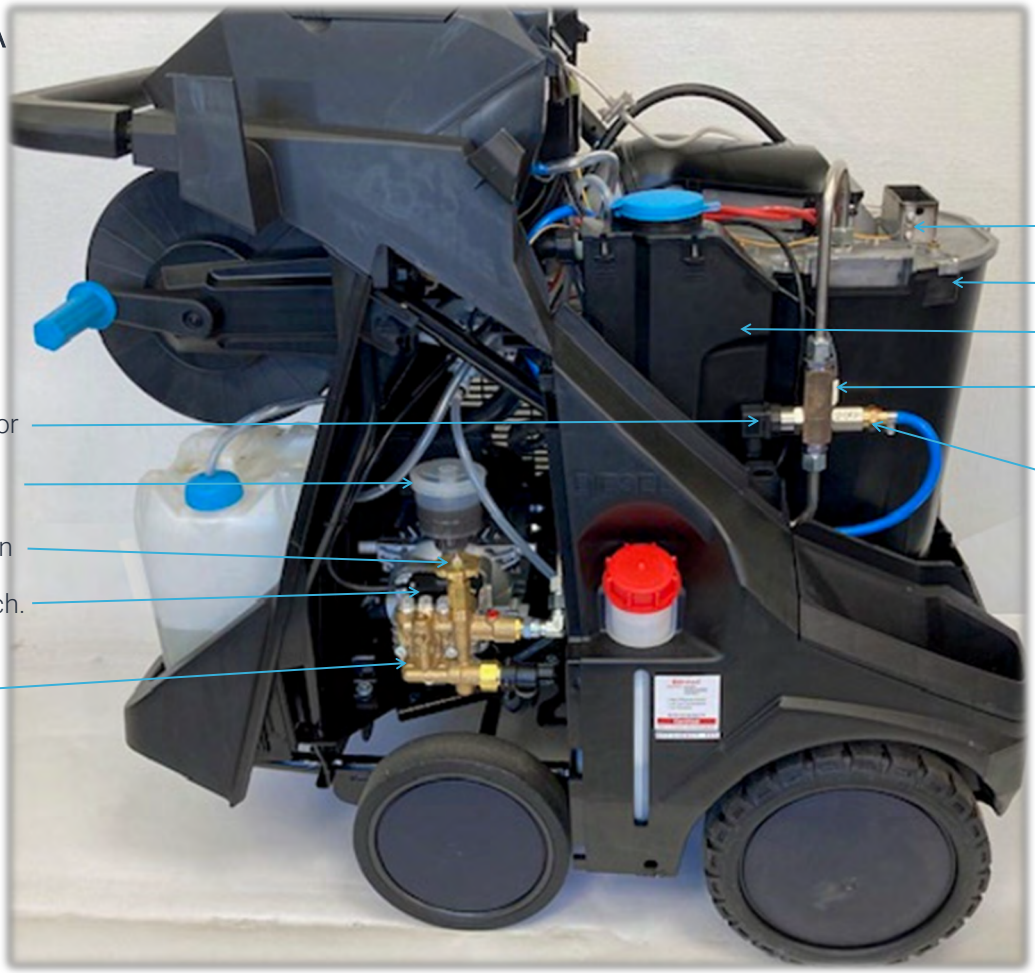


MH50M PA

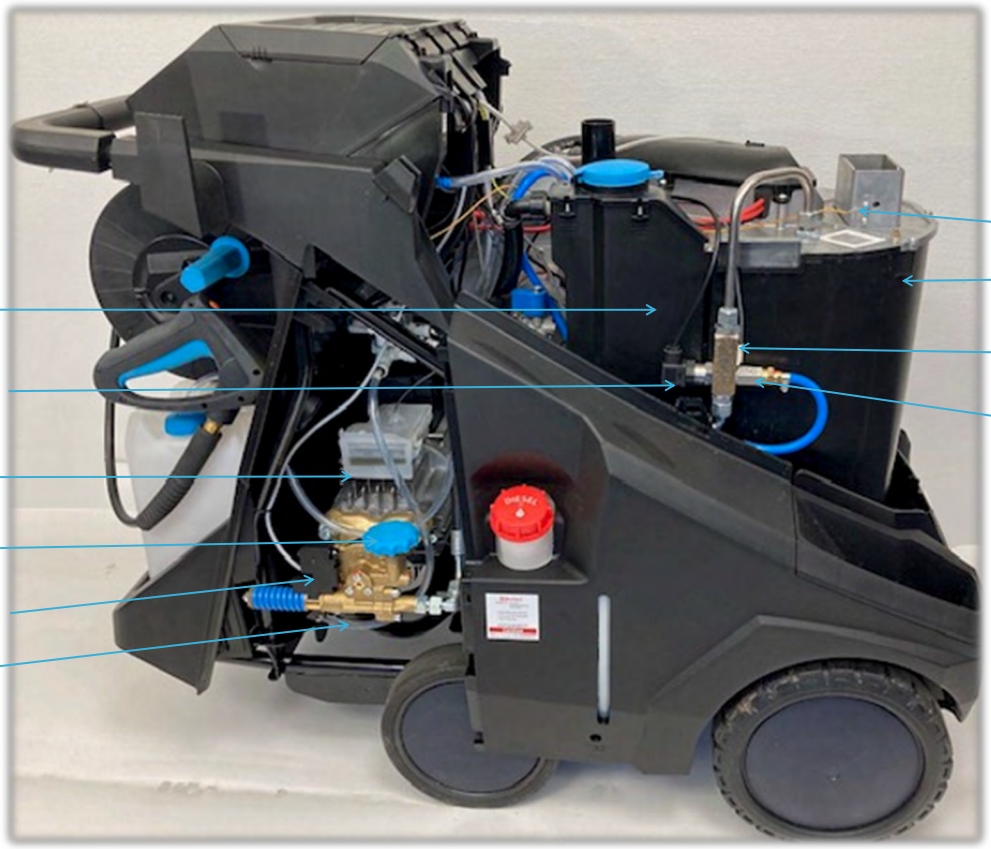


Note: photo needs to be updated. Wrong boiler.

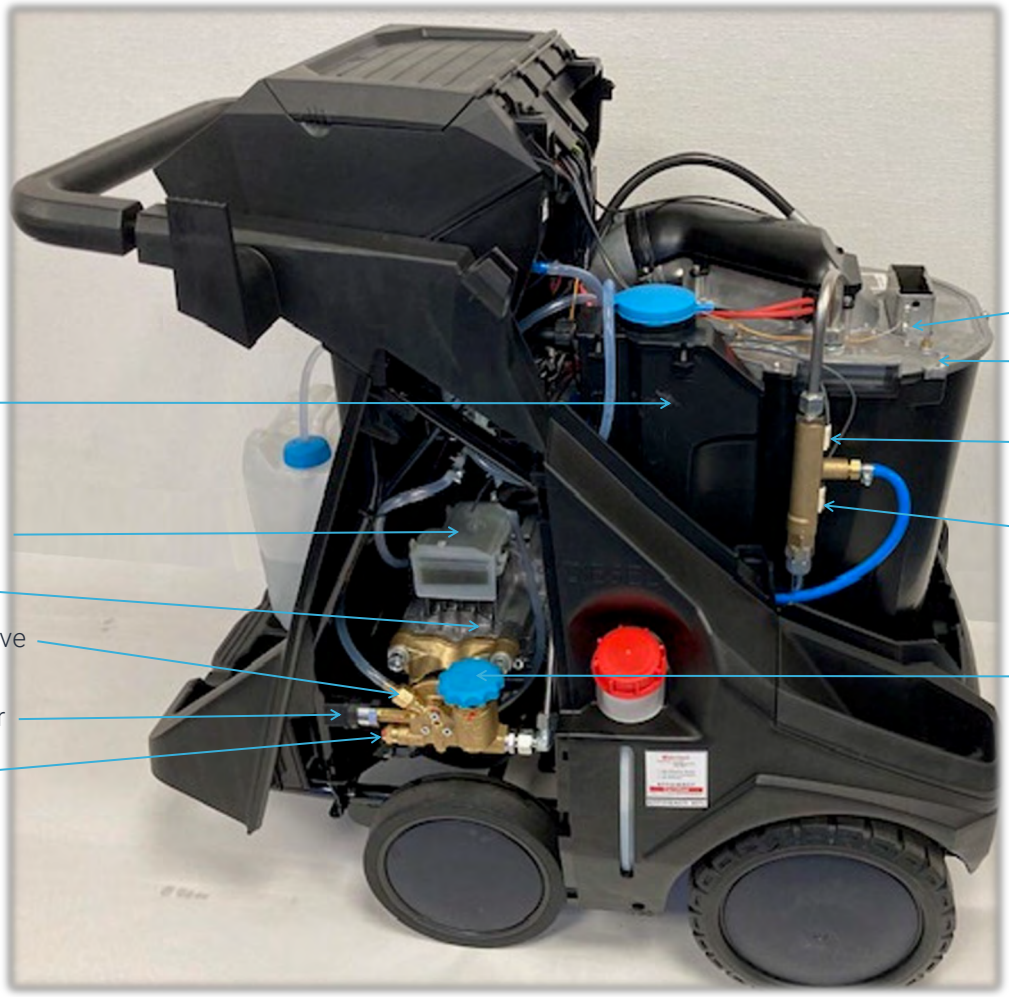
MH35C PA



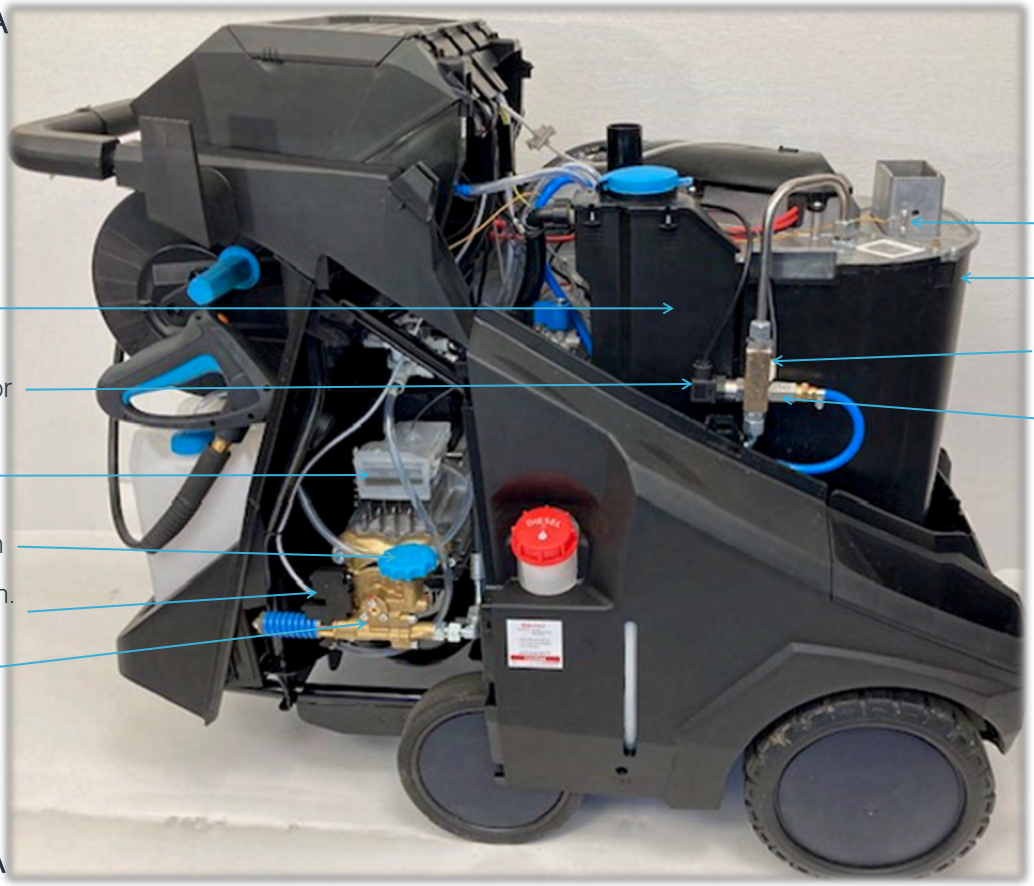
MH45M PA



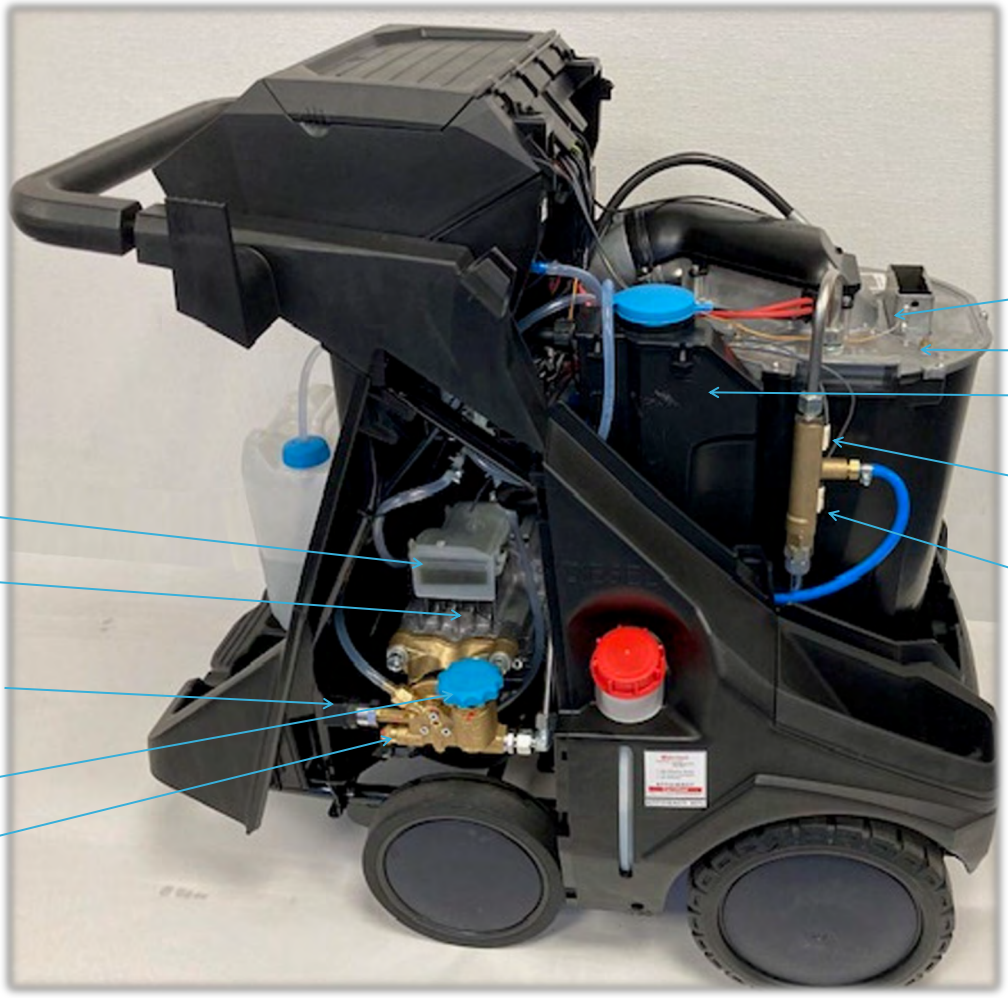
MH45M FA



MH55M PA



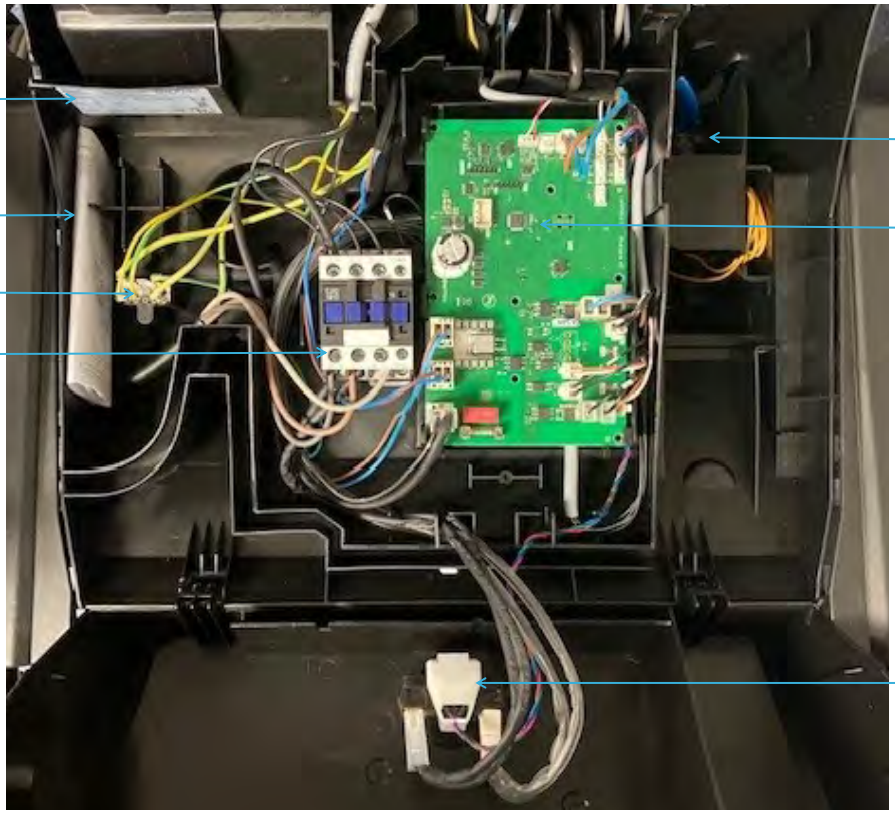
MH55M FA



Cold water mode

Main switch. Off mode

Hot water mode. 40°C-90°C



Type plate

Electrical diagram

Ground terminals

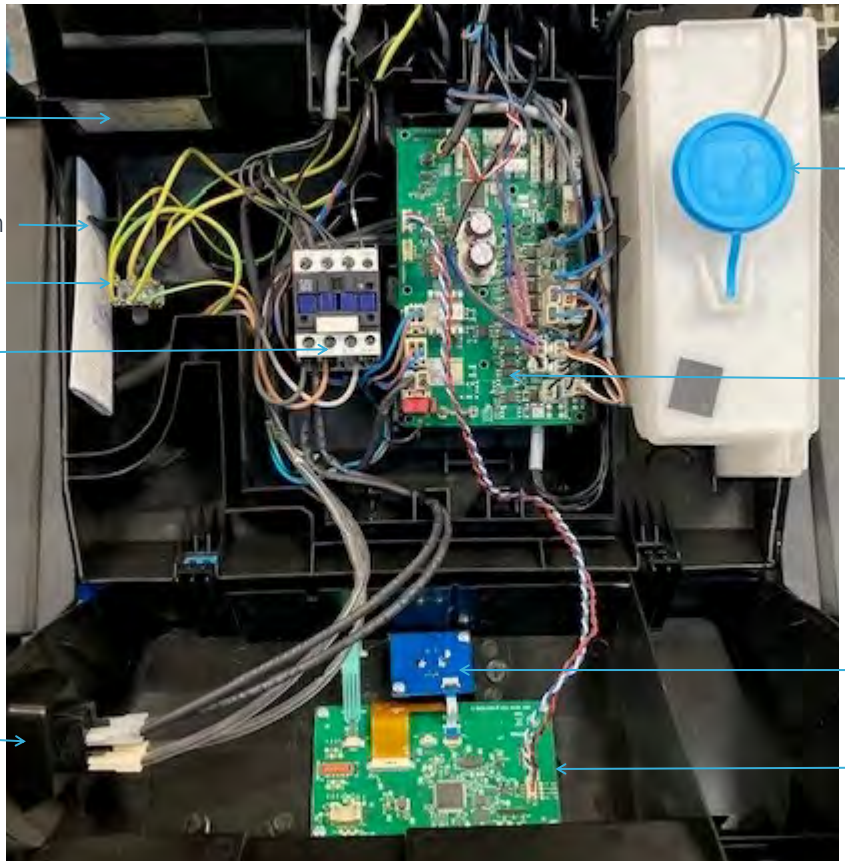
Contactor

Exhaust switch reset

NEO PCBA. Trafo below the PCBA

ON/OFF switch including poten-tiometer


COLD CLEAN
PRESS TO ENABLE CLEANING
NILFISK
info screen
Back button
Smart dial
Menu botton

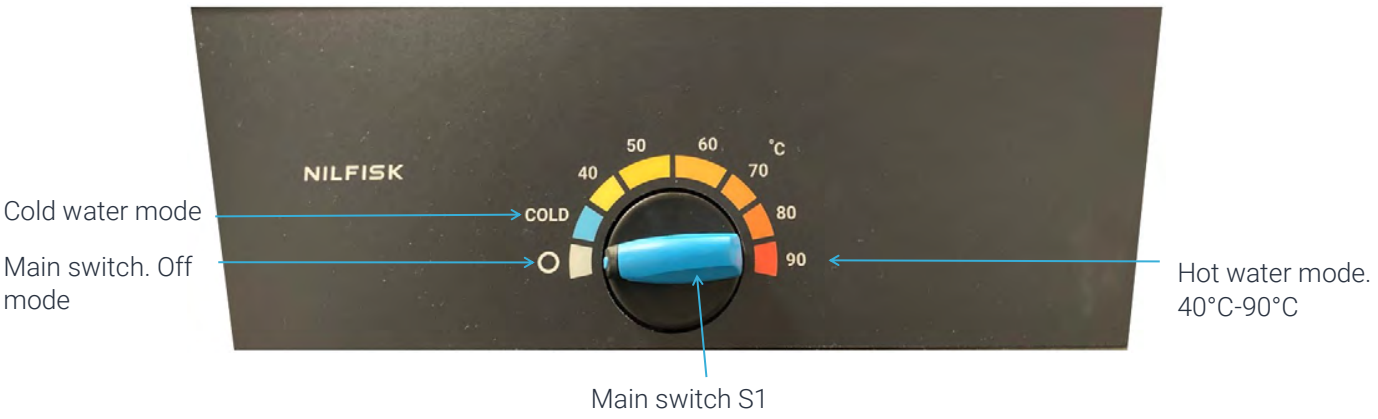

Type plate
Electrical diagram
Ground terminals
Contactor
ON/OFF switch
AntiScale container
NEO PCBA. Trafo below the PCBA
Smart dial PCBA
info screen


AntiScale valve
Exhaust switch reset

Function **MH 30/40/50 C/M PA**

D

If the machine and the power supply are working correctly the following will happened during start up.



If the machine and power supply is OK, the following will happen doing start up:

When the main switch S1 is turned on to cold (or hot) water mode the control transformer T1 transforms the supply voltage into 24 VAC, which is supplied to the NEO PCBA. The NEO PCBA transform it into 3 VDC and 5 VDC.

The machine will now runs a "self-test". After the self-test sequence, the motor/pump will start (K1 closes) and the pump will build up pressure until the by-pass switch B4 gives signal to the NEO PCBA. Once the by-pass pressure is reached the pump will switch to by-pass mode for 20 sec. before it stops.

Now the machine is in stand-by in cold water mode. When the spray handle is activated, the pump will start up and the machine can be used. When the spray handle is released the pump will switch to by-pass mode for 20 sec. before it stops.

By switching to hot water mode the machine remains in stand-by mode. When the spray handle is activated, the pump will start up, and if the main switch (S1/P1) is set higher than actual water outlet temperature (B1), B2, B4, B9, EXH is closed, T2, M2 and Y1 will be powered, (M2 starts 5 sec. before Y1 is powered in order to ventilate the combustion chamber before spraying in fuel) and the combustion will start.

The water temperature will now rise until the thermostat set point (Main switch S1/P1) has been reached. The combustion stops, when the actual temp. value exceeds the set point in the SW. The fan will keep ventilating for approx. 15 sec. before it will stop. When heat again is required the above cycle will be repeated.

When the Main switch is set in Off mode the control transformer T1 will lose the power and the machine will shut down.

S1	Main switch
K1	Contactor pump
B1	Temp. Sensor PT 100
B2	Flow switch
B4	By pass switch
B9	Fuel level sensor
EXH	Exhaust switch
T1	Control transformer
T2	Ignition transformer
M2	Motor fan
P1	Mainswitch position potentiometer
Y1	Oil valve

If the machine and the power supply are working correctly the following will happened during start up.

Main switch S1

If the machine and power supply is OK, the following will happen doing start up:

When the main switch, S1, is pressed to ON position (in hot or cold water mode) the control transformer T1 transforms the supply voltage into 24 Vac, which is supplied to the main NEO PCBA A1. In the NEO PCBA the 24 Vac is transformed into 3 VDC and 5 VDC to run the NEO PCBA and the Info screen A2.

The control system will now check (self test) that all sensors etc. are in correct state.

Now the NEO PCBA will power K1 coil with 24Vac which closes contactor K1 and the motor will start. The machine will start in the program that was selected when it was last turned off.

With closed spray handle the motor/pump will build up pressure until the opening pressure is reached. Once the opening pressure is reached the pump will switch to by-pass mode for 20 sec. before it stops.

On the PA (Pressure Activated) models the by-pass signal to the control system is coming from the Micro switch on the unloader and from the flow switch.

On FA (flow activated) models the by-pass signal to the control system is coming from the two flow reed switches on the double flow switch.

These signals will start the 20 sec. timer (By-pass time).

Now the machine is in stand-by mode. When the spray handle is activated, the motor/pump will start up, and if the temperature sensor B1 is sensing water outlet temperature lower than the temperature setting on the machine, and B2, B4, B6, B8, B9, EXH is closed, T2, M2 and Y1 will be powered, (M2 starts 5 sec. before Y1 is powered in order to ventilate the combustion chamber before spraying in fuel) and the combustion will start.

A1	NEO PCBA
A2	UIC –06/LCD (info screen)
A3	Dial
S1	Switch ON/OFF
K1	Contactor pump
B1	Temp. Sensor PT 100
B2	Flow switch
B4	By pass switch
B6	Lever switch pump oil
B8	Level sensor Anti-stone
B9	Fuel level sensor
EXH	Exhaust switch
T1	Control transformer
T2	Ignition transformer
M2	Motor fan
Y1	Oil valve
P1	Mainswitch position potentiometer
Y1	Oil valve

If the machine and the power supply are working correctly the following will happened during start up.

Continued from previous page…….

The water temperature will now increase until the thermostat setpoint has been reached. The combustion stops, when the actual temp. value (measured by the PT100 B1 temperature sensor installed just before the machine water outlet) exceeds the setpoint in the SW. The combustion is stopped by interrupting the 24Vac to the fuel pump solenoid Y1. The solenoid will close the internal fuel valve in the fuel pump, so no fuel is pumped out to the fuel nozzle. The fan will keep ventilating and the ignition will continue, because when hot water mode is chosen the T2 ignition and the fan motor M2 is constantly ON as long as the motor M1 is ON. When heat again is required the above cycle will be repeated.

On the front of the electrical box (under the cabinet) you will find a Anti-stone valve. When the valve is open, anti-stone will flow from the container into the water tank. The frequency of opening time is adjusted according to the hardness of the water when machines are set up.

Low level indicator B8 Is mounted in the container. This provides information to the user when the level becomes low. This can be seen on the info screen.

The detergent solenoid valve(s) makes it possible to add detergent to the pump suction side. Detergent is chosen in the detergent menu on the operating panel of the machine. Some models have only one solenoid for one type (A) detergent, and other models have 2 solenoids for 2 types (A Y3 + B Y4) of detergent.

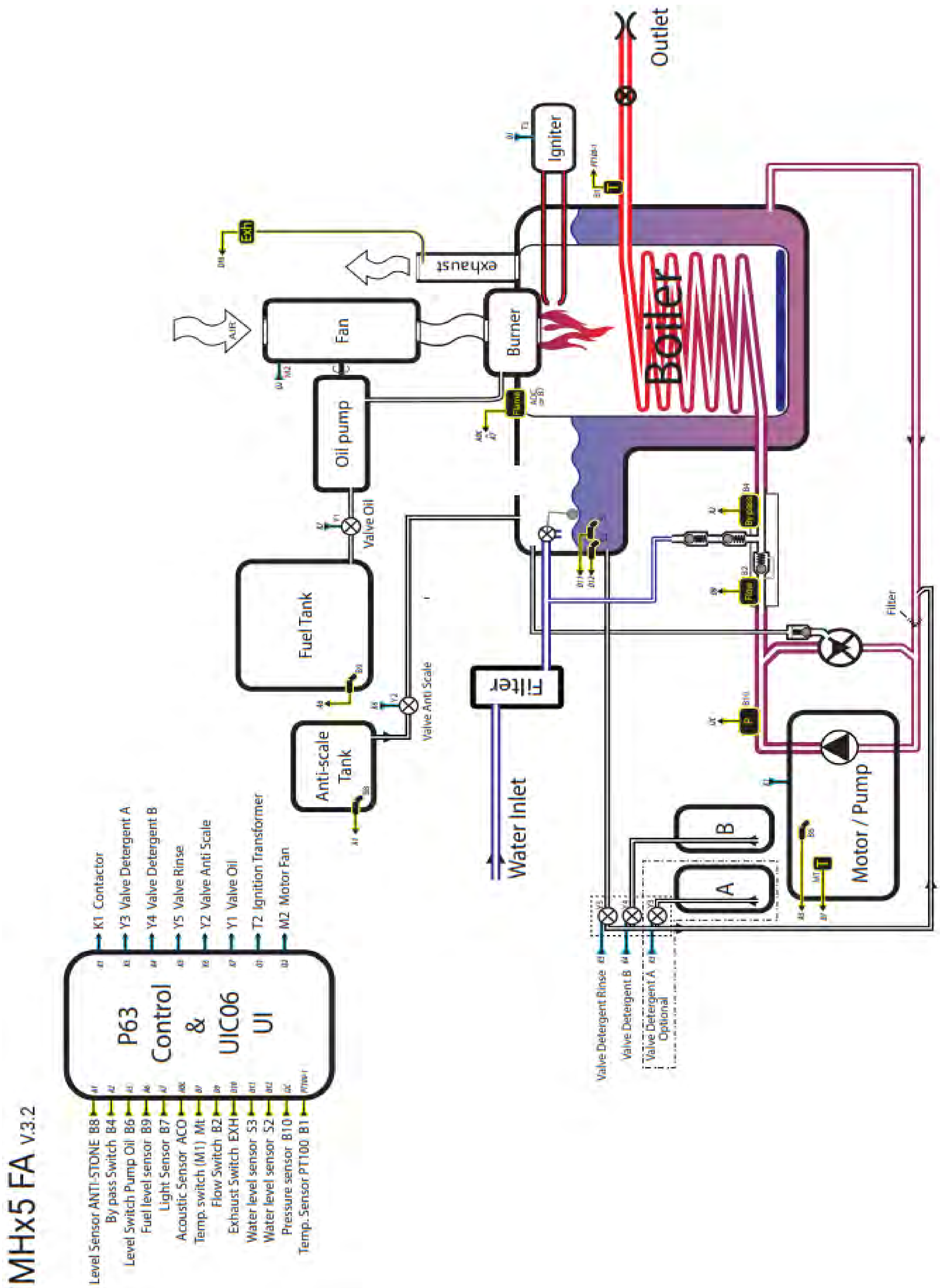
Beside the detergent solenoids is installed a “rinse solenoid valve Y5”.

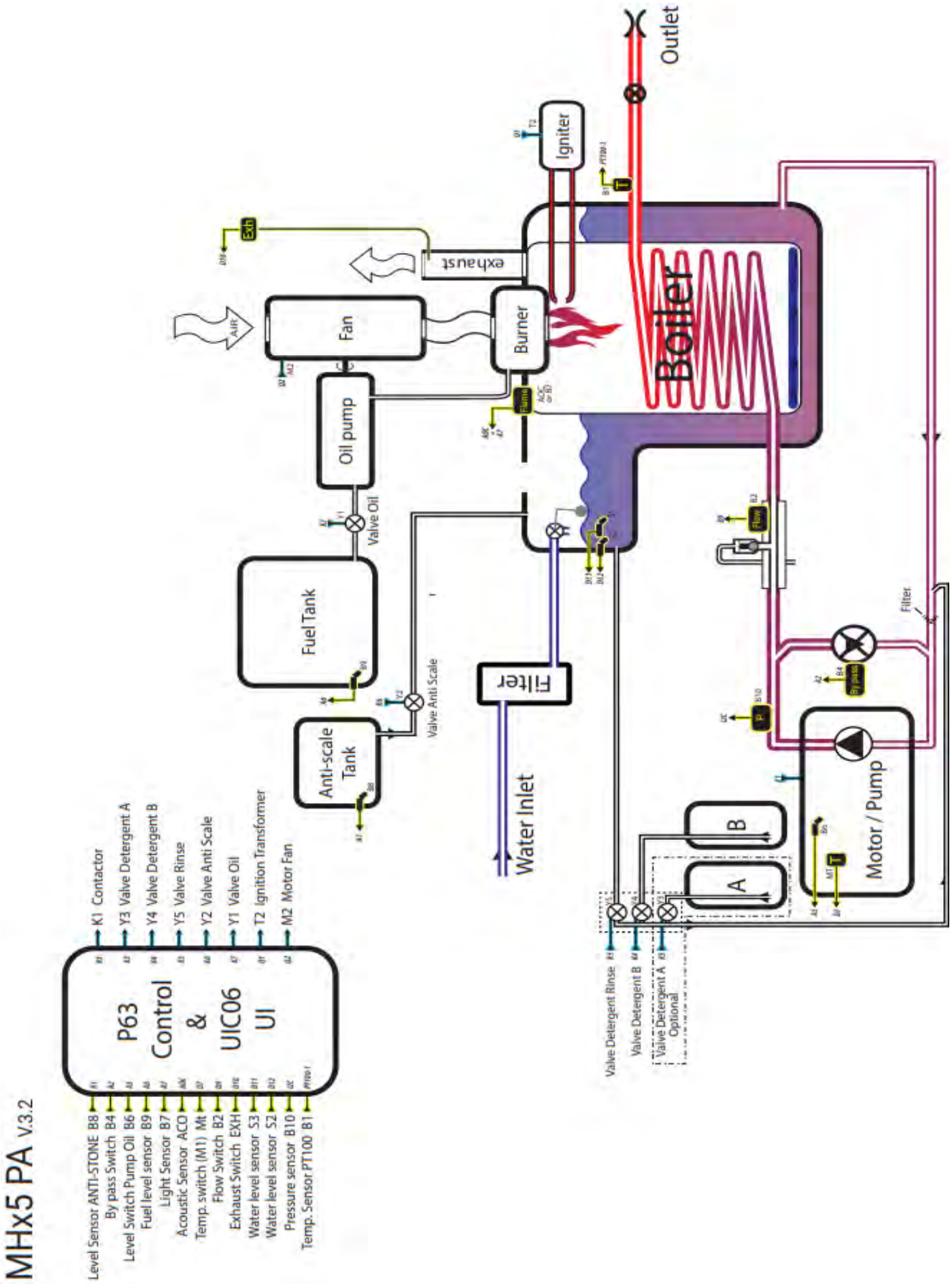
The purpose of this valve is to flush the detergent valves with fresh water after use.

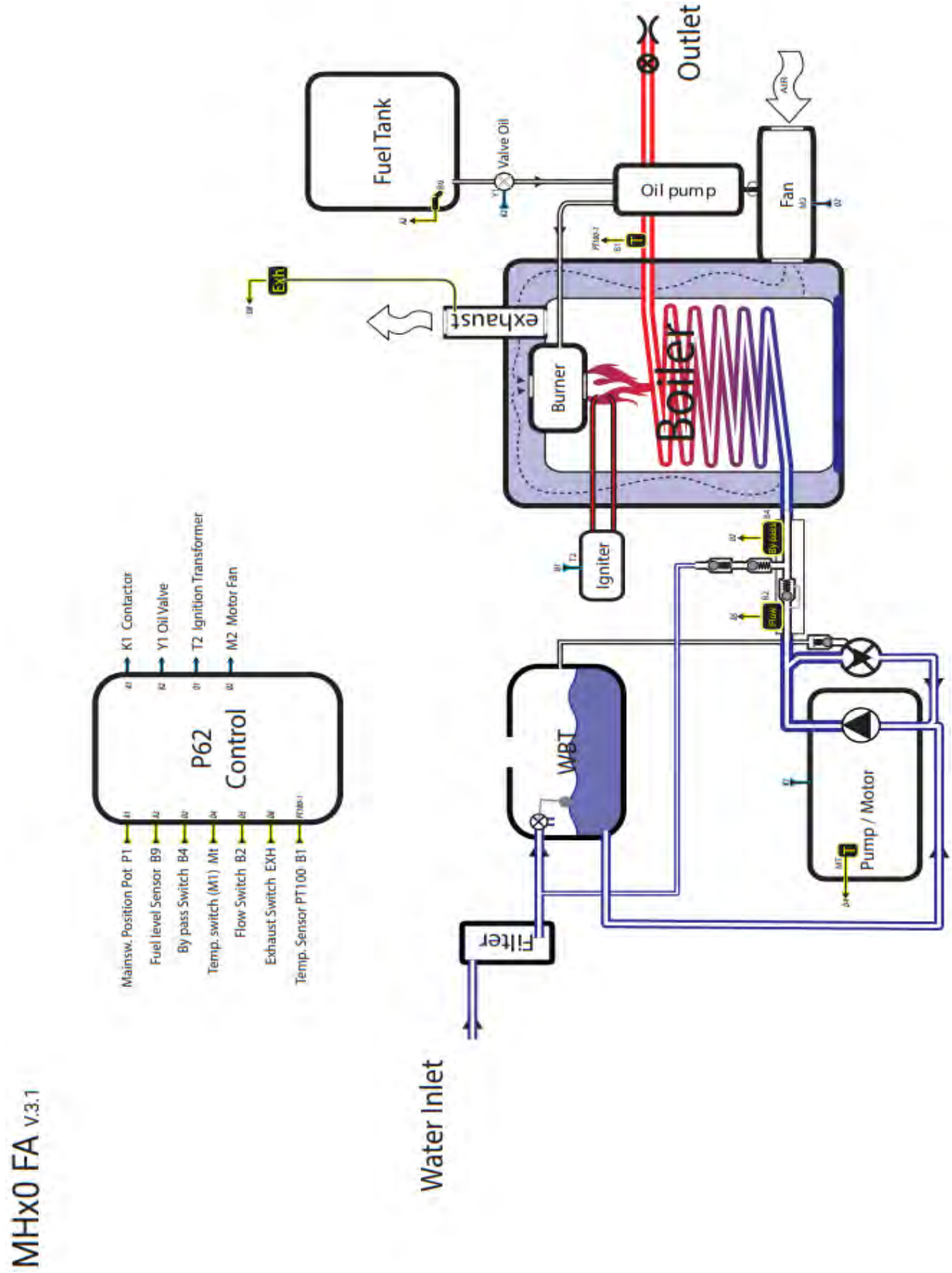
The fresh water is sucked from the water break tank through a hose up to the solenoid valves. The valves will be flushed for 3 minutes after they have been used.

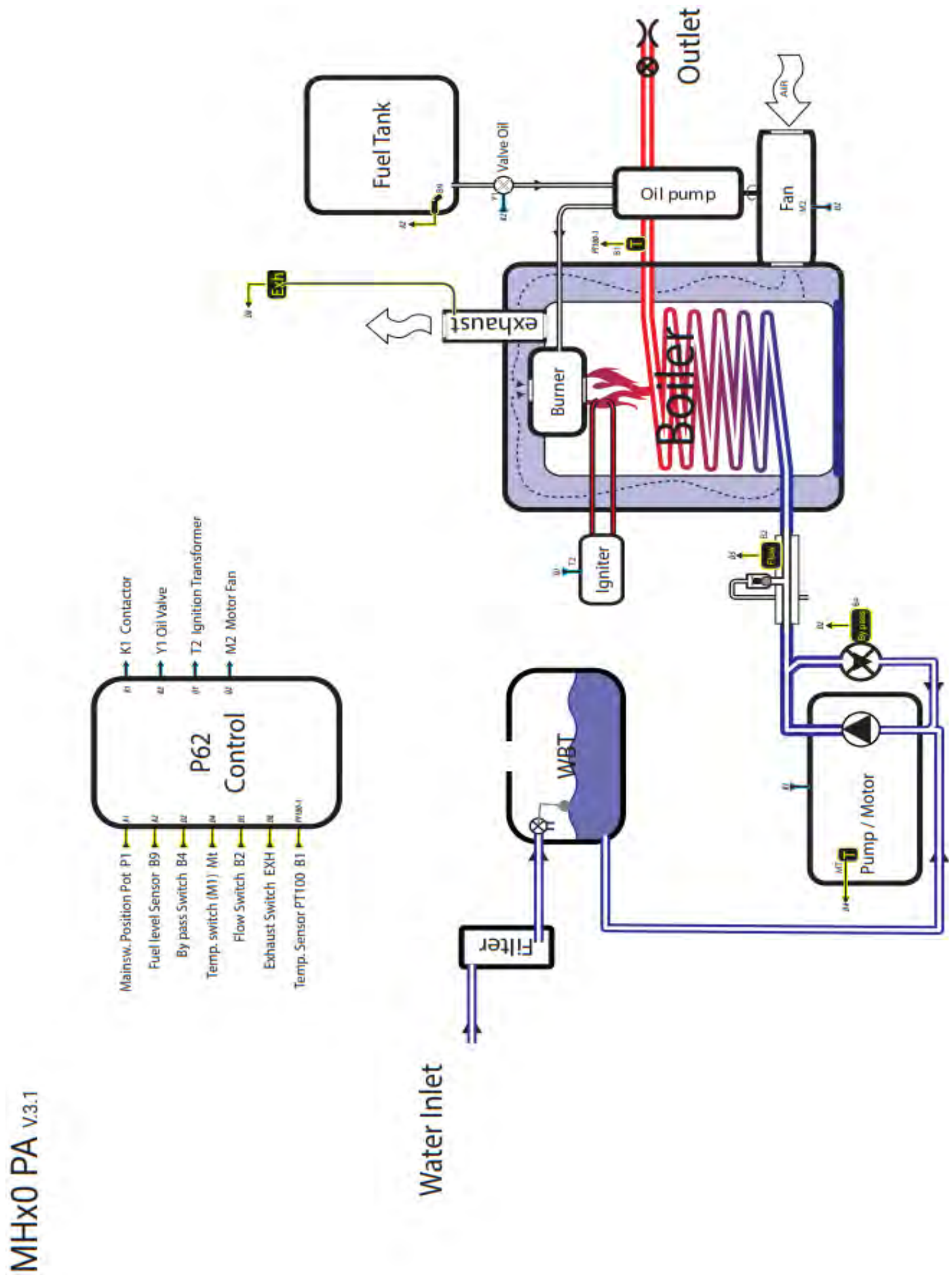
When the Main switch S1 is set in Off mode the control transformer T1 will lose the power and the machine will shut down.

S1	Switch ON/OFF
K1	Contactor pump
B1	Temp. Sensor PT 100
B2	Flow switch
B4	By pass switch
B8	Level sensor Anti-stone
B9	Fuel level sensor
ET1	Control transformer
EXH	Exhaust switch
T1	Control transformer
T2	Ignition transformer
M2	Motor fan
P1	Mainswitch position potentiometer
Y1	Oil valve
Y3	Valve detergent A
Y4	Valve detergent B
Y5	Valve rinse
M1	Motor
M2	Motor fan


MHx5 FA V.3.2
Level Sensor ANTI-STONE B8
By pass Switch B4
Level Switch Pump Oil B6
Fuel level sensor B9
Light Sensor B7
Acoustic Sensor ACO
Temp. switch (M1) Mt
Flow Switch B2
Exhaust Switch EXH
Water level sensor S3
Water level sensor S2
Pressure sensor B10
Temp. Sensor PT100 B1
P63
Control
&
UIC06
UI
K1 Contactor
Y3 Valve Detergent A
Y4 Valve Detergent B
Y5 Valve Rinse
Y2 Valve Anti Scale
Y1 Valve Oil
T2 Ignition Transformer
M2 Motor Fan
Anti-scale Tank
Fuel Tank
Valve Anti Scale
Valve Oil
Oil pump
Fan
AIR
Burner
exhaust
Igniter
Boiler
Outlet
Filter
Water Inlet
Motor / Pump
A
B
Valve Detergent Rinse
Valve Detergent B
Valve Detergent A
Optional

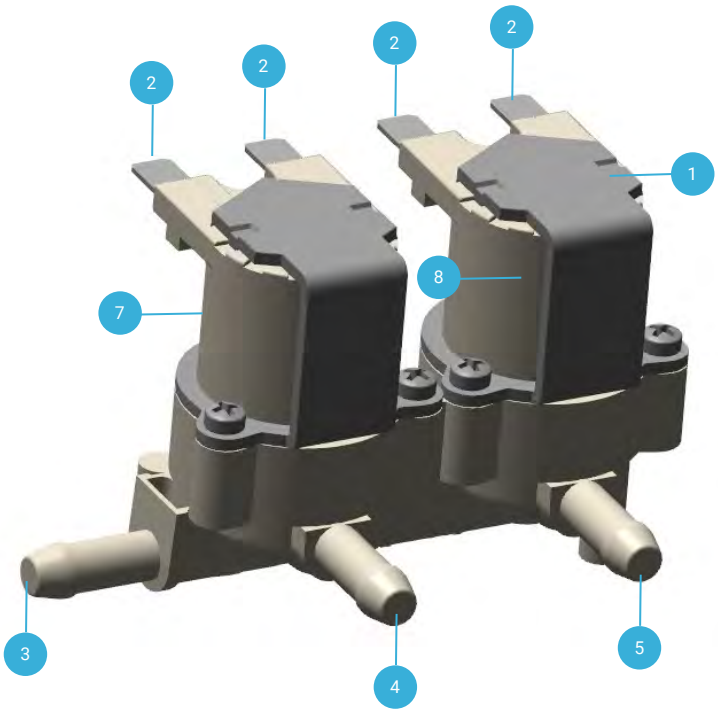

MHx5 PA V.3.2
P63 Control & UIC06 UI
Level Sensor ANTI-STONE B8
By pass Switch B4
Level Switch Pump Oil B6
Fuel level sensor B9
Light Sensor B7
Acoustic Sensor ACO
Temp. switch (M1) Mt
Flow Switch B2
Exhaust Switch EXH
Water level sensor S3
Water level sensor S2
Pressure sensor B10
Temp. Sensor PT100 B1
K1 Contactor
Y3 Valve Detergent A
Y4 Valve Detergent B
Y5 Valve Rinse
Y2 Valve Anti Scale
Y1 Valve Oil
T2 Ignition Transformer
M2 Motor Fan
Outlet
Igniter
Exh
exhaust
AIR
Fan
Burner
Boiler
Oil pump
Valve Oil
Fuel Tank
Anti-scale Tank
Valve Anti Scale
Filter
Water Inlet
Flow
By pass
Filter
Motor / Pump
A
B
Valve Detergent Rinse
Valve Detergent B
Valve Detergent A Optional


MHx0 FA v.3.1
Water Inlet
Outlet
Fuel Tank
Valve Oil
Oil pump
Fan
AIR
Exh
exhaust
Burner
Boiler
Igniter
WBT
Filter
Pump / Motor
P62
Control
K1 Contactor
Y1 Oil Valve
T2 Ignition Transformer
M2 Motor Fan
Mainsw. Position Pot P1
Fuel level Sensor B9
By pass Switch B4
Temp. switch (M1) Mt
Flow Switch B2
Exhaust Switch EXH
Temp. Sensor PT100 B1


MHx0 PA V.3.1
Water Inlet
Filter
WBT
Pump / Motor
Igniter
Burner
Boiler
exhaust
Exh
Fuel Tank
Valve Oil
Oil pump
Fan
AIR
Outlet
P62 Control
K1 Contactor
Y1 Oil Valve
T2 Ignition Transformer
M2 Motor Fan
Mainsw. Position Pot P1
Fuel level Sensor B9
By pass Switch B4
Temp. switch (M1) Mt
Flow Switch B2
Exhaust Switch EXH
Temp. Sensor PT100 B1

Function **Detergent**

D



1. Complete valve block for 1 x detergent
2. Power connection from PCBA. 24V AC
3. Connection for high-pressure pump (suction side)
4. Connection for detergent container
5. Connection for WBT.
6. Connection port (D) for flushing of valve (WBT)
7. Detergent valve Y3
8. Rinse valve Y5

WBT

Function.

The valve block (1) is located above the high-pressure pump inside the machine. Valves are of the NC type (normally closed).

When detergent is selected on the control panel, the NEO board will activate the detergent valve A (7) so that it opens.

To maintain the correct mixture, the valve will open with different opening times depending on which chemistry mixture is selected. The total cycle time (open + close time) will always be the same. This is to obtain a stable chemical distribution.

When the valve is open, the high-pressure pump will suck through the detergent valve and then detergent from the container.

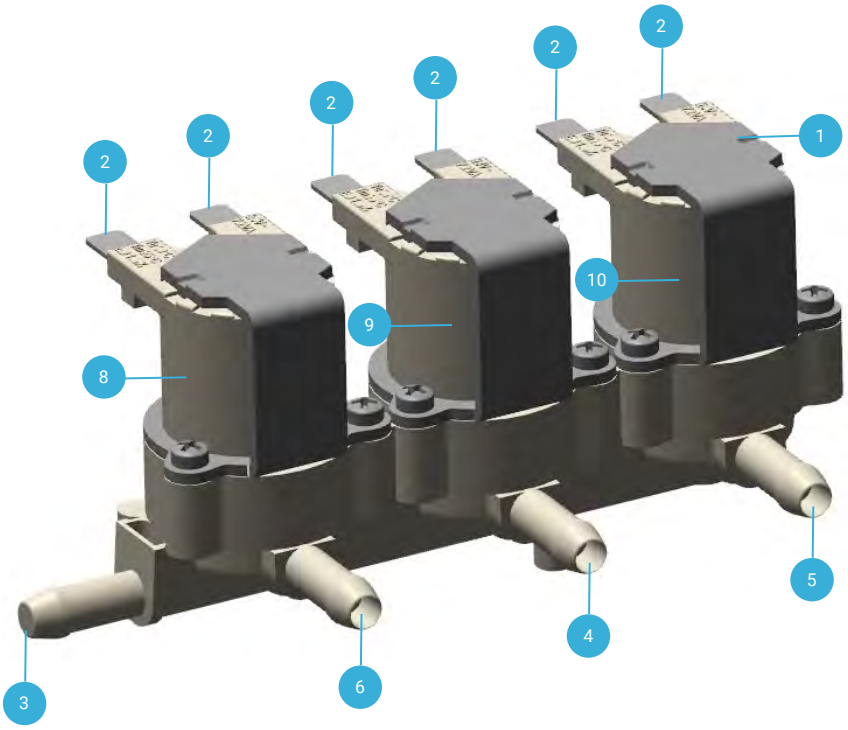
When chemistry is deselected on the control panel, the detergent valve (7) will no longer be activated. This will stop the detergent supply to the high-pressure pump.

At the same time, the flush valve (8) will be activated so that it opens. The high-pressure pump will now suck clean water from the WBT (6) through the flush valve (8). The valve will be open for 3 minutes after detergent is deselected. After this time, the rinse valve will no longer be activated and it will close.

The rinse of the system extends the life of the valves.

Function **Detergent A+B**

D



1. Complete valve block for 2 x detergent
2. Power connection from PCBA. 24V AC
3. Connection for high-pressure pump (suction side)
4. Connection for detergent B container
5. Connection for WBT.
6. Connection for detergent A container
7. Connection port for flushing of valves (WBT)
8. Detergent A valve Y3
9. Detergent B valve Y4
10. Rinse valve Y5

WBT

Function.

The valve block (1) is located above the high-pressure pump inside the machine. Valves are of the NC type (normally closed).

When detergent is selected (A or B) on the control panel, the NEO board will activate the detergent valve (8 or 9) so that it opens.

To maintain the correct mixture, the valve will open with different opening times depending on which chemistry mixture is selected. The total cycle time (open + close time) will always be the same. This is to obtain a stable chemical distribution.

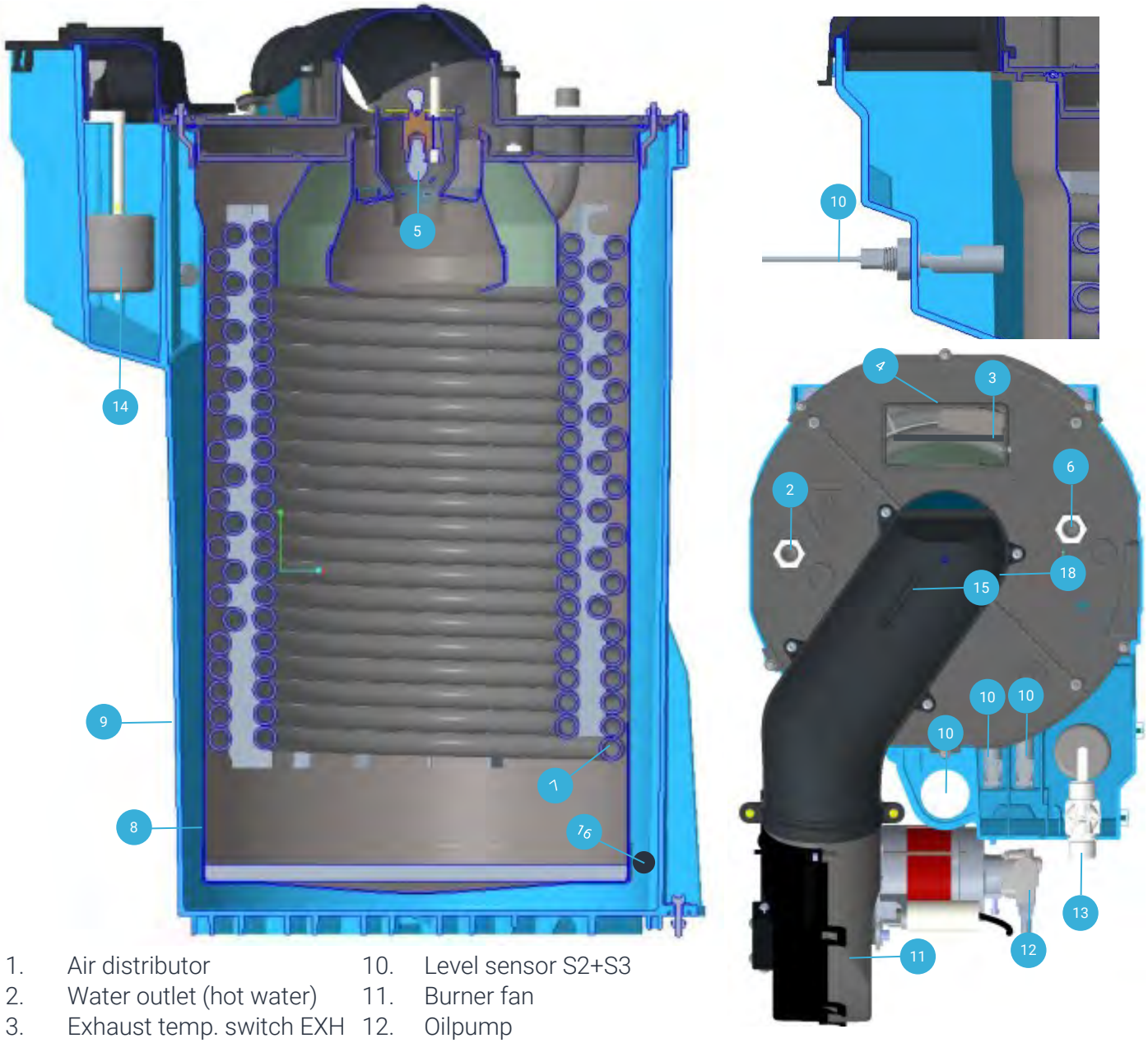
When the valve is open, the high-pressure pump suck through the detergent valve (8 or 9) and then detergent from the container.

When chemistry is deselected on the control panel, the detergent valve (8 or 9) will no longer be activated. This will stop the detergent supply to the high-pressure pump.

At the same time, the rinse valve (10) will be activated so that it opens. The high-pressure pump will now suck clean water from the WBT (7) through the rinse valve (10). The valve will be open for 3 minutes after detergent is deselected. After this time, the rinse valve will no longer be activated and it will close.

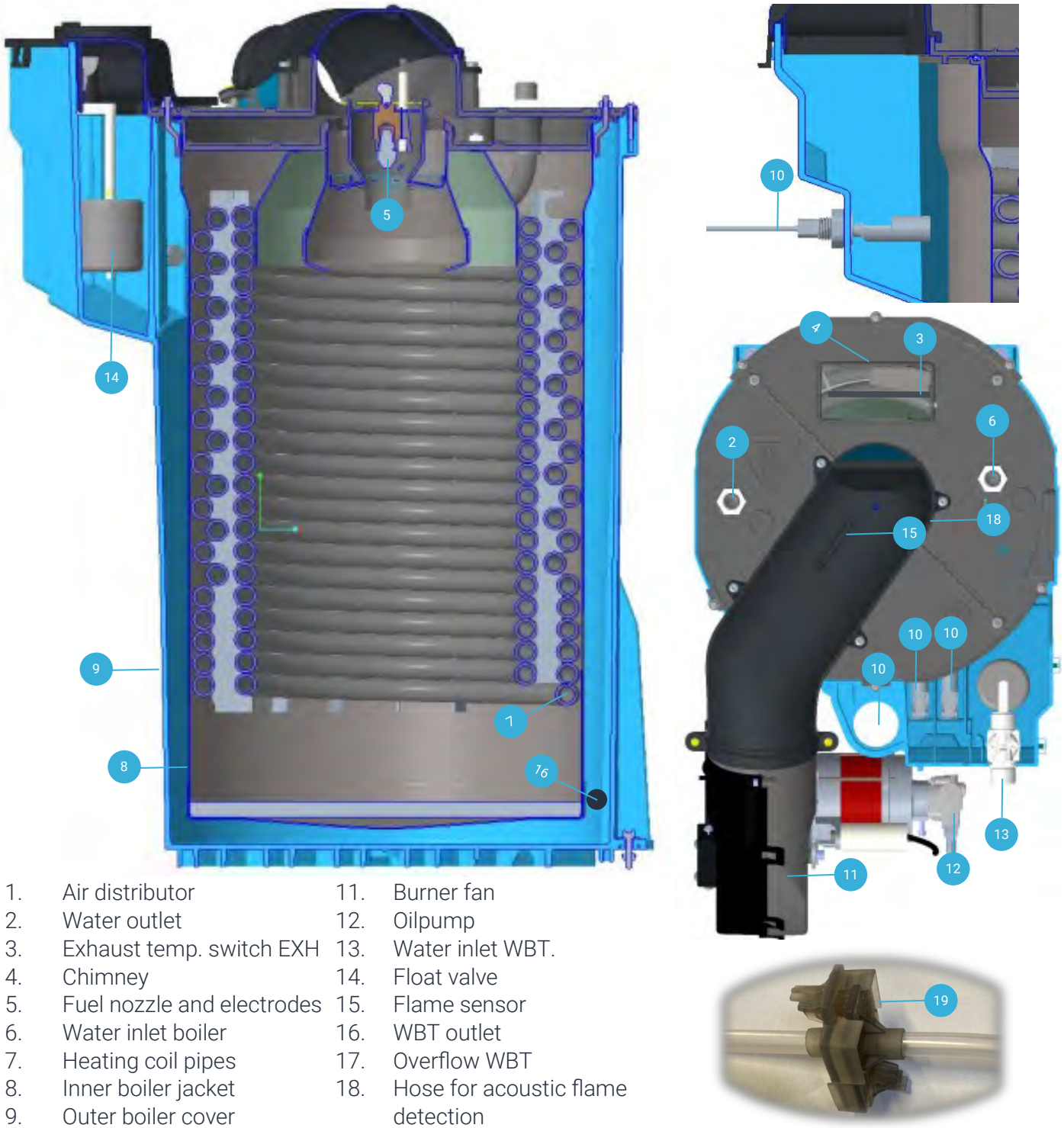
The rince of the system extends the life of the valves.

Water Cooled Boiler (WCB)



1. Air distributor
2. Water outlet (hot water)
3. Exhaust temp. switch EXH
4. Chimney
5. Fuel nozzle and electrodes
6. Water inlet boiler
7. Heating coil pipes
8. Inner boiler jacket
9. Outer boiler cover
10. Level sensor S2+S3
11. Burner fan
12. Oilpump
13. Water inlet WBT.
14. Float valve
15. Flame sensor
16. WBT outlet
17. Overflow WBT
18. Hose for acoustic flame detection

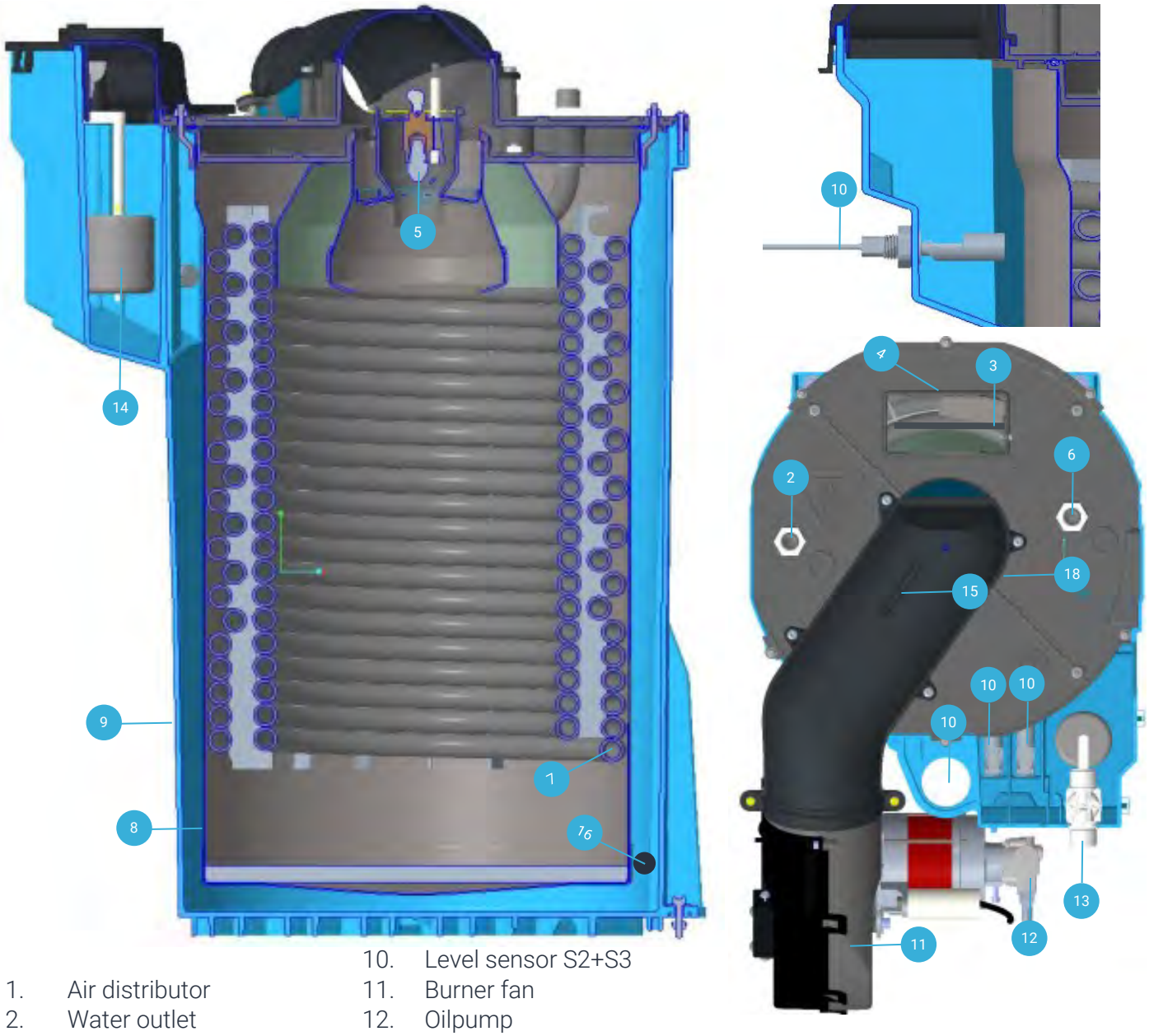
The heat exchanger is the functional link between the heating subsystem and the water subsystem.
Cold water is fed into the water tank through the water inlet (13). The water will fill the space between Inner boiler jacket (8) and outer boiler cover (9). When the correct water level is present, the float valve (14) will close the water supply. The two level sensors (10) will now register that there is sufficient water in the system to start the boiler.
The high-pressure pump sucks the water from the bottom of the outlet of boiler (16) (preheated if the boiler has been running for a period of time) through the pump and the flow control to the water inlet (6) of the boiler.
When hot water mode has been selected and the NEO PCBA detects flow through the boiler, the fan motor starts. The air is blown to the top of the boiler and distributed around the Fuel nozzle and electrodes (5).
At the same time fuel is drawn in from the fuel tank by the fuel pump through the fuel filters.



1. Air distributor
2. Water outlet
3. Exhaust temp. switch EXH
4. Chimney
5. Fuel nozzle and electrodes
6. Water inlet boiler
7. Heating coil pipes
8. Inner boiler jacket
9. Outer boiler cover
10. Level sensor S2+S3
11. Burner fan
12. Oilpump
13. Water inlet WBT.
14. Float valve
15. Flame sensor
16. WBT outlet
17. Overflow WBT
18. Hose for acoustic flame detection
19. Filter (acoustic)

The fuel is supplied by the fuel pump (12) (when the solenoid valve is open) to the nozzle. If no combustion is needed, the fuel goes back to the tank through the fuel pump return line.
The ignition transformer is activated in "Hot water" mode (constant ignition) and generates ignition sparks across the electrodes to ignite the fuel spray. This process is monitored by the two flame sensors (15 +18) on top of the boiler. If both of the flame sensors does not detect a flame for 2-3 seconds, the boiler will shut down.
The acoustic flame sensor consists of a hose that is mounted on the top of the boiler (18). The opposite end of the hose is mounted on a microphone on the PCBA. In the middle of the hose there is a filter (19) that reduces the sound level. The microphone can decide from the frequency whether there is a flame or not.

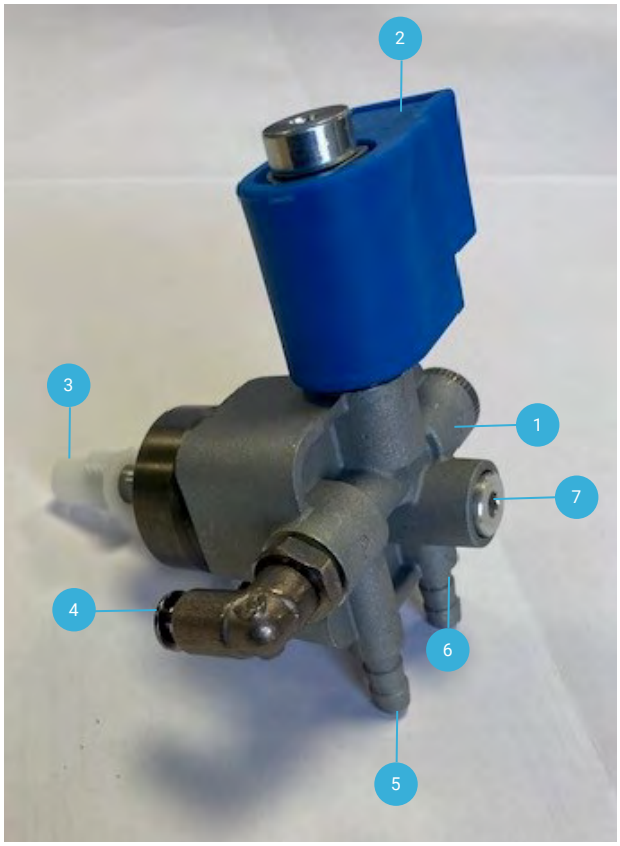
Water Cooled Boiler (WCB)



1. Air distributor
2. Water outlet
3. Exhaust temp. switch EXH
4. Chimney
5. Fuel nozzle and electrodes
6. Water inlet boiler
7. Heating coil pipes
10. Level sensor S2+S3
11. Burner fan
12. Oilpump
13. Water inlet WBT.
14. Float valve
15. Flame sensor
16. WBT outlet
17. Overflow WBT
18. Hose for acoustic flame detection

The flame inside the boiler will now heat the heating coil pipes outside. The water from the high-pressure pump is led inside the pipes. This heats the water to the desired preset temperature.
When the desired temperature is reached, the solenoid valve (Y1 on the oil pump) will close and cut off the oil supply to the boiler.

Exhaust temp. switch (3) protects against overheating of the boiler. If the temperature exceeds 270°C (518° F) in the exhaust, the sensor will turn off the boiler.
The exhaust temp. switch (3) can be mechanically reset by activating a button on the unit under the electrical box. Plastic cover must be removed before reset.
Cause of error must be investigated.

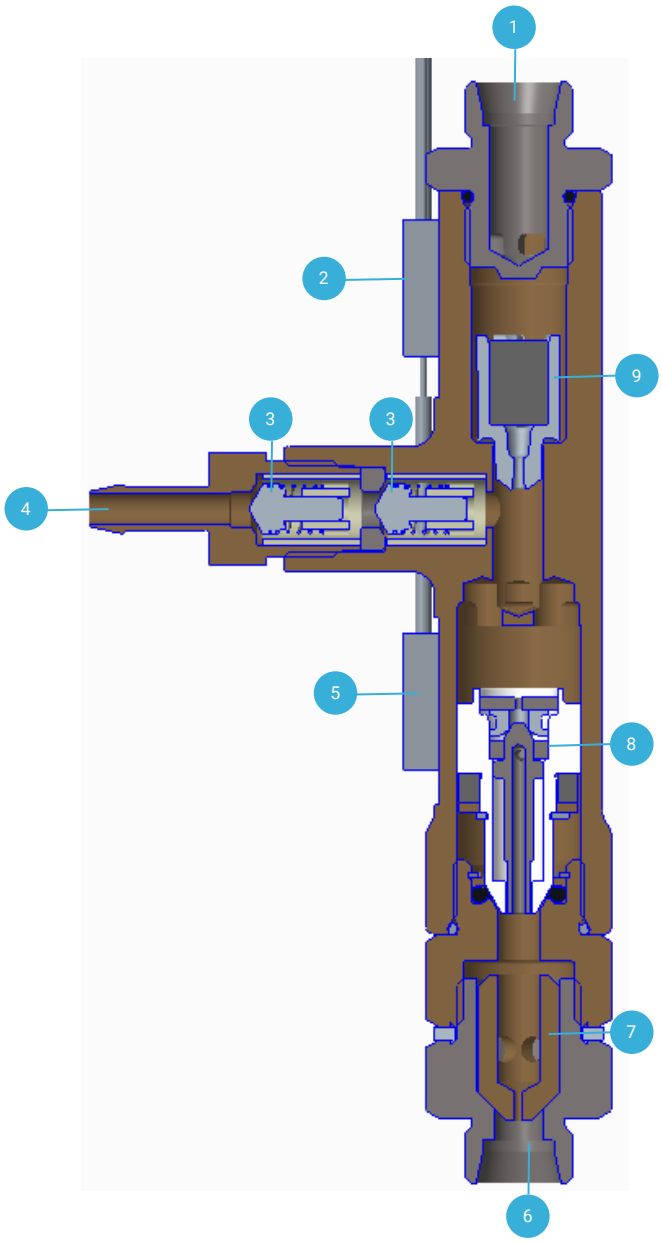


1. Complete fuel pump
2. Oil valve Y1
3. Clutch
4. Connection to oil nozzle
5. Connection to fuel tank
6. Oil return connection
7. Oil pressure adjustment screw. Umbraco 4mm

The oil pump is driven by the fan motor M2. Between the fan motor and the oil pump there is a coupling (3) that transfers the rotation. Oil is sucked from the fuel tank through port 5. If the Oil valve Y1 is closed, the oil will be returned to the fuel tanks via port 6.
When the solenoid valve is opened (controlled by NEO PCBA), the oil will be directed to the oil nozzle via port 4 and the boiler is ready to start.
Oil pressure can be adjusted on the screw (7).

Function **Flow Switch** **(FA models)**

D



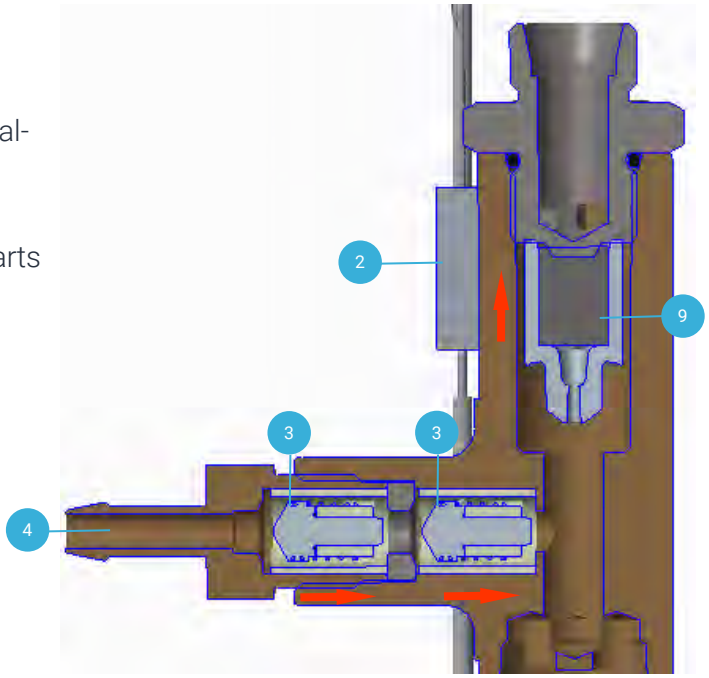
1. Water outlet to boiler.
2. Reed switch for start/stop of motor/pump B4
3. Non return valves.
4. Hose connection. Water supply.
5. Reed switch for start/stop of heating system B2
6. Water inlet from pump.
7. Non return valve.
8. Non return valve/magnet.
9. Flowpiston with magnet.

Funktion.

Start and open spray handle:

Water from water supply (4) passes the 2 non-return valves (3) and lift up the piston (9).

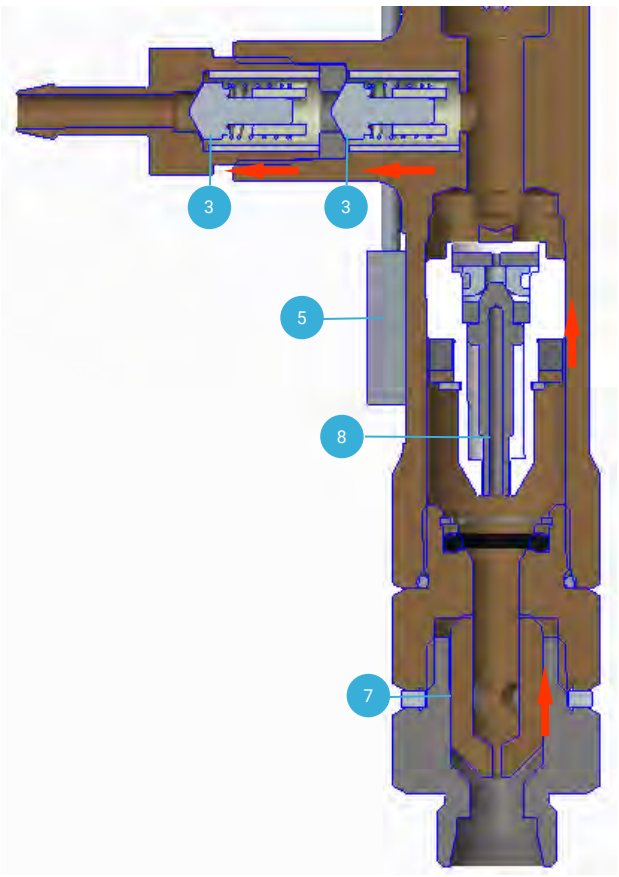
The magnet in the piston activate the reed contact (2) which gives a signal to the NEO PCBA board, which starts the motor/pump unit.



The flow from the pump lifts up piston (7) and (8) and the two valves (3) closes.

The magnet in piston (8) activate the reed contact (5). This gives signal to the NEO PCBA that the boiler can be started.

The machine is now in full function mode.



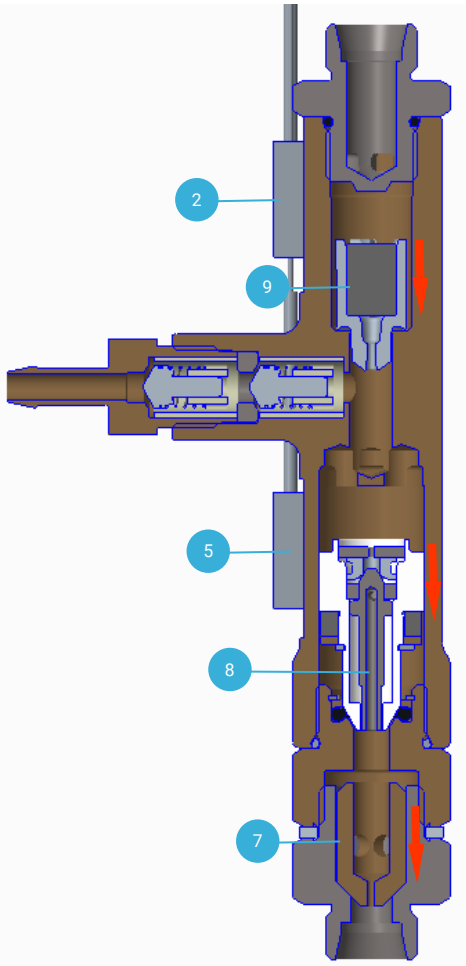
Stop closed gun:

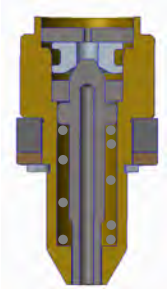
When the gun is closed, piston (7),(8) and (9) closes.

The magnet indside piston (8) and (9) will activate the two reed switch´s (2) + (5) and motor/pump and boiler will stop. If the machine has bypass time activated will the motor/pump run for this time before it stops.

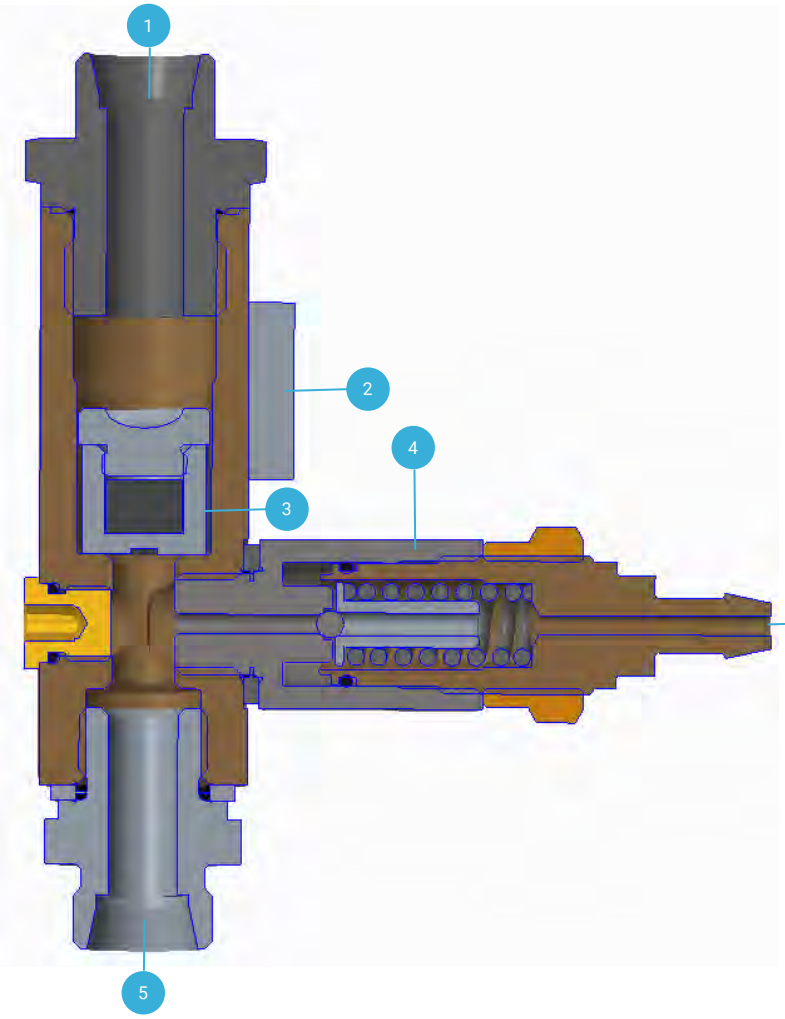
Note:

Inside piston (8) is there a retaining valve which opens when the outlet pressure in the flow control is more than10 bar higher than the inlet pressure, when the gun is released.





Piston 8



1. Water outlet to boiler.
2. Reed switch (type NO) for start/stop of heating system B2.
3. Flowpiston with magnet.
4. Safety valve.
5. Water inlet from pump.
6. Water return to WBT

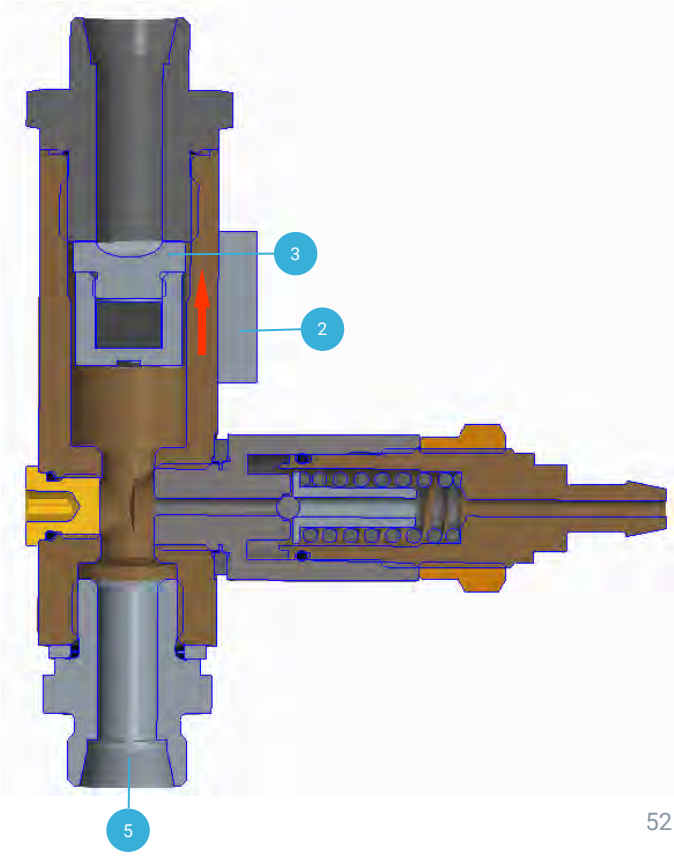
Funktion.

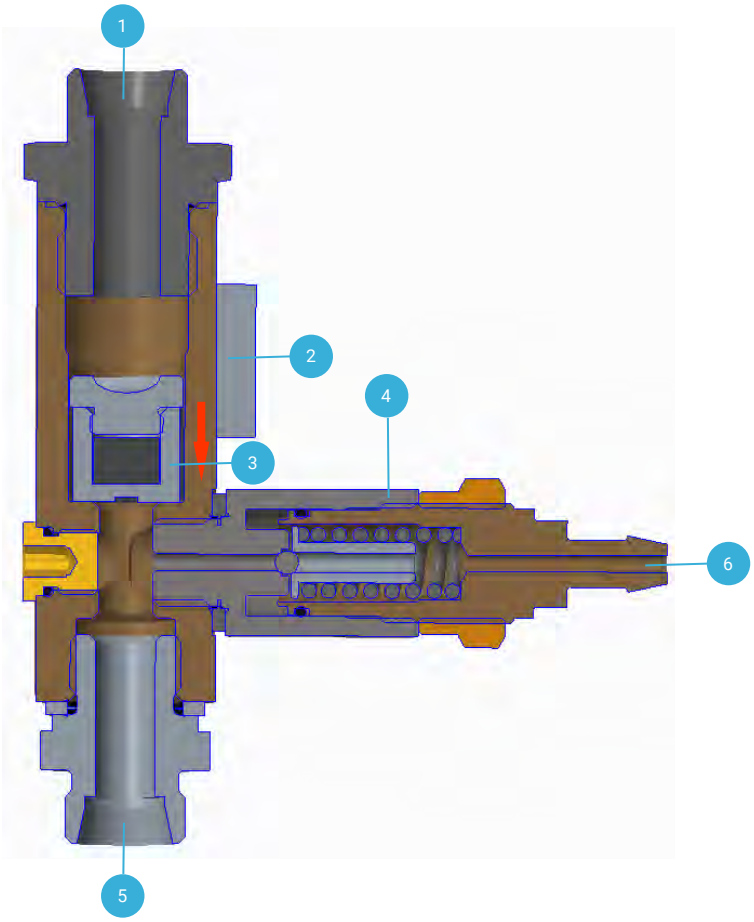
Start open gun:

Motor/pump starts (signal from micro switch on the MPU). Water from motor/pump (5) lift up piston (3).

The magnet indside piston (3) will activate the reed switch´s (2). This gives signal to the NEO PCBA that the boiler can be started.

The machine is now in full function mode.





1. Water outlet to boiler.
2. Reed switch (type NO) for start/stop of heating system B4.
3. Flowpiston with magnet.
4. Safety valve.
5. Water inlet from pump.
6. Water return to WBT

Stop closed gun:

When the gun is closed will piston (3) close.

The magnet indside piston will deactivate the reed switch´s (2) and boiler will stop burning.

The motor/pump will be switch off by the micro switch on the MPU. This gives the stop signal to the NEO PCBA.

Safety valve:

If the pressure inside the system is to high will the safety valve open and release the pressure. Water will be returned to the water tank via port (1)

Nilfisk Service Tool app is a machine diagnostics and maintenance tool. This app helps you interact with your Nilfisk devices through its Bluetooth connectivity.

Key features:

- Firmware Updates Made Simple: update your machines' software to the latest version, ensuring optimal performance and enhanced features.
- Comprehensive Error Management: access detailed logs, error codes, and fault diagnostics to understand and resolve issues efficiently.
- Debugging and Troubleshooting: dive into advanced debugging tools to uncover the root causes of technical problems and streamline repair processes.

Whether you're a technician or a dealer, Service Tool App empowers you to take control of your devices, making troubleshooting and maintenance smarter and more e□ective.

Usage guide

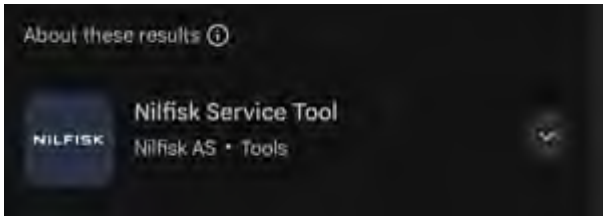
ServiceTool App lets you connect to Nilfisk machines via Bluetooth. All you need to do is log into the app and get in range with the Nilfisk machines and you will be able to search for them using the Search Machine screen. Device discovery range is 15±5 meters, recommended operational range is 1±0.5 meters.

Wireless connection is prone to instability, either due to radio interference, or due to exceeding recommended operational range. In order to mitigate this, in case of lost connection, application will try to reconnect to the machine 3 times with 10 second interval. If connection could not be re-established, application will show user an Alert with recommended actions.

Nilfisk Service Tool application can be installed via platform application store: for iOS - App Store, for Android - Play Store. Users should use "nilfisk service tool" as a search term to find an appropriate application. See below screenshots for both iOS and Android.

iOS—App store:

Android - Play Store:

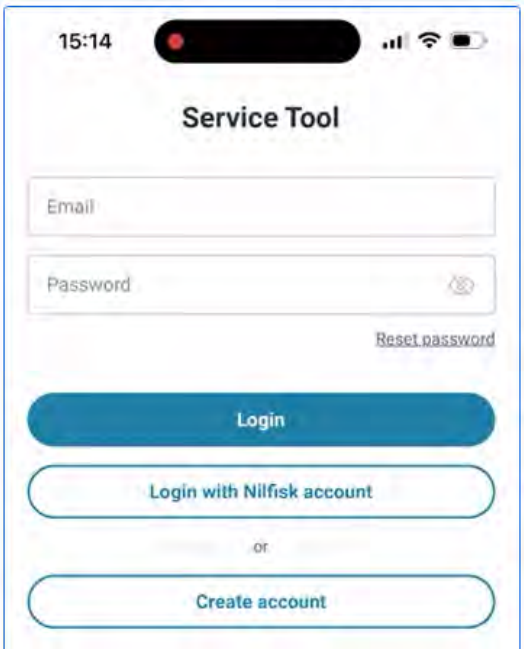


After the application is found in store, the user should just click the "Install"/"Get" button.

User registration and login.

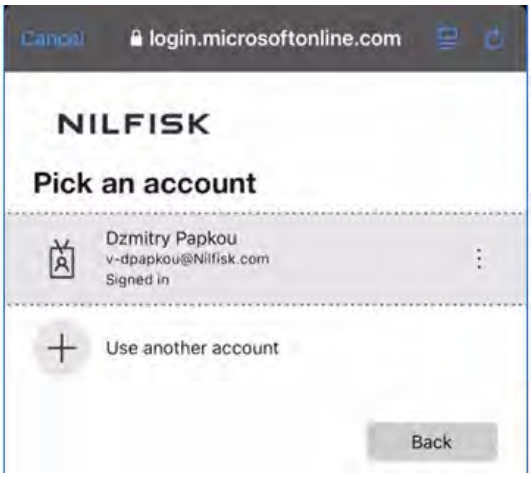
There are two ways person can have an account in Service Tool application: either using his Nilfisk account (email ending with @nilfisk.com), or via public registration.

Nilfisk account:

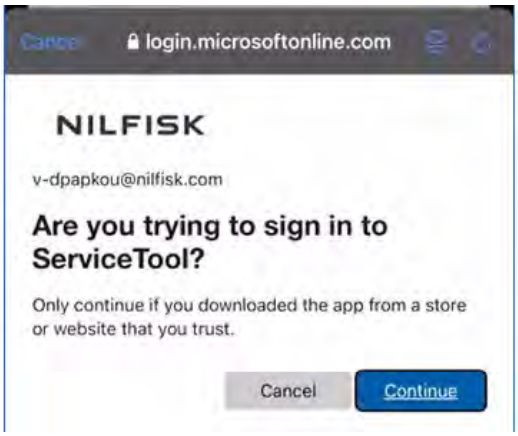


Press **Login with Nilfisk account**

Press **continue**. Pop-up window can be in local language

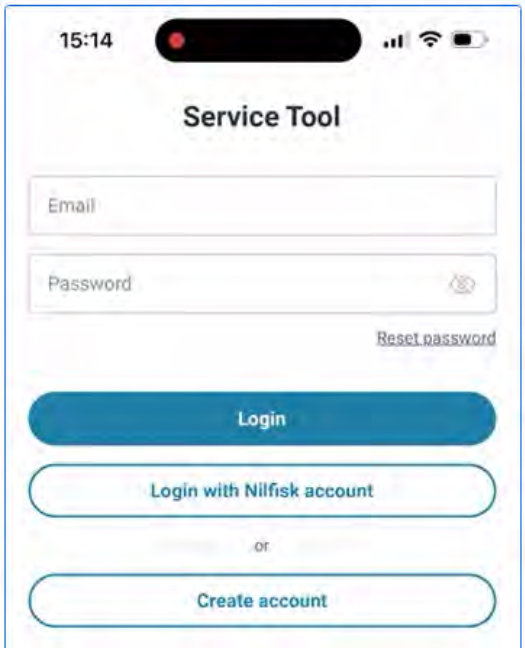


Press Nilfisk account

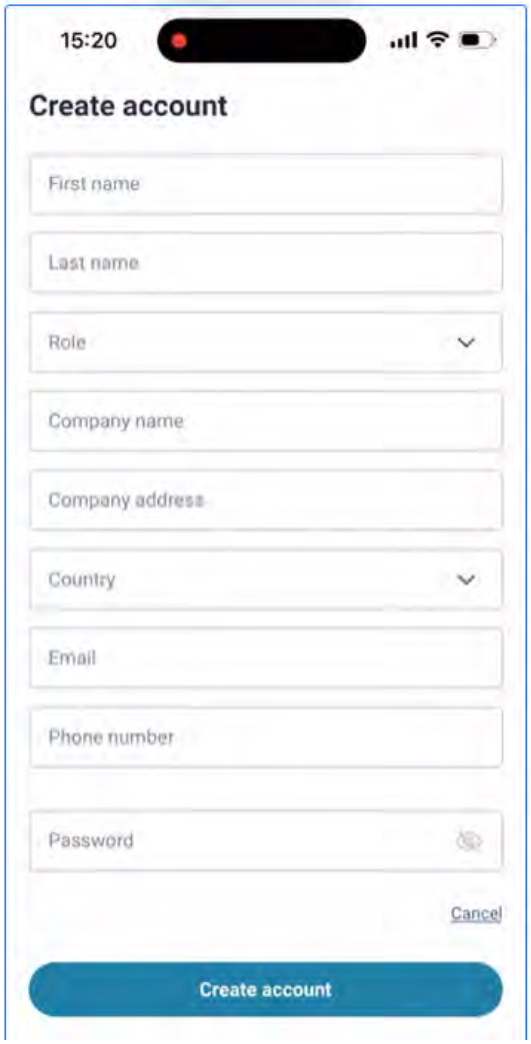


Press **Continue**. Pop-up window can be in local language. Nilfisk servive tool is now ready for use.

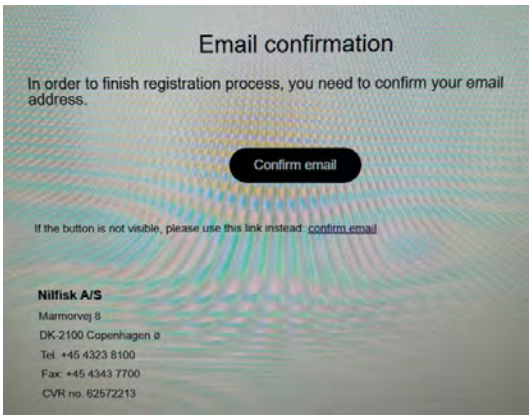
Public registration (no @nilfisk.com)



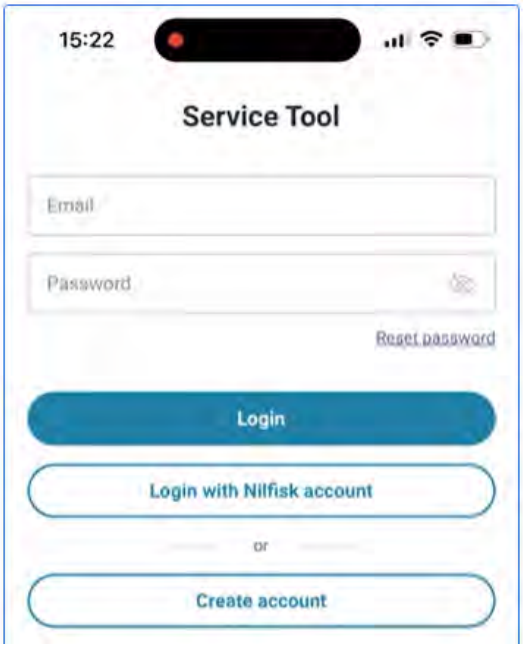
Press **create account**.



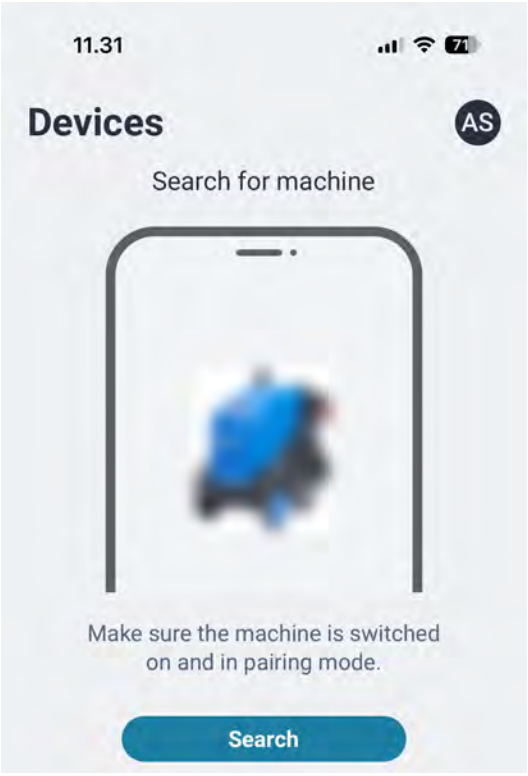
Fill in the information and press **Create account**. This will now trigger an email to to admins, indicating that there is account waiting for review.



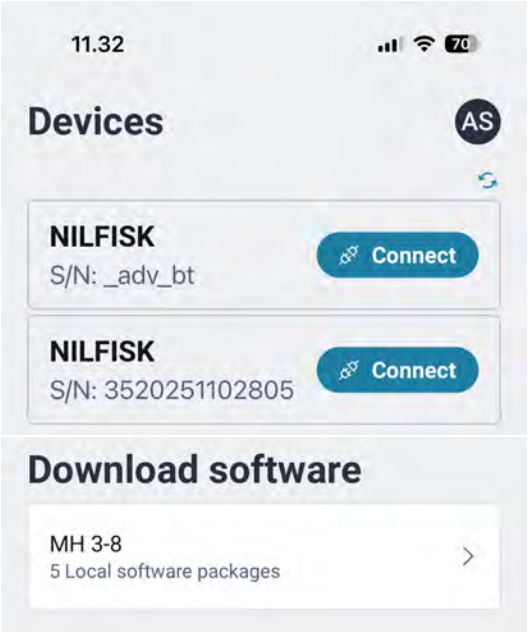
New user will receive an email when approval is complete. Press **Comfirm email**



After approval, the user can log in with email and password.
Nilfisk servive tool is now ready for use.

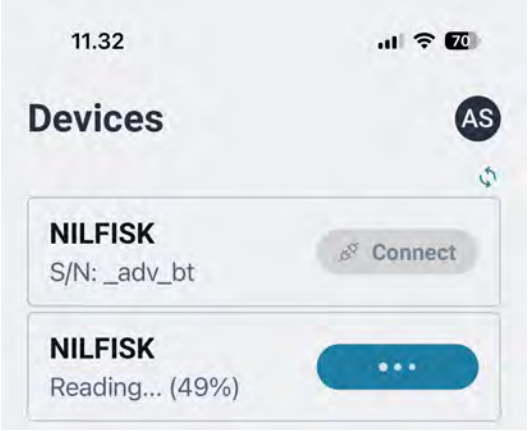


Open app on the mobile device. Press **Search**. Recommended operational range between mobile device and machine is 0,5m—1,5m.

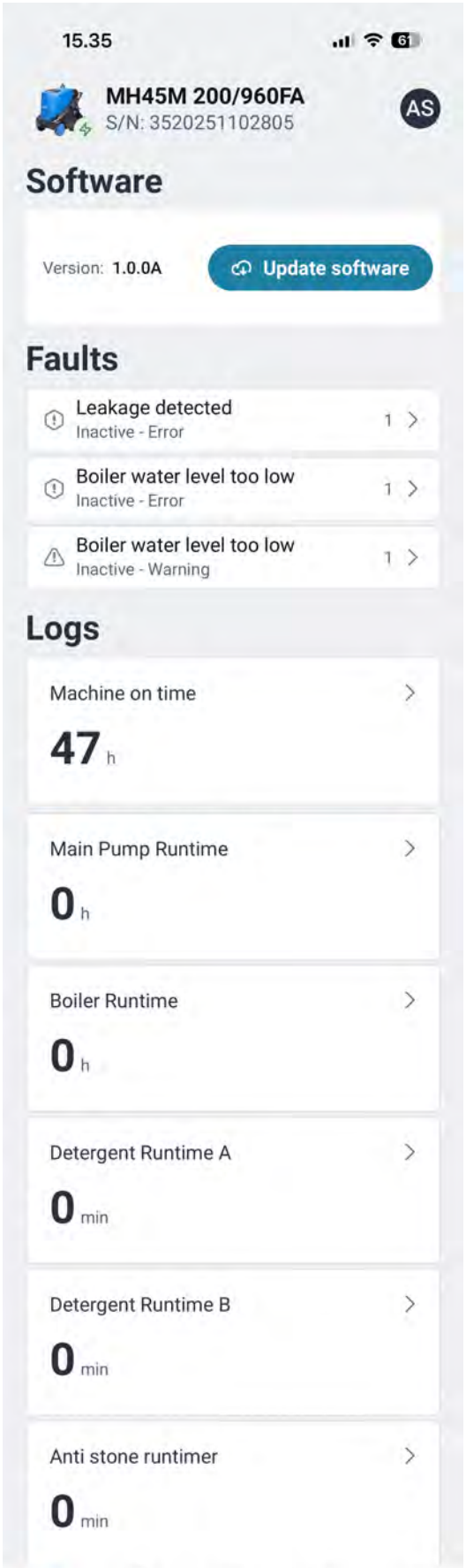


The app will now show an overview of all the Nilfisk machines available.

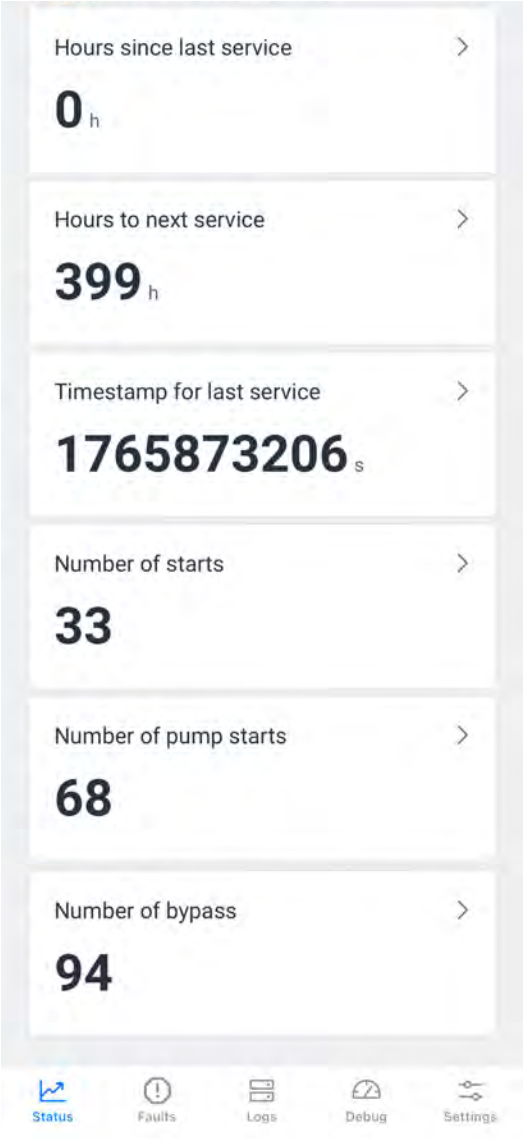
Press Connect on the icon that shows the machine's serial number. This can be found on the machine's nameplate.

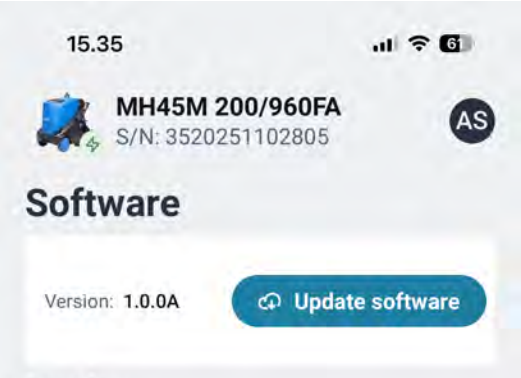


The app will now connect to the machine. When 100% is achieved, the app starts and can be used.



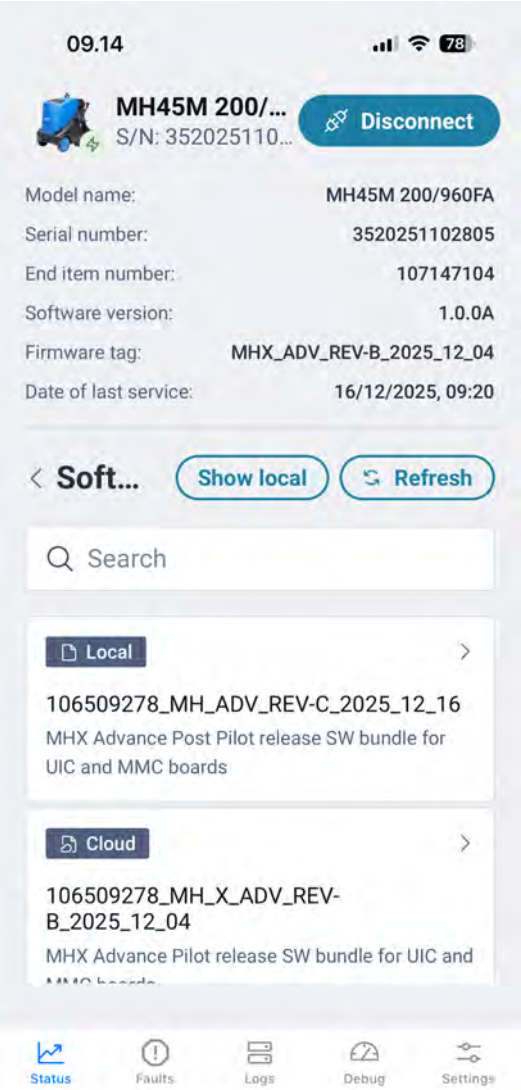
The menu contains an overview of the machine status.Faults and logs Will be described later in this section.





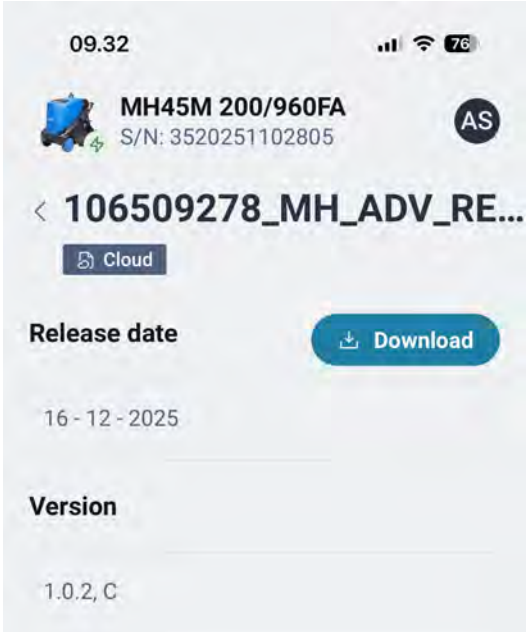
Software update:

Press Update software

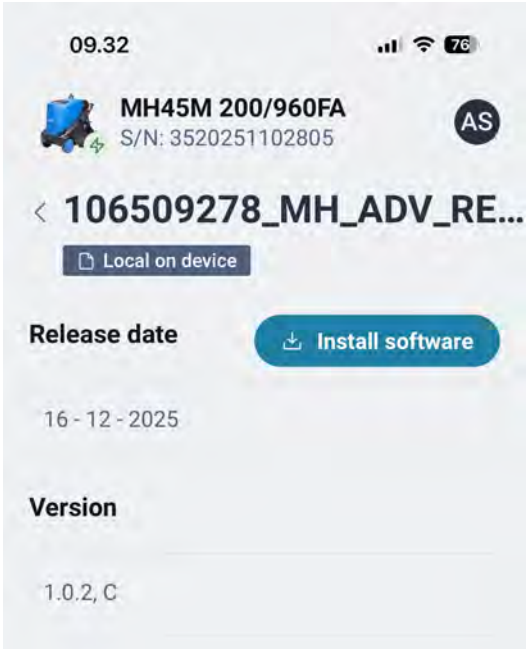


Current software in the machine. REV-B.

Current software in the machine. REV-C.
Press to update software.

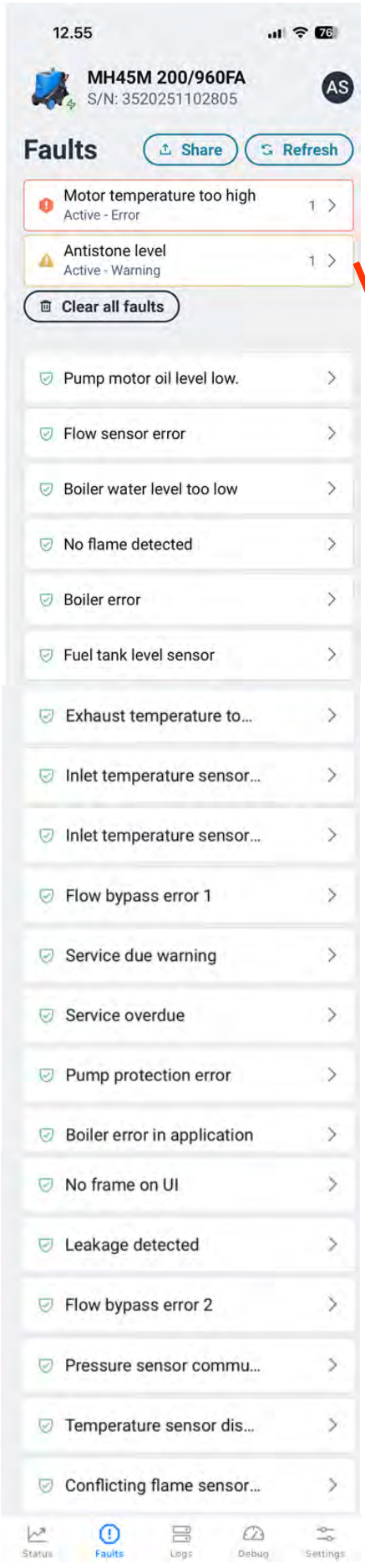


Press **Download**.



Press **Install software**.

Software updates will now start. The update time will be approximately 20 minutes.



The Fault menu contains an overview of all faults and warnings that are monitored. Faults and warnings can be active and inactive. Active and Inactive faults is displayed at the top of the menu.

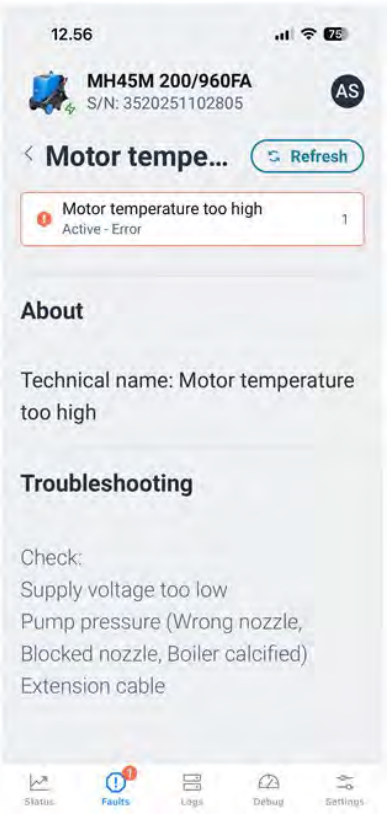
If the problem is solved, the status will change from active to Inactive. Please see below:

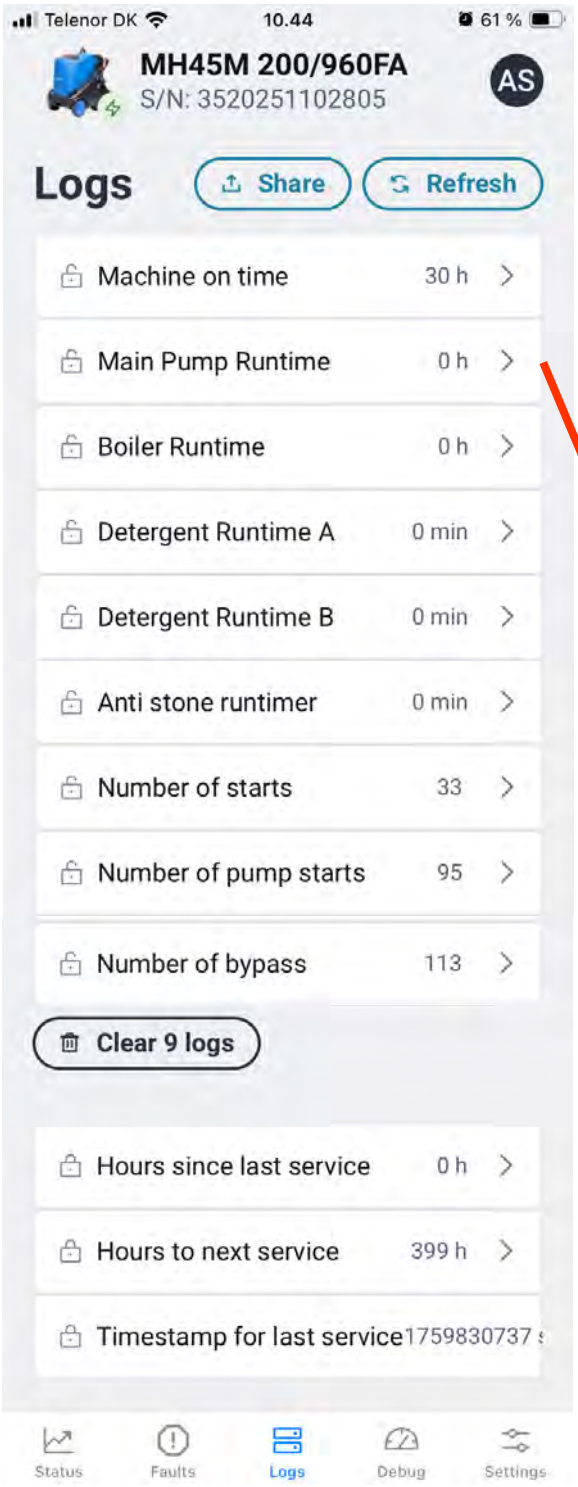
All faults and warnings can be deleted by pressing Clear all faults, If the problem is solved.

Refresh button can be used to update status. This function is available in all menus.

Share button can be used to send machine status via email or SMS. This function is available in all menus.

By pressing the fault button on the individual faults, a description of the fault and suggestions for solving it will appear. See below:



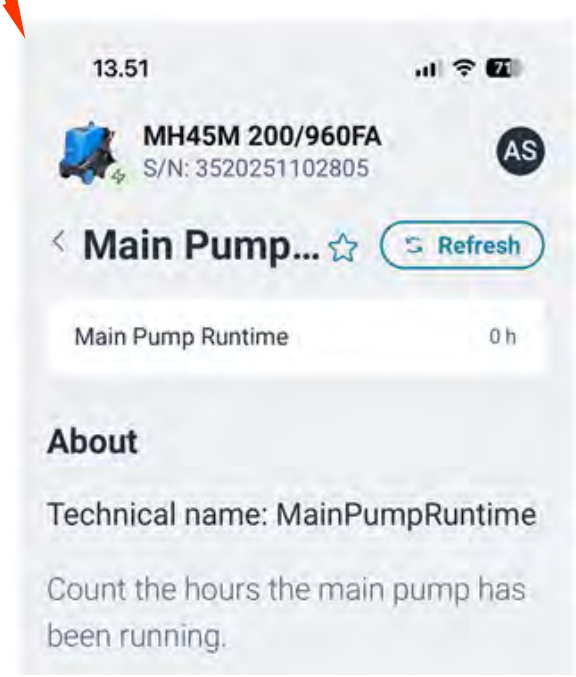


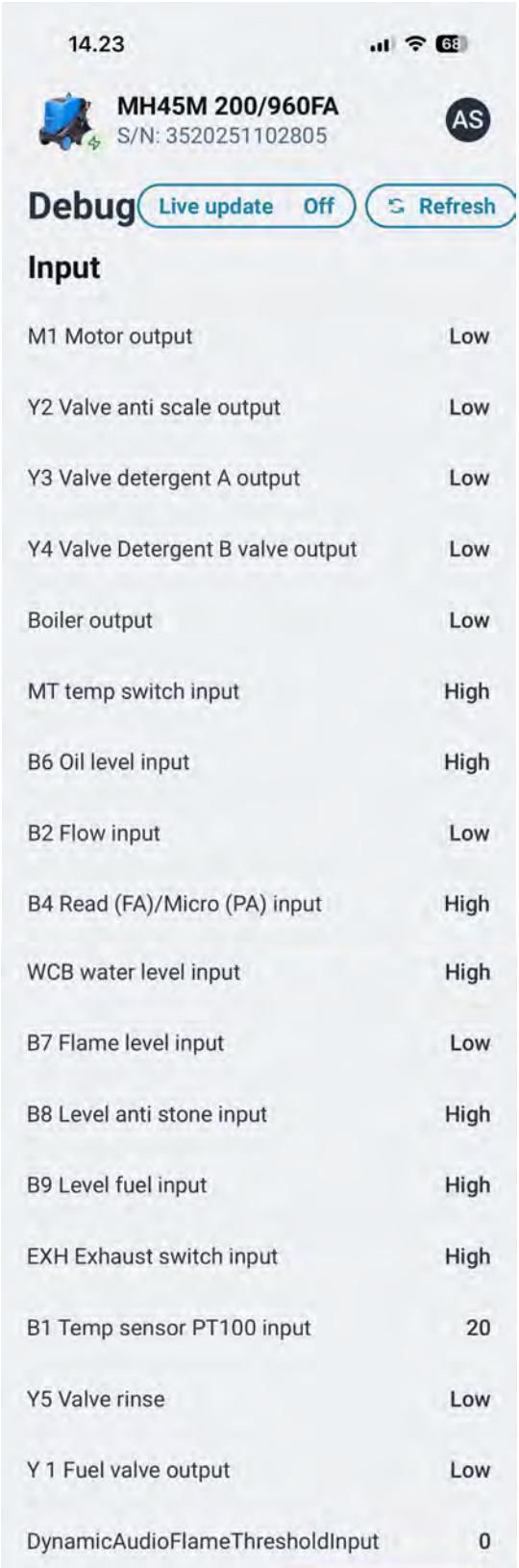
The Logs menu contains an overview of all logs that are monitored on the machine.

All logs in the top of the menu can be reset by pressing **Clear 9 logs**.

The logs at the bottom will automatically be reset when performing service.

By clicking on the individual logs, a description of the log can be seen. See below:





The debug menu provides an overview of inputs and outputs. All inputs/outputs have reference codes (e.g M1/Y2) that match the naming on the electrical diagram.

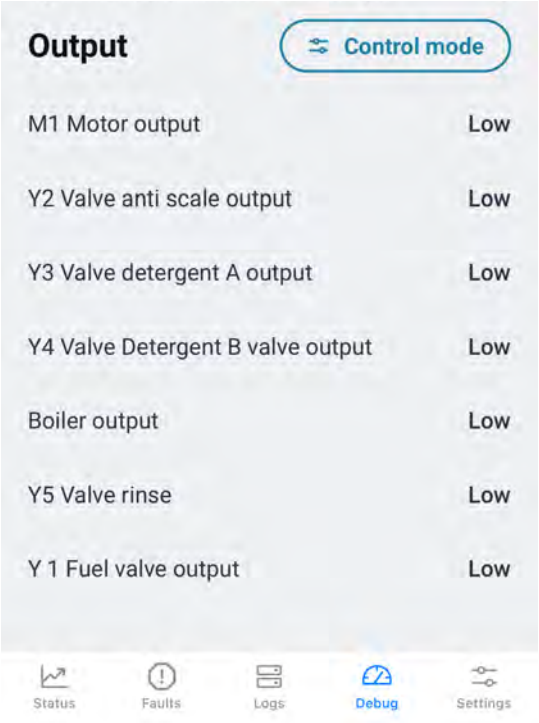
Input:

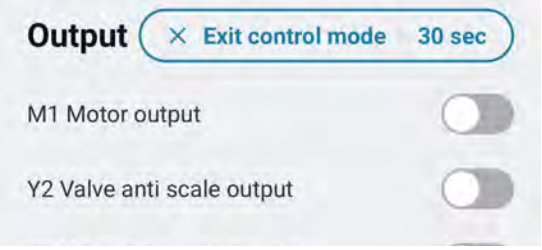
By pressing the Refresh button the current status (right now) will be displayed. If Live update is set to ON the current status will be displayed. This means that all inputs and outputs can be seen live when they change status.

Output:

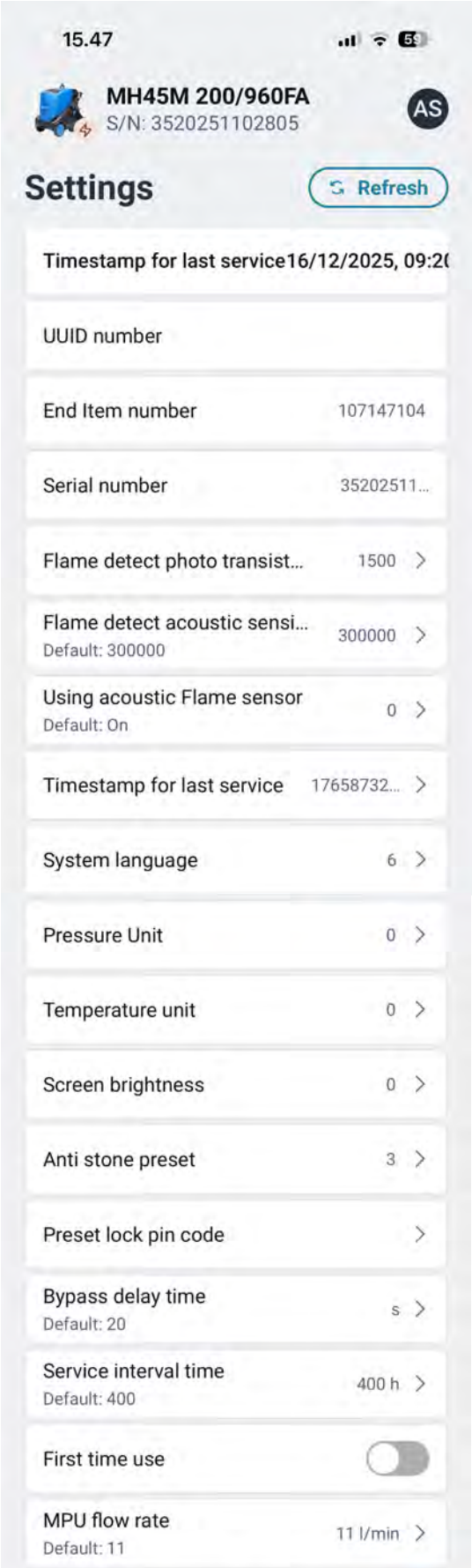
By pressing the Control mode button all functions below can be started manually. This is possible for 30 seconds after selecting the function.

In order to start the boiler, M1 motor output + Boiler output + Y1 Fuel valve output must be selected. At the same time, the sprayhandle must be open so that water flows through the system.





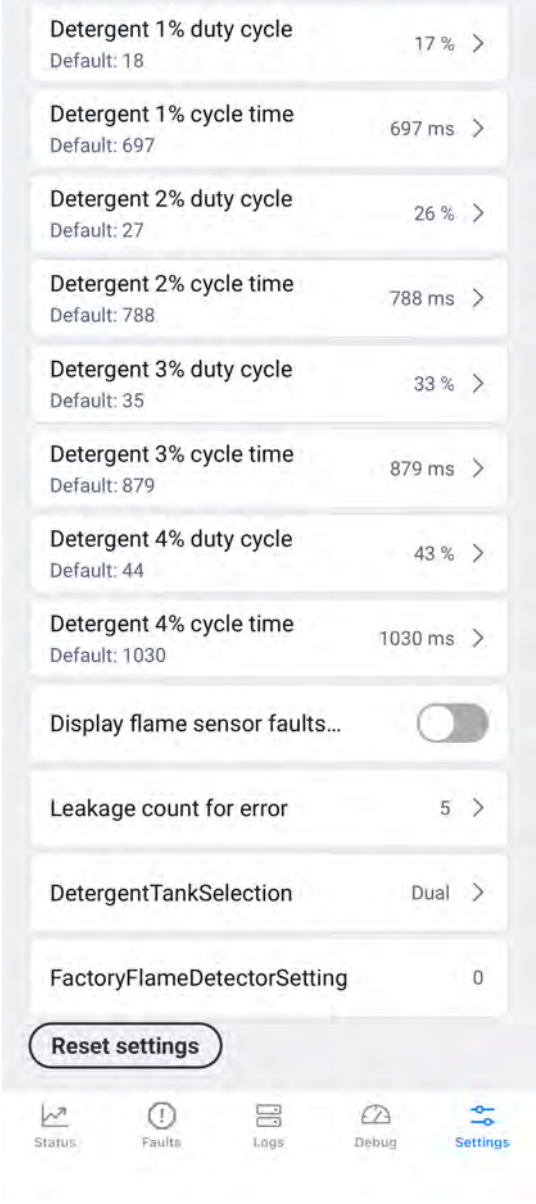
Control mode selected. The time is counting down from 30 seconds.

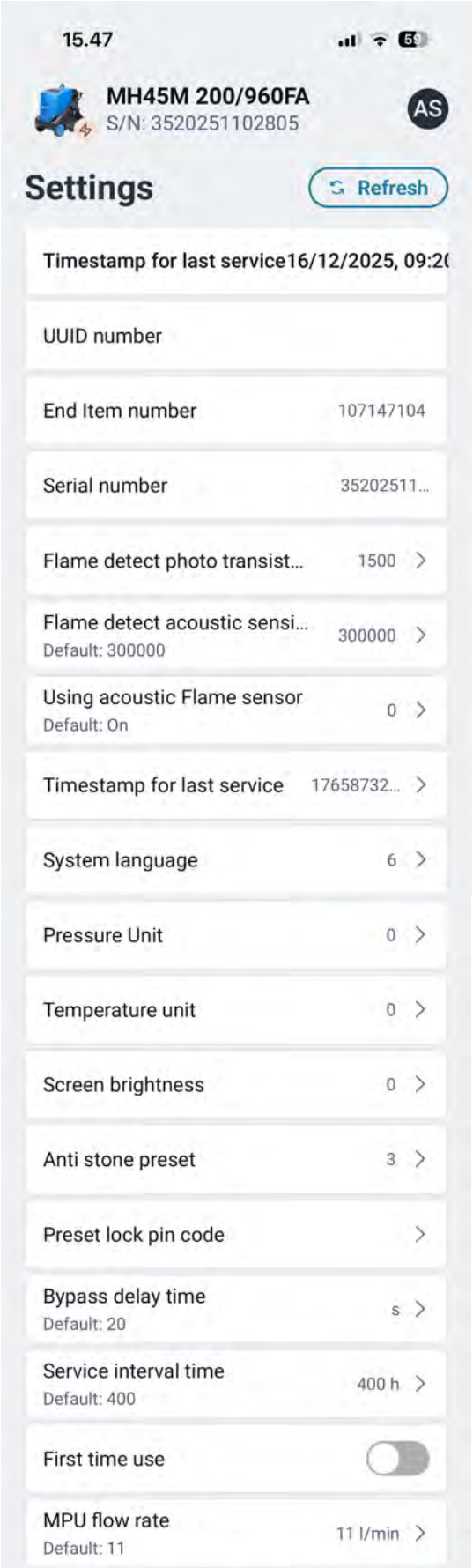


The settings menu provides an overview of the parameter settings in the software.

Several parameters can be changed. It is not recommended to change anything regarding the flame sensor and detergent management.

All settings can be reset to default settings by pressing **Reset settings** and then select the machine's part number.

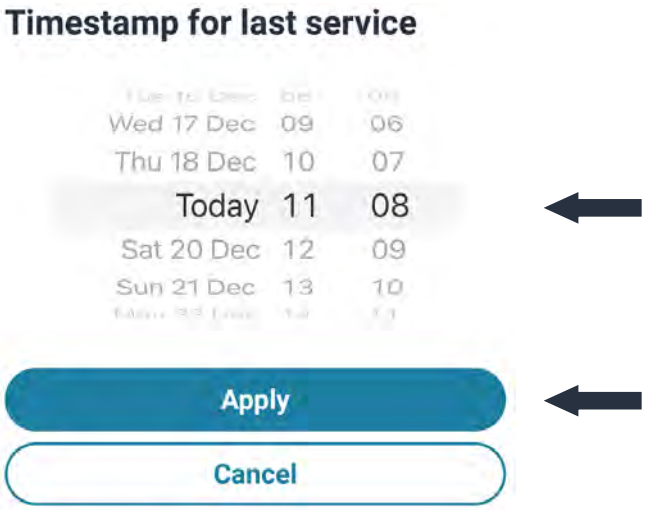




Reset service:

After performing the service, press **Timestamp for last service** and select the date and **Apply**.

Service is now reset and counting down from what is selected in Service interval time.



Troubleshooting PCBA NEO P62

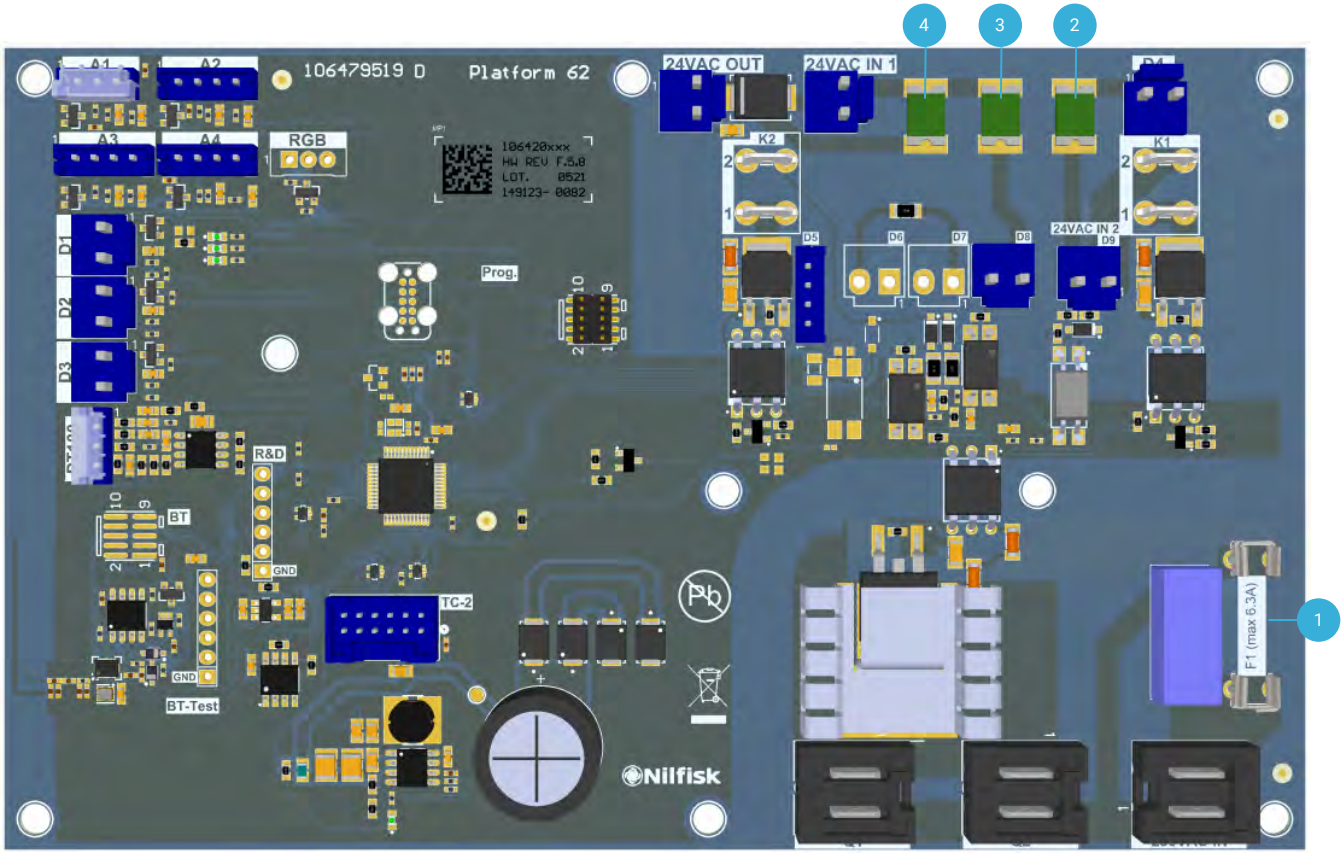
How to trouble shoot a blown fuse on the PCBA NEO P62 (Standard) (A1).

Check the components in the order they are listed below.

Fuse	Components to check for root cause
F1 (1)	M2, T2, A1
F2 PTC fuse (2)	A1, K1, MT
F3 PTC fuse (3)	Y1, Y2, EXH, B2, A1
F4 PTC fuse (4)	3V3 DC Processor A1, Y3, Y4, Y5

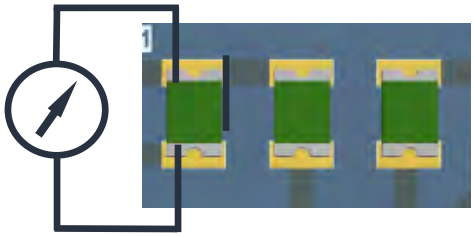
Fuse F1 must be replaced if it blows. The root cause must be found before replacement.

Fuses F2 to F4 are resettable PTC fuses and are not replaceable.



K1 Contactor pump
B2 Flow switch
EXH Exhaust switch
T2 Ignition transformer
M2 Motor fan
Y1 Oil valve
Y2 Valve anti scale
A1 PCBA
Mt Temp asitch (m1)

0VAC = Fuse ok
24VAC = Fuse blown



To measure whether a fuse has blown, you can measure across it with a voltmeter. The machine must be connected to power and turned on before the measurement can be made. If 0 VAC is measured across the fuse, it is ok. If 24 VDC is measured, the fuse is blown.

Please note:
A PTC fuse will trip (blow) when it heats up after a period of excessive current flowing through it. When the current is removed (the machine is turned off) the fuse will cool down and the fuse resets and operation is back to normal.

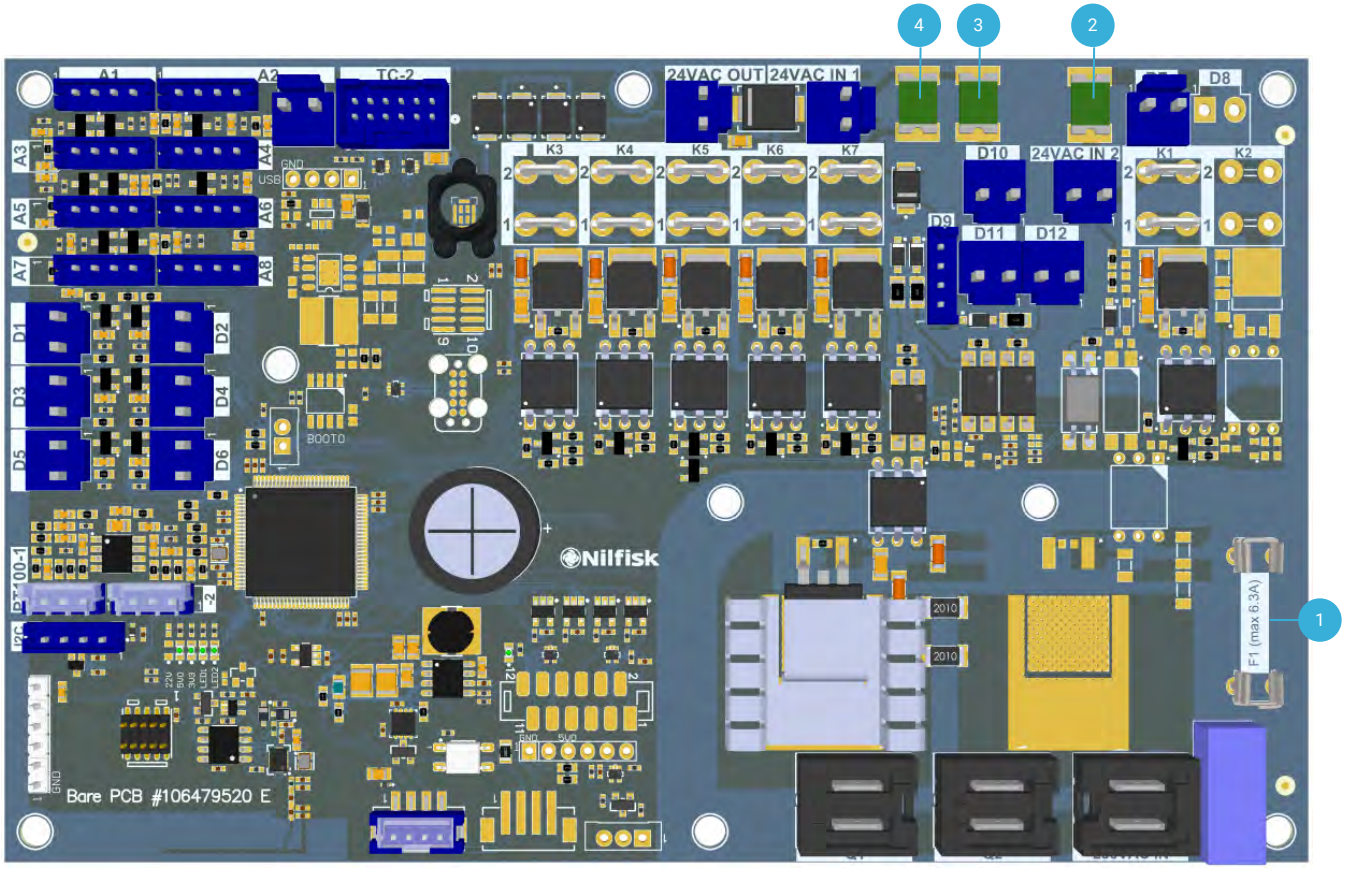
How to trouble shoot a blown fuse on the PCBA NEO P63 (Advanced) (A1).

Check the components in the order they are listed below.

Fuse	Components to check for root cause
F1 (1)	M2, T2, A1
F2 PTC fuse (2)	A1, K1, MT
F3 PTC fuse (3)	Y1, Y2, EXH, B2, A1
F4 PTC fuse (4)	3V3 DC Processor A1, Y3, Y4, Y5

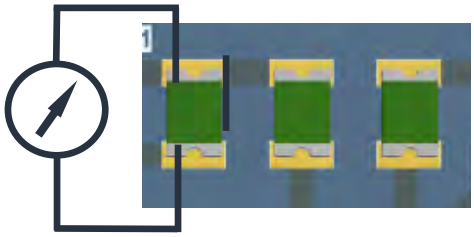
Fuse F1 must be replaced if it blows. The root cause must be found before replacement.

Fuses F2 to F4 are resettable PTC fuses and are not replaceable.



K1	Contactor pump
B2	Flow switch
EXH	Exhaust switch
T2	Ignition transformer
M2	Motor fan
Y1	Oil valve
Y2	Valve anti scale
A1	PCBA
Mt	Temp asitch (m1)

0VAC = Fuse ok
24VAC = Fuse blown



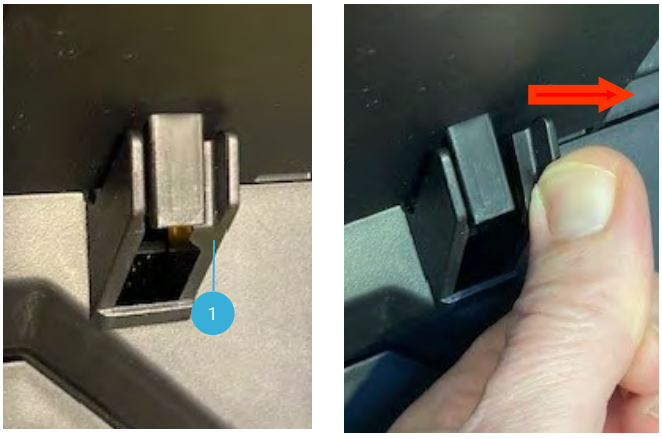
To measure whether a fuse has blown, you can measure across it with a voltmeter. The machine must be connected to power and turned on before the measurement can be made. If 0 VAC is measured across the fuse, it is ok. If 24 VDC is measured, the fuse is blown.

Please note:
A PTC fuse will trip (blow) when it heats up after a period of excessive current flowing through it. When the current is removed (the machine is turned off) the fuse will cool down and the fuse resets and operation is back to normal.

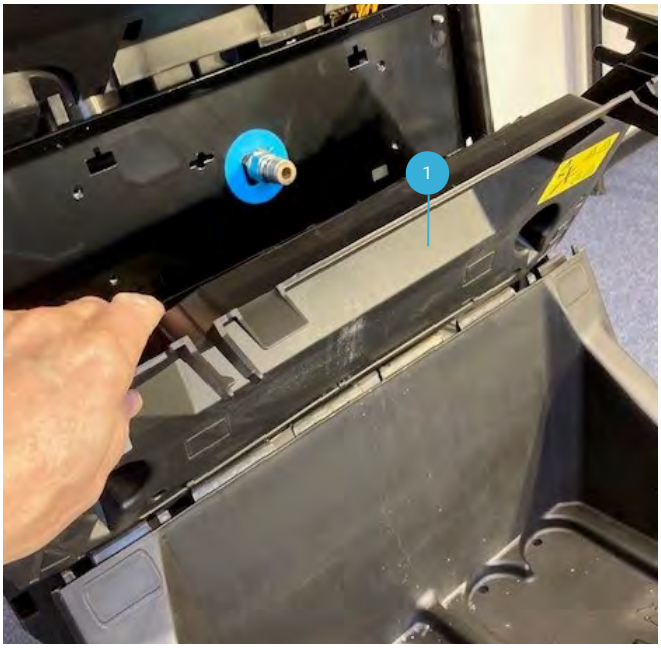
Access to the pump for servicing must be from the rear of the machine.

Remove the rubber plug (1) and screw (2) on both sides.

Remove the two side covers by turning the 4 (1) quarter turn screws 90° counterclockwise.



Release the two snaps (1). Snap shown on the right side of the machine. Same snap function on the left side of the machine

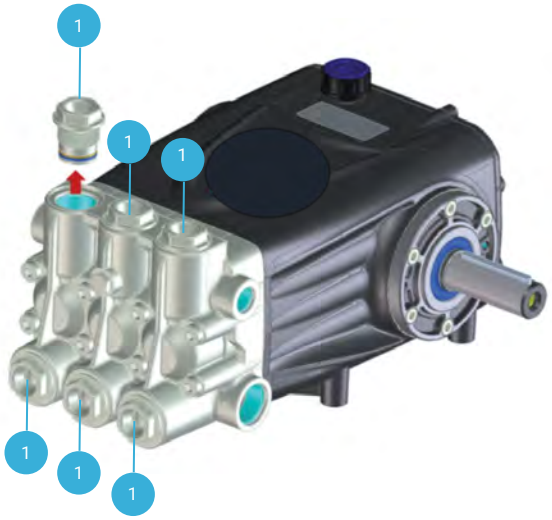


Remove the cover (1).

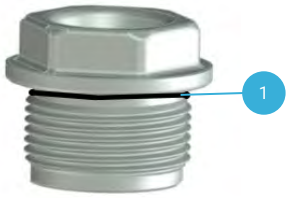
Remove the cover (1).

This allows free access for servicing the pump.

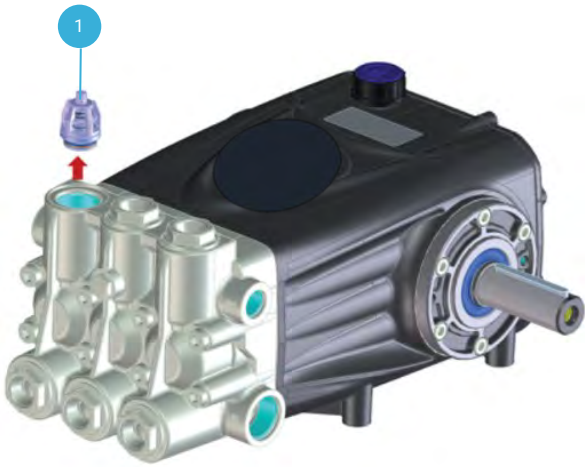
The machine must be assembled in reverse order.



Unscrew valve caps (1). All 6 caps is same type.

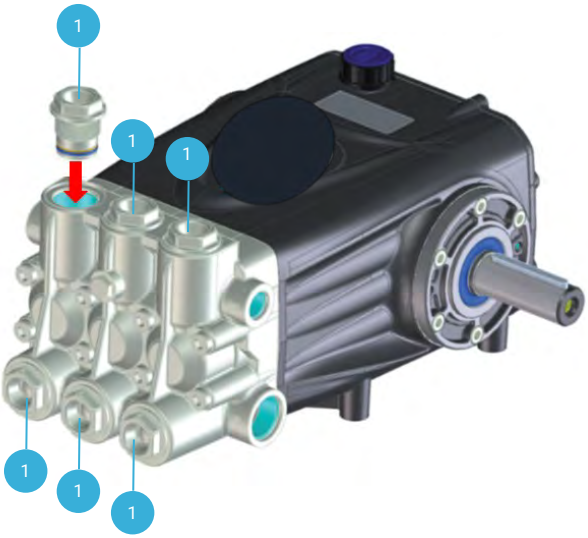


Check O-ring (1). Replace if damaged.



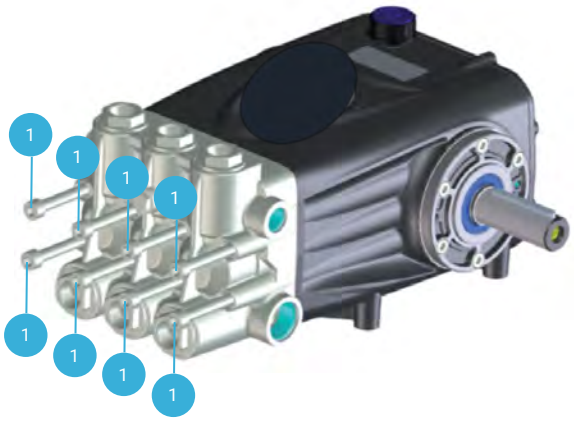
Remove valves (1) and O-rings. All 6 valves is same type.

Replace the new valves in their seats. Make sure the O-ring is seated correctly.

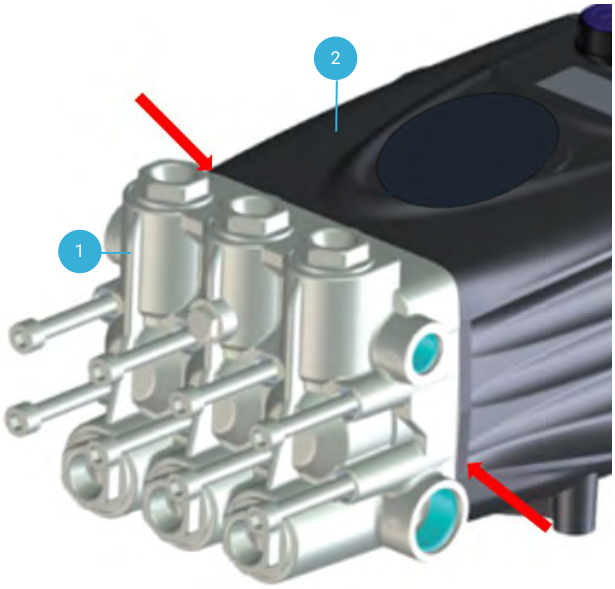


Mount all caps (1). Use loxeal 55-14 or equivalent on thread before assembly.

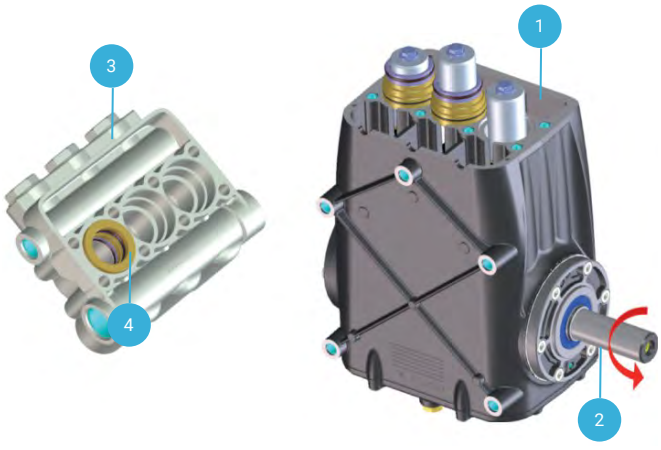
Tightening torque: 50 Nm ± 10%. (hex. 21 mm.)



Unscrew all 8 screws (1).



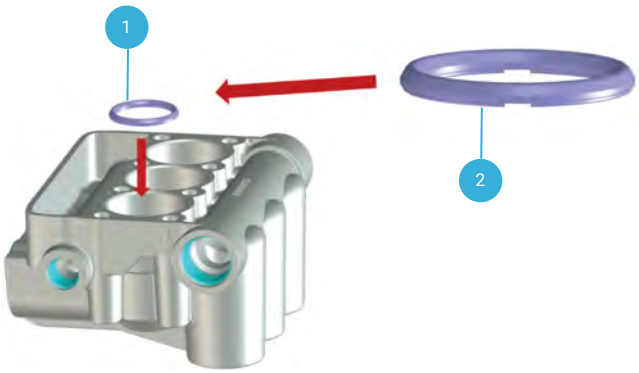
Use two screwdrivers to remove the head by placing them between pump head (1) and pump body (2). and use them to gently lever pump head off body.



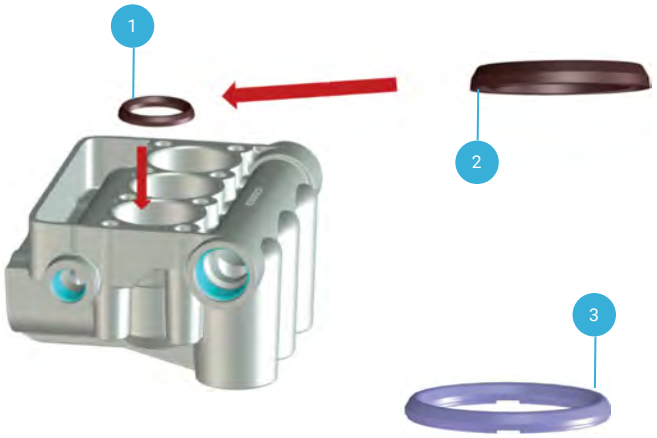
Remove all the seals. To remove seals from pump body (1) rotate the pump shaft (2). If the pump is mounted on a motor, the pump shaft can be rotated by rotating the motor's cooling fan.

If seals or bushings (4) is stuck in the pump head (3) use a tool to remove. Use BAHCO 4521N-0 and BAHCO 4524G or similar tool

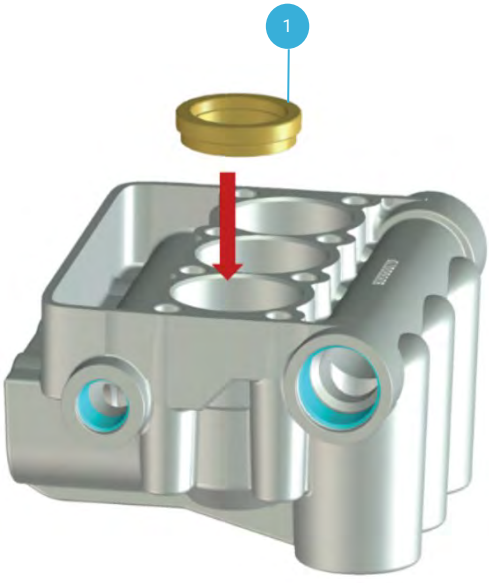
1. BAHCO 4521N-0
2. BAHCO 4524G



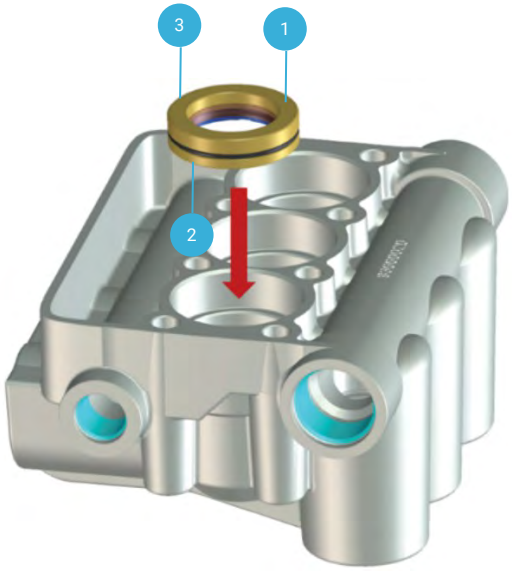
Assembling:
Put the plastic ring (1) inside its seat in pump head with the flat side (2) facing down.



Assemble high pressure seal (1) with the V-shape side (2) facing down. Lubricate seal (1)with grease Unisilkon L 250 L. Then push it down against the plastic ring (3).

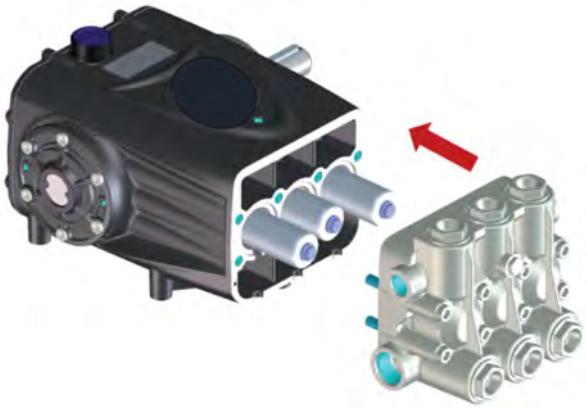


Mount the high pressure bushing (1). Push it against seals in order to make a good compact fit.

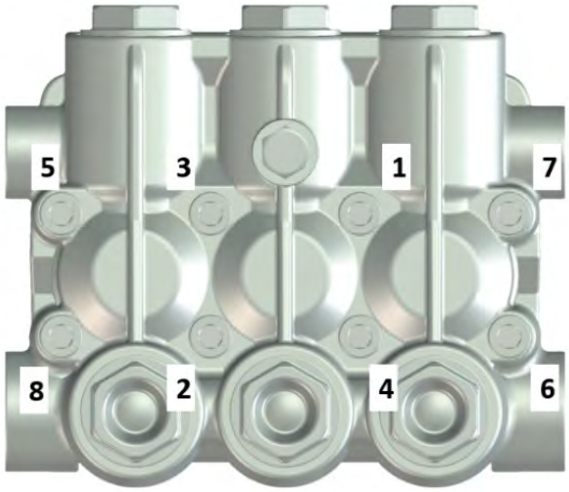


Mount the low pressure bushings (1) (including O-ring and seals) make sure to keep it aligned to its own seat. Seal (2) should face down against high pressure bushing. Brass Side (3) up.
Push until it will be correctly located inside its seat.
Lubricate inside seal and O-ring with grease Unisilkon L 250 L.

Turn the pump until pistons (1) will be aligned like above.



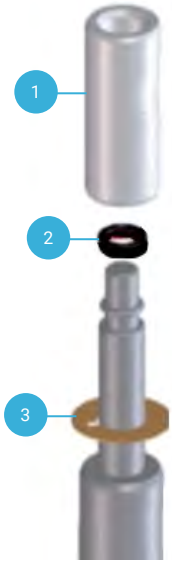
Mount the pump head (1) on the pump boby (2). When necessary use also a soft head hammer to tap the pump head all the way down.



Tighten screws in correct order. See above
Tightening torque: 15 Nm ± 10%. (hex. 6 mm.)

Remove the pump as previously described. Pistons should be replaced only in case they are damaged or cracked. Take care not to drop ceramic pistons they can crack.

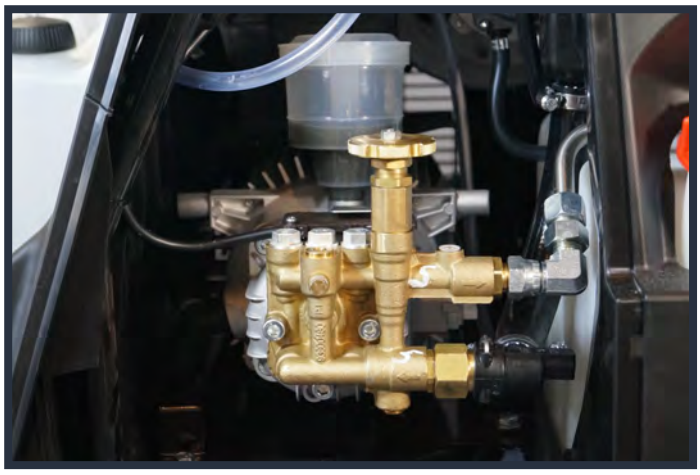
Remove the nut (1) and washer (2).



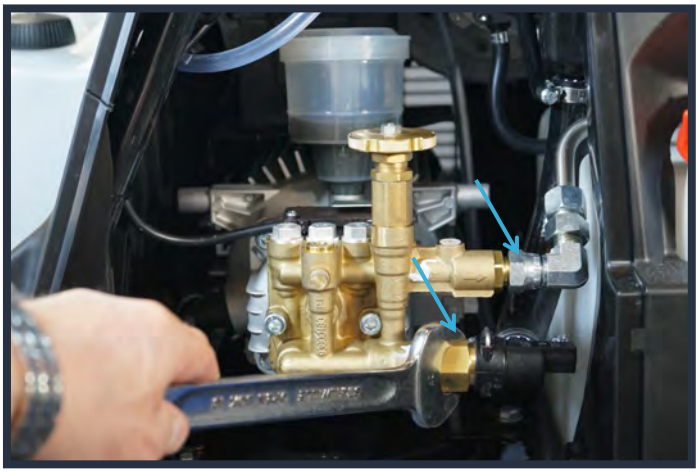
Rotate and pull the ceramic piston (1) to remove it from the piston guide. Then remove O-ring (2) and plate (3).

Mount all new parts in reverse order. Use loxeal 55 -14 or equivalent on thread before assembly. Tightening torque: 12 Nm ± 10%. (hex. 13 mm.)

Open service door by turning the two quarter turns counterclockwise.

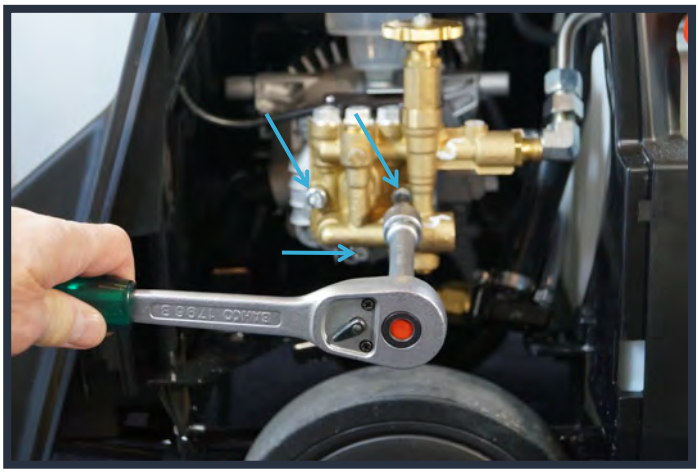


Pump seen through service opening



Remove the pump water in and outlet. Also loosen outlet pipe on heat exchanger end.

Drain the pump oil. A 2½ or a 5 liter plastic container cut open in one side fits under the pump.



Remove the 3 cylinder head bolts

Pull off the cylinder head

Remove the lock pin and pull off the micro switch box

Dismount the 4 bolts holding the cylinder block

Dismount the cylinder block

Dismount the bearing disc and bearing

Pull off the wobble disc.

Wobble disc, bearing and bearing track

Disassemble the 3 spacers.

Pull out the 3 oil seals from the cylinder block. (Use e.g. a Bahco Puller type 4521 N-F. Bahco puller (not shown) for puller is type 4524 G)

Oil seals must be installed by using punch 1210996. Check that the O-ring in the middle of the cylinder block is placed correctly.

By assembly note that the pin of the spacer ring must be placed in the cylinder groove.

Pull out the water seals and trust collars. (Use e.g. a Bahco Puller type 4521 . Bahco puller (not shown) for puller is type 4524 G)

Trust colar and water seals pulled out with puller.

Trust collar and water seals.

Suction valve—positioned under the water seals

Pull out the suction and pressure valves with a pair of pliers. If the valve seat stays in the cylinder head, it can be pulled out with a Bahco puller

Disassemble the outlet fitting

Non-return valve housing

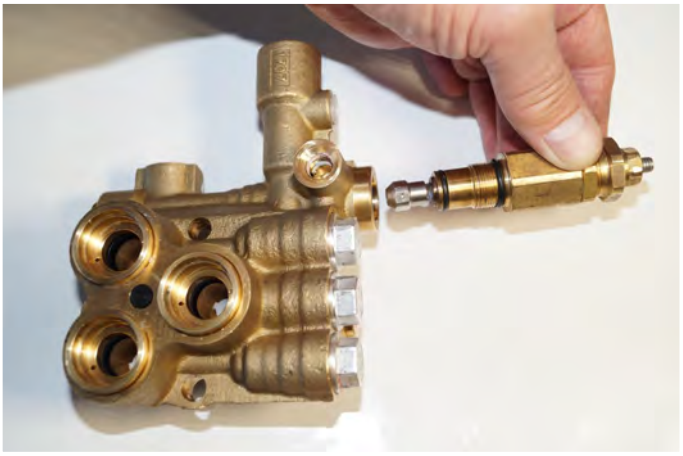
Non-return valve components.

Regulator Safety Block disassembling

Loosen the 6 mm nut

Pull off the water regulation handle

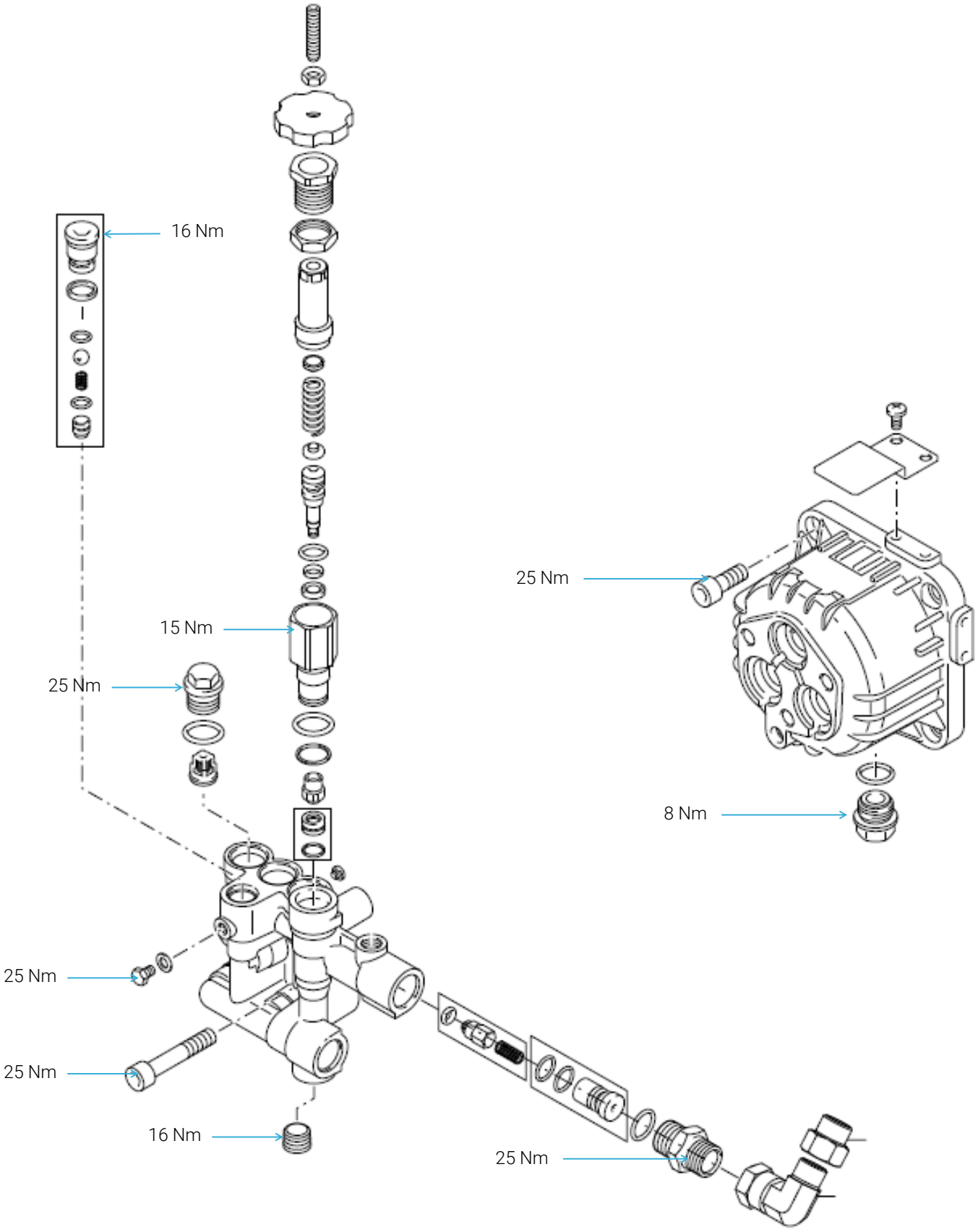
Loosen unloader piston assembly

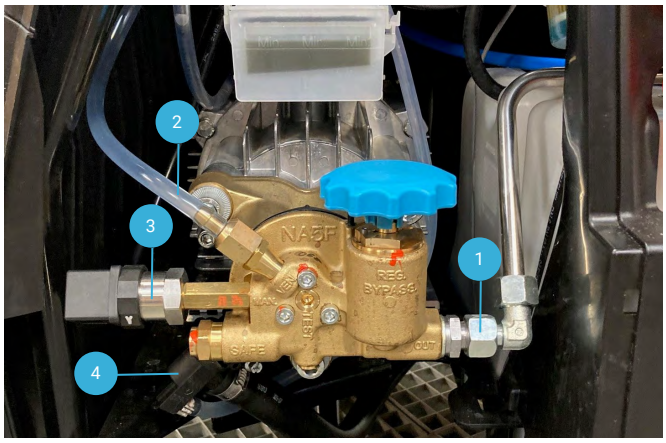


Pull out the unloader piston assembly

Unloader components

1. Piston cone
2. Unloader piston
3. Unloader piston housing
4. Unloader spring
5. Spring housing
6. Adjustment screw
7. Counter nut
8. Adjustment fitting for water volume
9. Water regulator handle
10. Counter nut


16 Nm
15 Nm
25 Nm
25 Nm
25 Nm
16 Nm
25 Nm
25 Nm
8 Nm



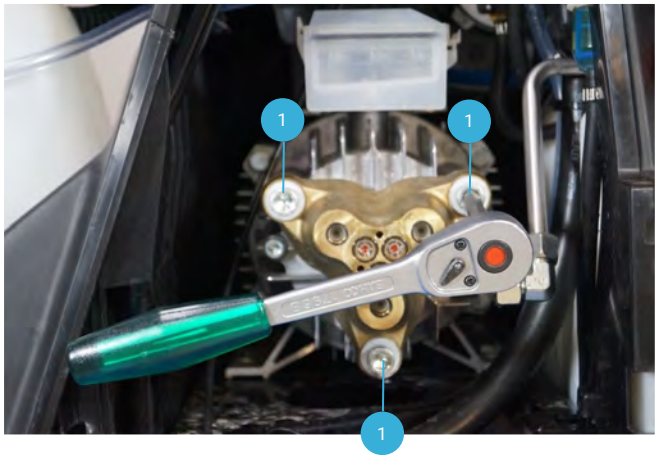
Dismount the outlet (1), automatic venting valve hose (2), pressure sensor (3) and water inlet connections (4).

Use a small screwdriver for pulling out the pin (1) for the water inlet connection.

Pull out the water inlet connection from the water inlet manifold. Remove filter (1) and spring (2).

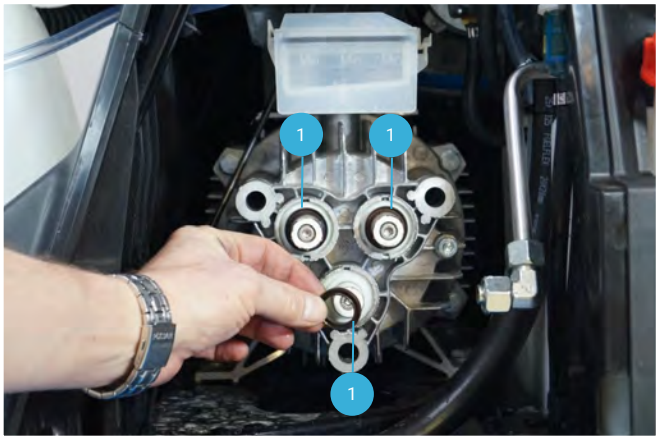
Remove the 3 screws (1) for the by-pass valve

Pull out the by-pass valve (1) and water inlet manifold (2).

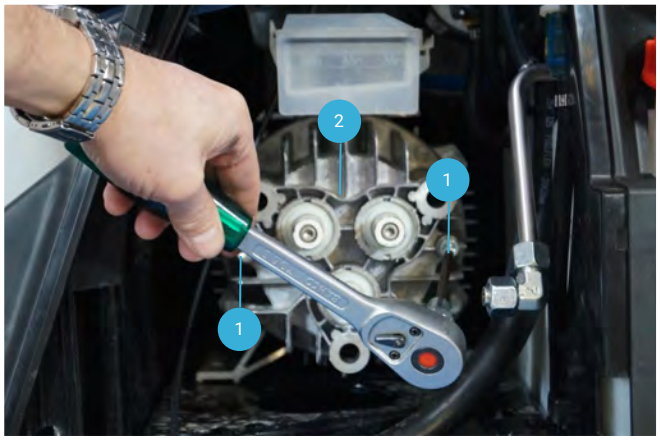


Remove the 3 screws (1) for the cylinder head

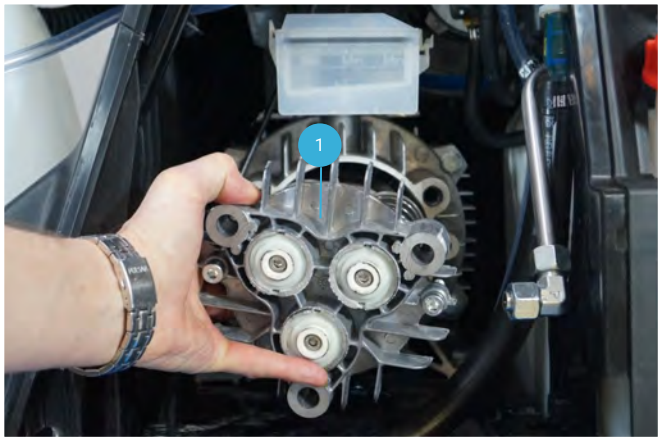
Pull out the cylinder head (1).



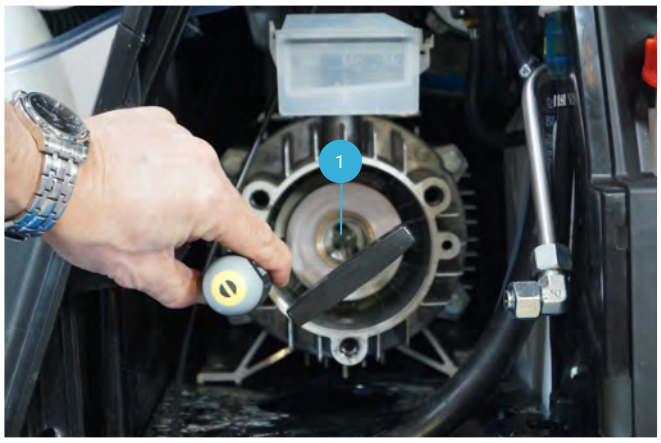
Remove the 3 secondary water seals, if left on the pistons.



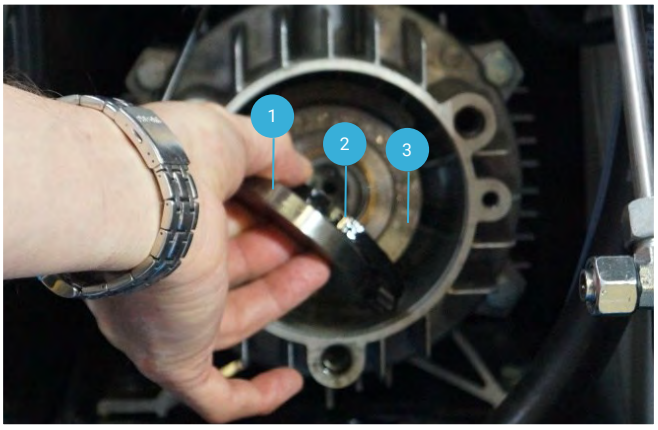
Remove the 2 screws (1) (one in each side) holding the cylinder block (2).



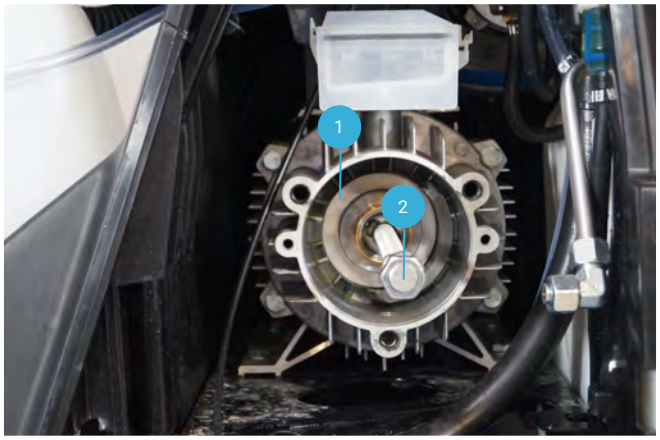
Remove the cylinder block (1).



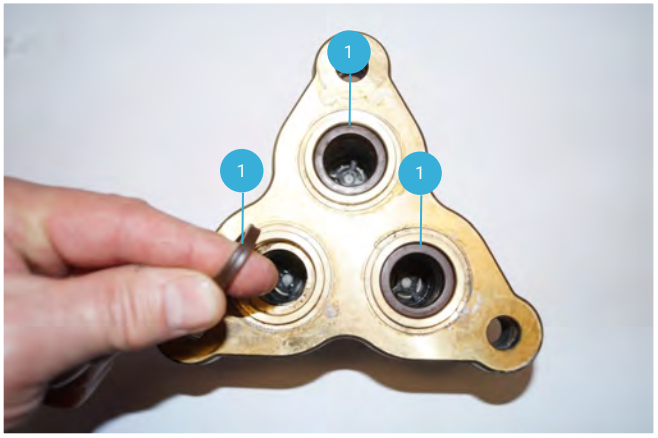
Remove the screw which holds the wobble disc (1). Use a screwdriver or similar to prevent the wobble disc from turning.



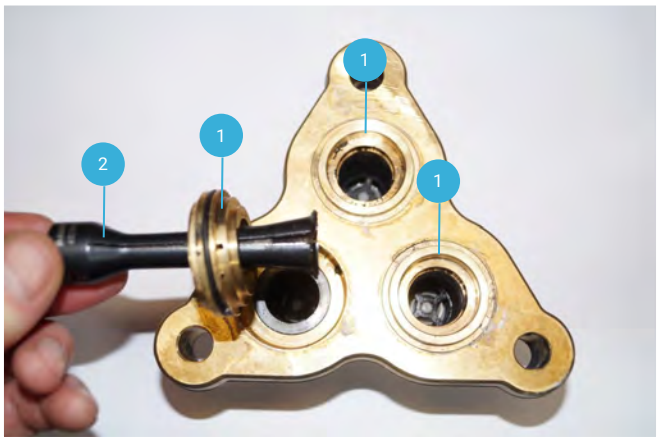
Remove the bearing track (1) and the roller bearing (2) from the front side of the wobble disc (3).



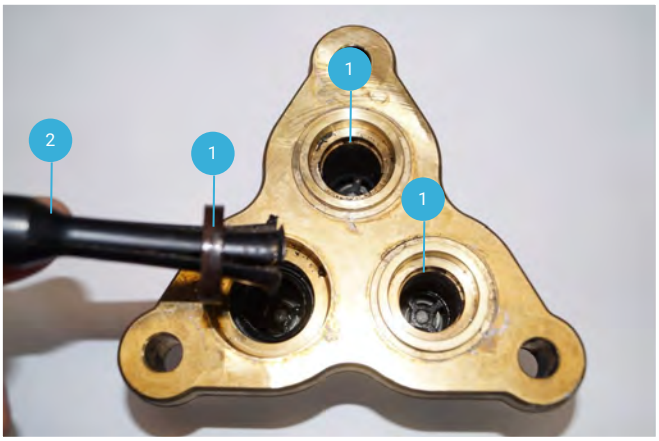
Pull out the wobble disc (1) using a 16 mm bolt (2). Remember to remove the bearing track sitting in the D-bearing cover after removing the wobble disc



Remove the 3 secondary water seals (1).

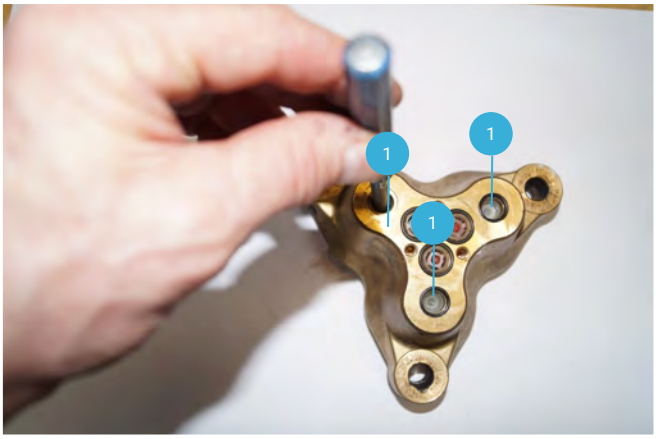


Remove the 3 thrust collars (1) with an expandable puller (2).



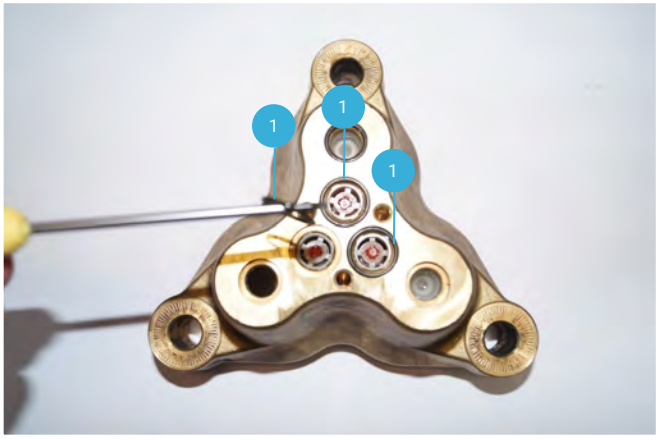
Remove the 3 primary seals (1) with an expandable puller (2).

Remove the distance ring (1).

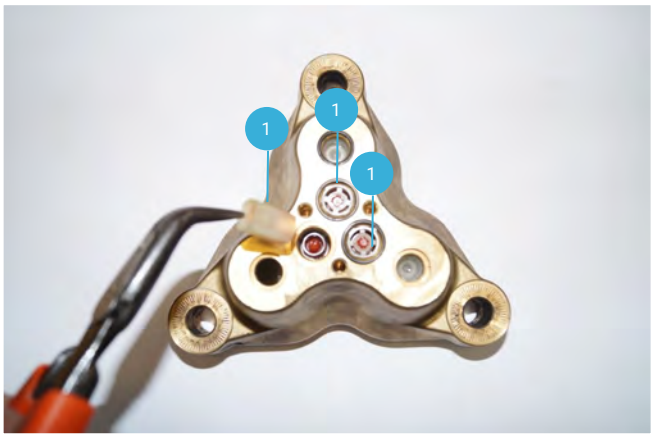


Push out the 3 suction valves (1).

Trust collar, water seals, distance ring, suction valve and cylinder head

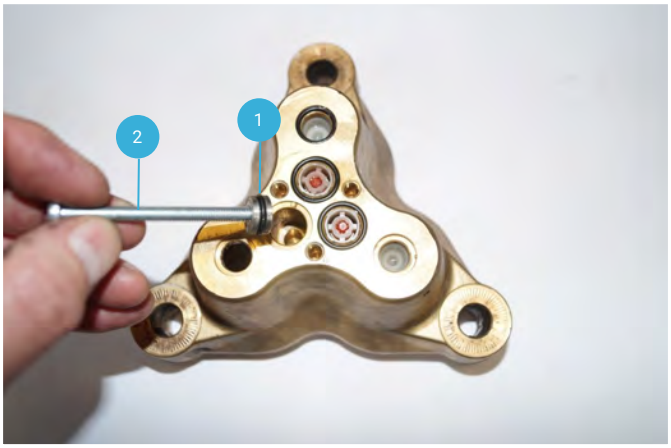


Remove the 3 O-rings (1) from the pressure valves

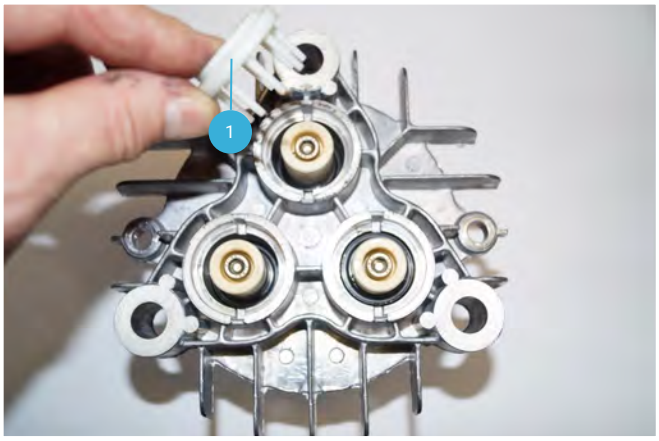


Remove the 3 pressure valves (1).

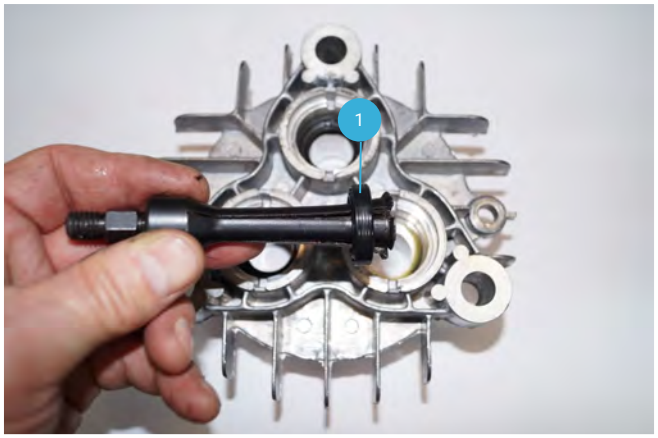
Remove the 3 pressure valves (1).



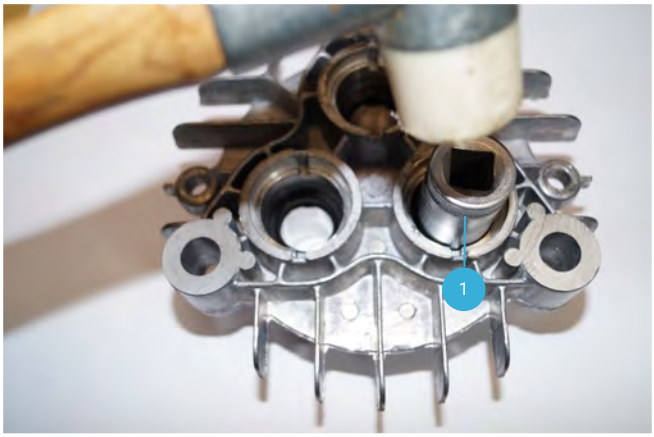
Pull up the 3 pressure valve seats (1). Use a 5mm screw (2)—there are threads inside the pressure valve seat



Remove the 3 distance rings (1) for the oil seals.



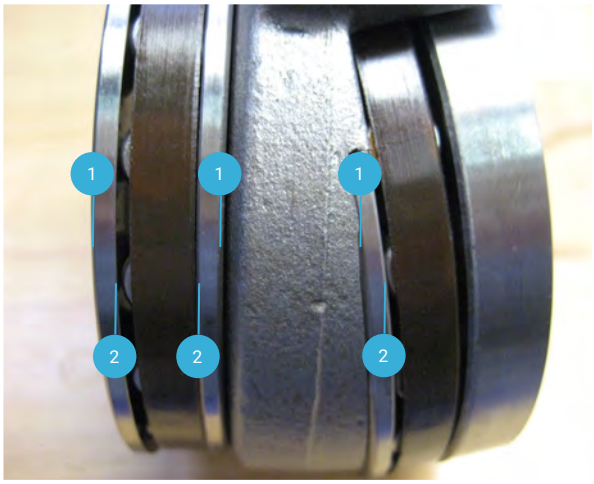
Pull out the oil seals from the cylinder block using an expandable puller.



Mount the 3 oil seals by using a 19 mm box spanner (1).

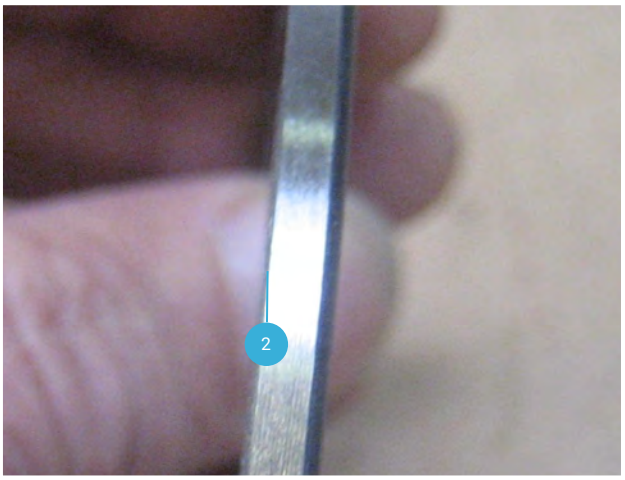
Mounting of primary water seals (1) with special tool no.: 101221034 (2)

Mounting of primary water seal by pushing it through the brass cylinder piece with the punch. Mounting of secondary water seal can be mounted by hand.



Replace the complete wobble disc system and make sure the components are assembled as shown on the next 2 pictures

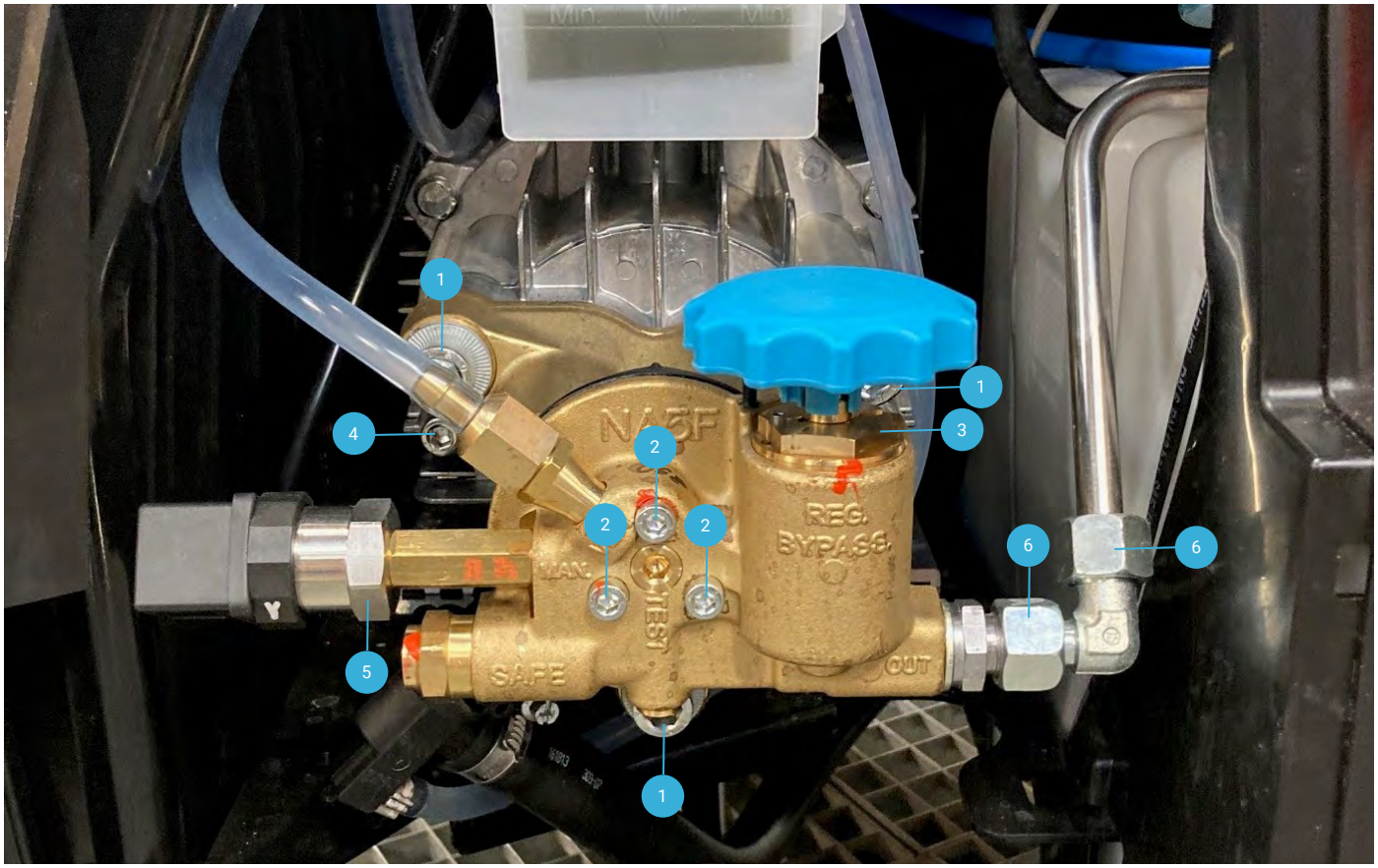
The curved edge (1) of the bearing tracks must be mounted against the D-bearing and the wobble disc.



The sharped edge (2) of the bearing track must be mounted against the bearings

Wobble disc without front bearing track

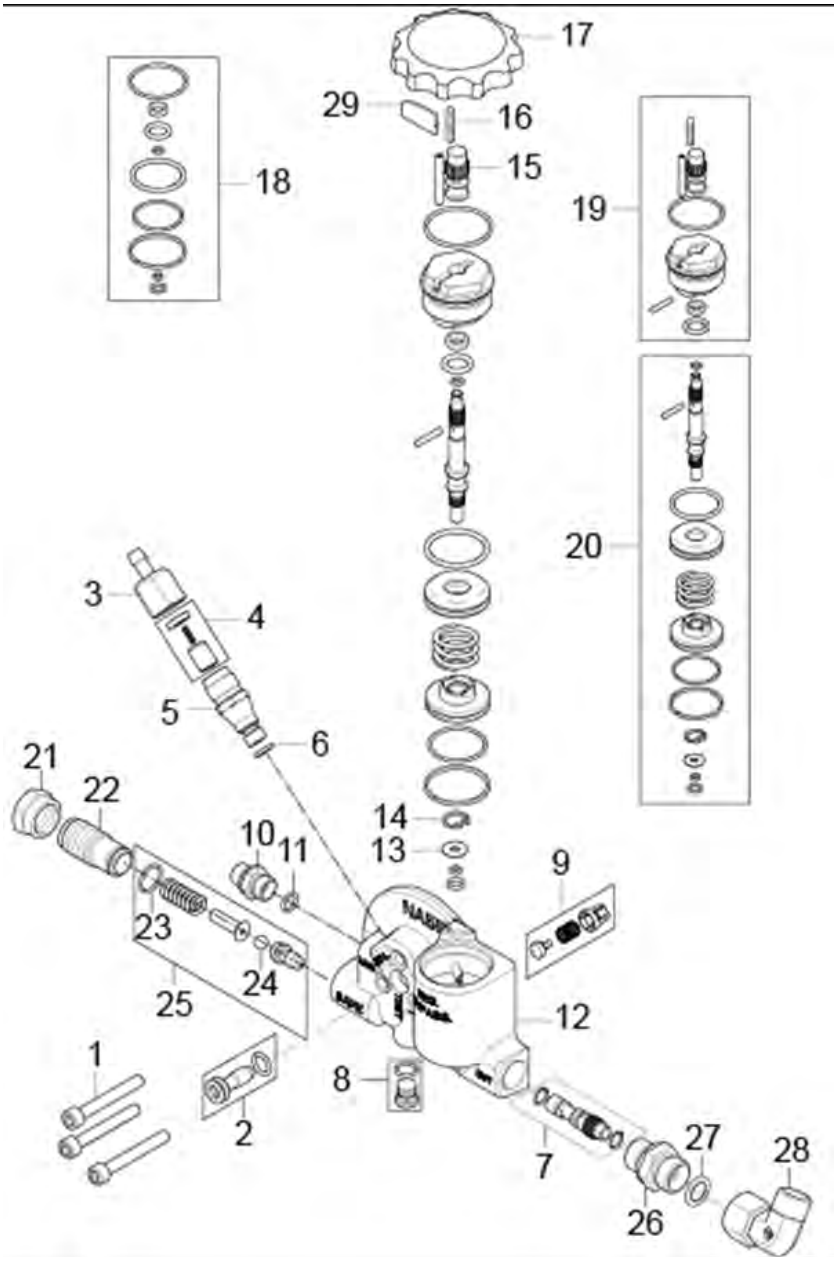
Torque specificcations NA5.2 FA



1. 55Nm. ± 10%. (10 mm. allen key) x3
2. 10Nm. ± 10%. (5mm. allen key) x3
3. 40 Nm. ± 10%. (nut 30mm.)
4. 20 Nm. ± 10%. (6 mm. allen key) x2
5. 12 Nm. ± 10%. (nut 27 mm.)
6. 50 Nm. ± 10%. (nut 22 mm.).

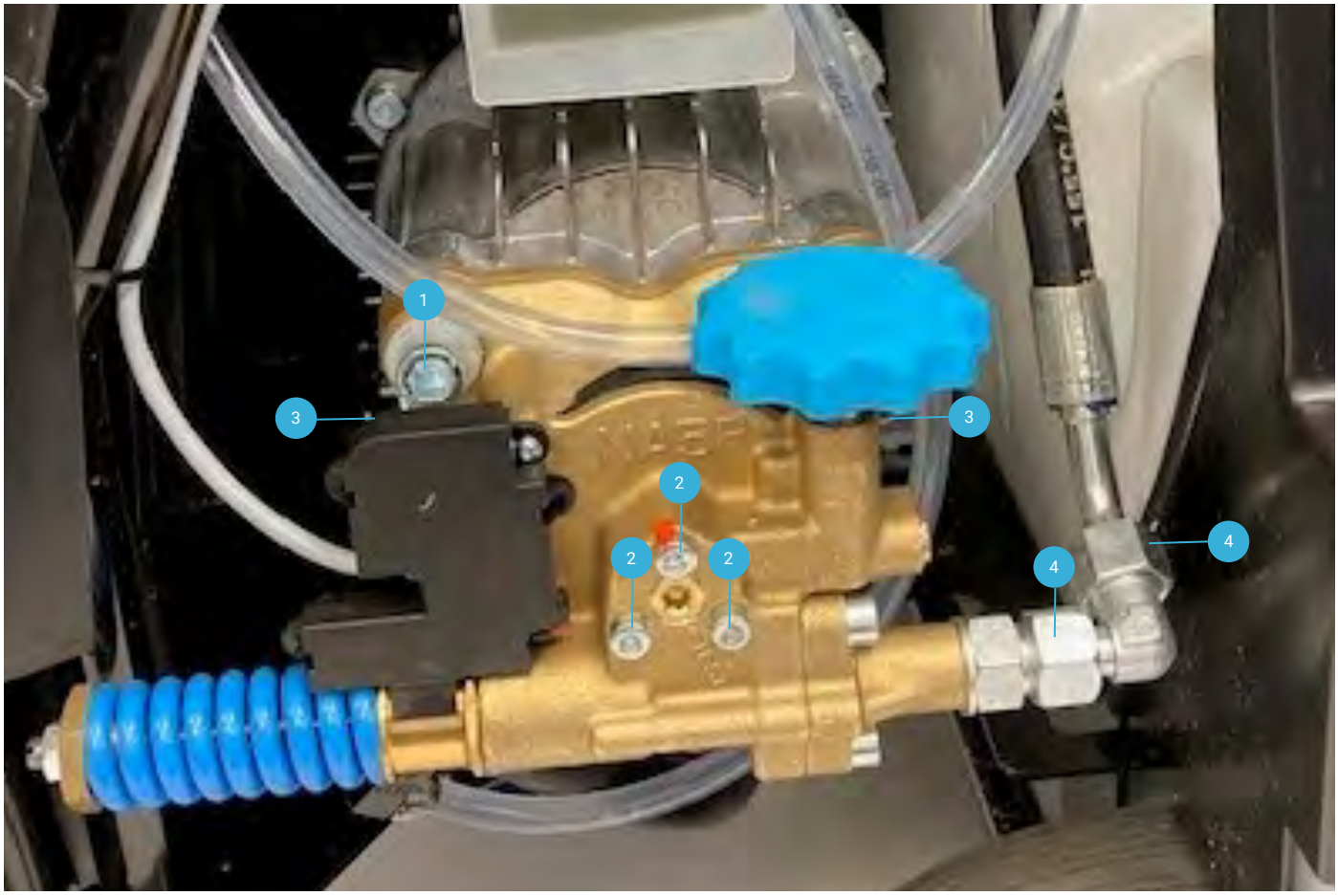
Bolt for wobble disc: 20 Nm.
Oilplug: 20Nm.

Unloader



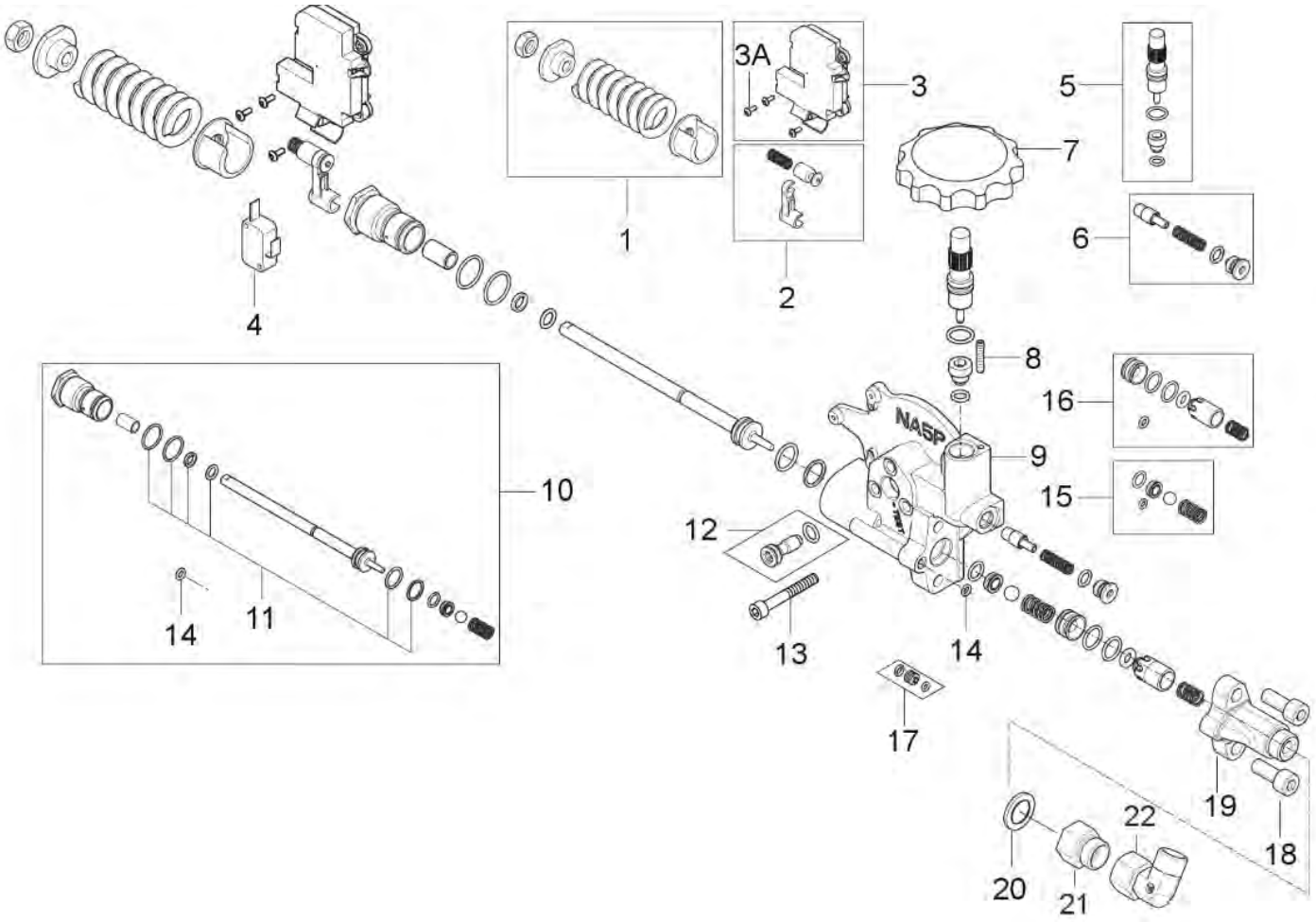
3-6: Automatic venting valve
7: Injector nozzle for control piston
9: Return valve for by-pass water
12: By-pass valve housing
17: Handle for water regulation
19: Plug for by-pass valve
20: Control piston
25: Safety valve

Torque specificcations NA5.2 PA



1. 55Nm. ± 10%. (10 mm. allen key) x3
2. 10Nm. ± 10%. (5mm. allen key) x3
3. 20 Nm. ± 10%. (6 mm. allen key) x2
4. 50 Nm. ± 10%. (nut 22 mm.).

Bolt for wobble disc: 20 Nm.
Oilplug: 20Nm.



3-6: Automatic venting valve

7: Injector nozzle for control piston

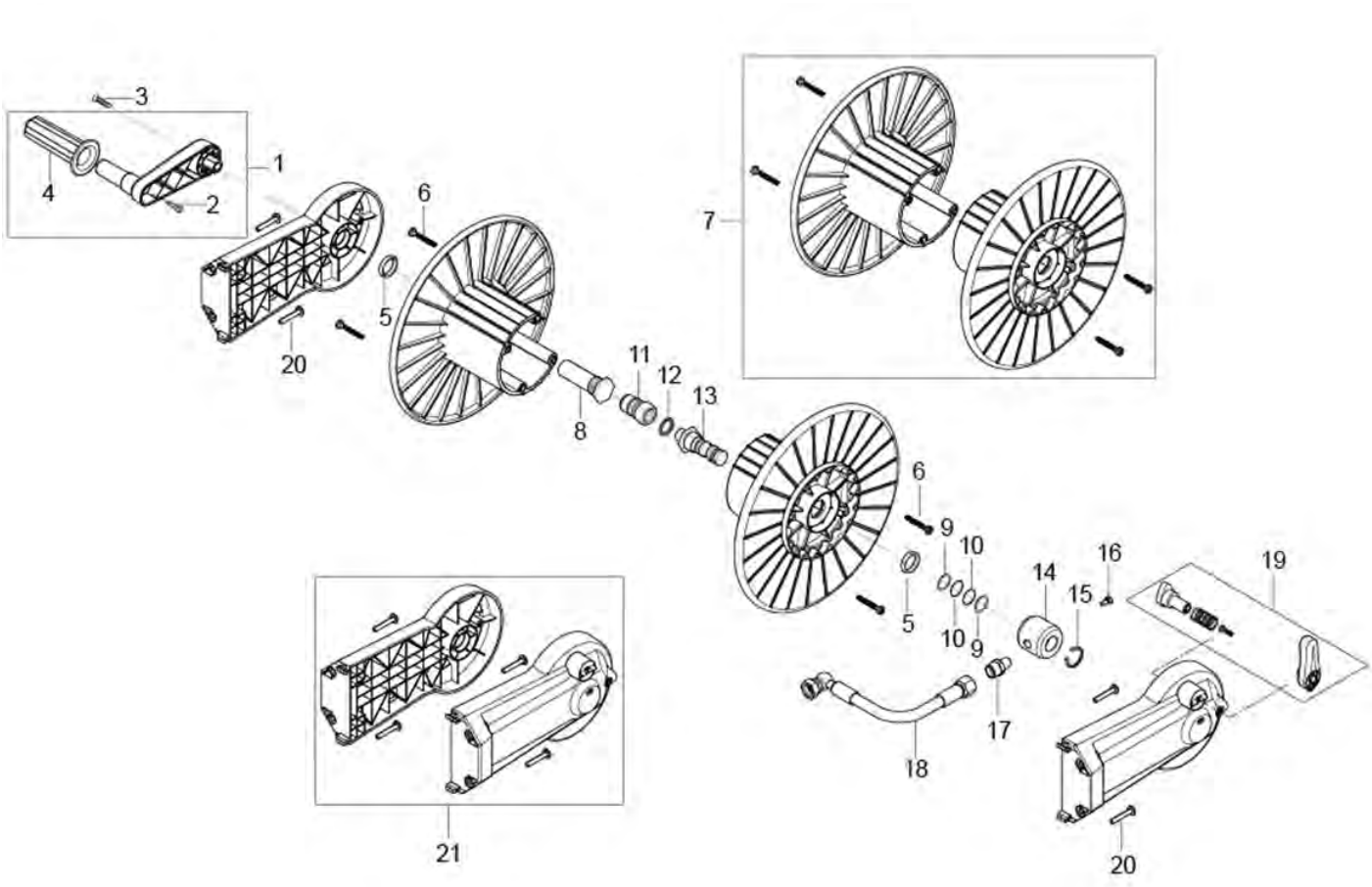
9: Return valve for by-pass water

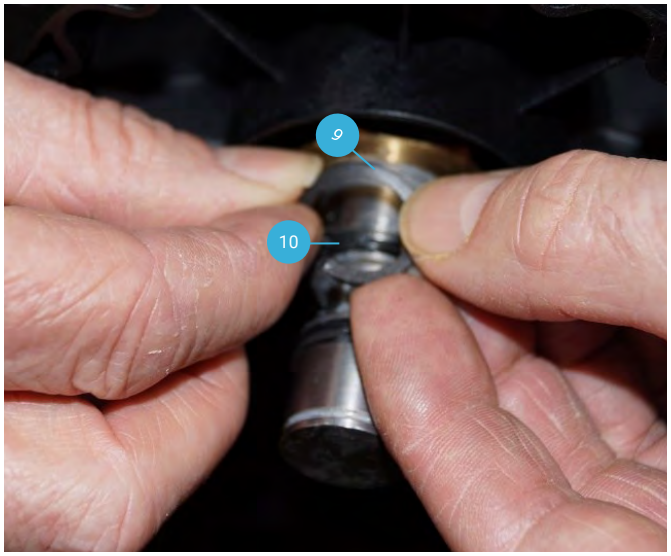
12: By-pass valve housing

17: Handle for water regulation

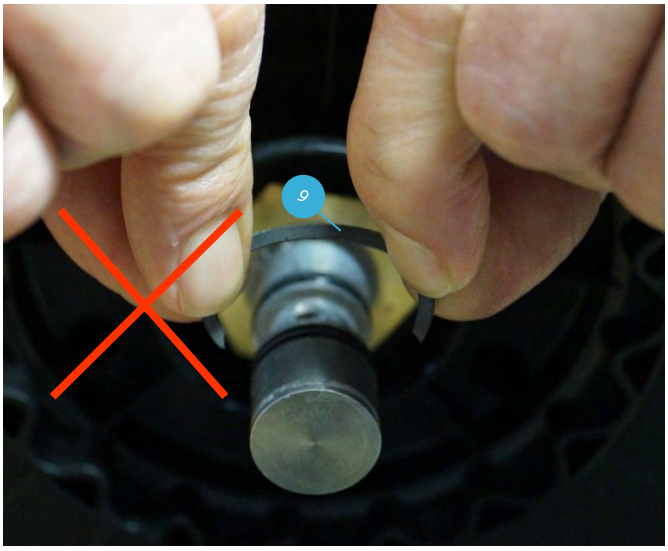
19: Plug for by-pass valve

20: Control piston





Caryfully install the back-up ring (pos. 9) for the O-ring)pos. 10), by ”rolling” it onto the swivel



Do NOT open the back-up ring (9) as shown above

Lubricate the svivel/O-rings with silicone grease

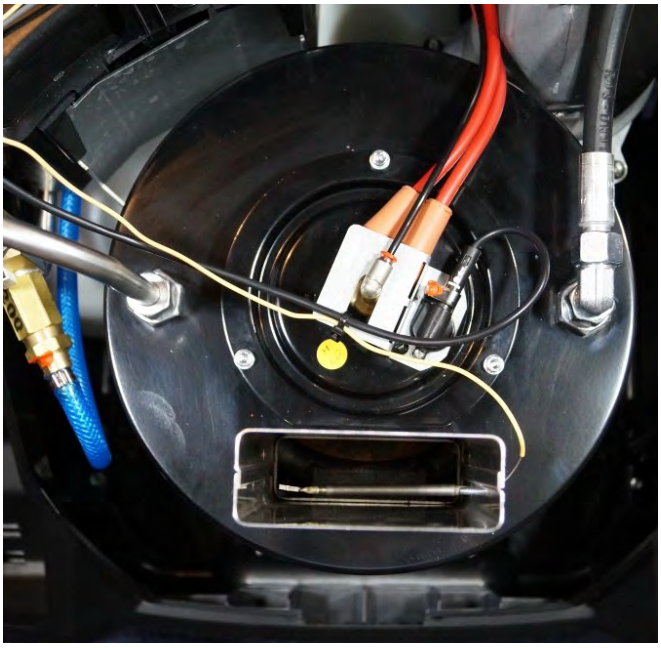
Push in the back-up ring before sliding in the bearing bushing (pos. 14)

Support foot. Item: 106403200. The tool is used to stabilize the machine during service when the coil or complete boiler needs to be removed from the machine.

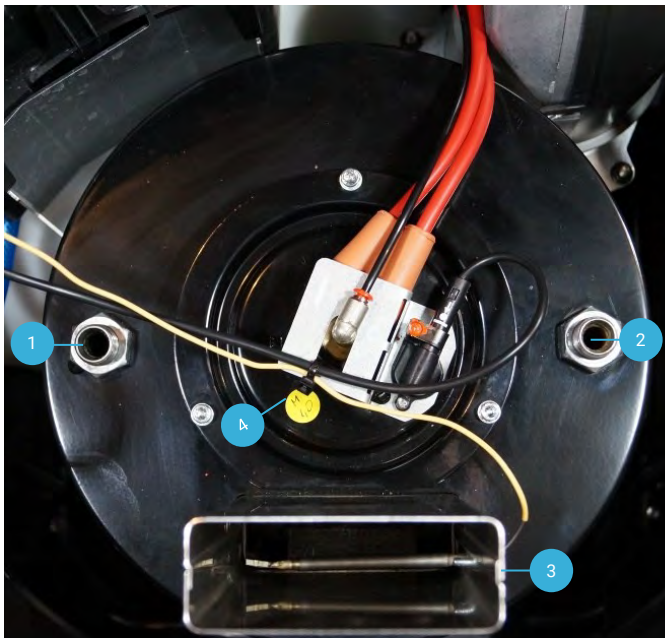
Support foot must be placed below the two fork lift symbols (1)

When the support foot is positioned, plase your foot on the support foot as show above, ,and pull the machine against you

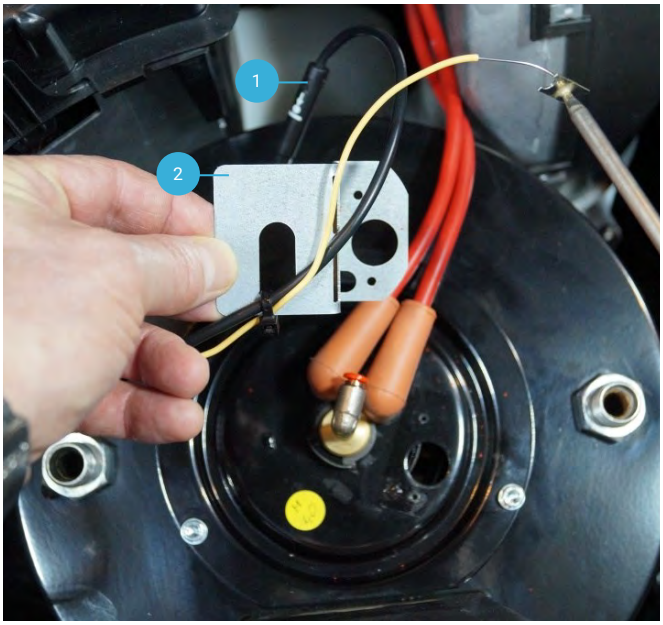
Machine supported by the support foot



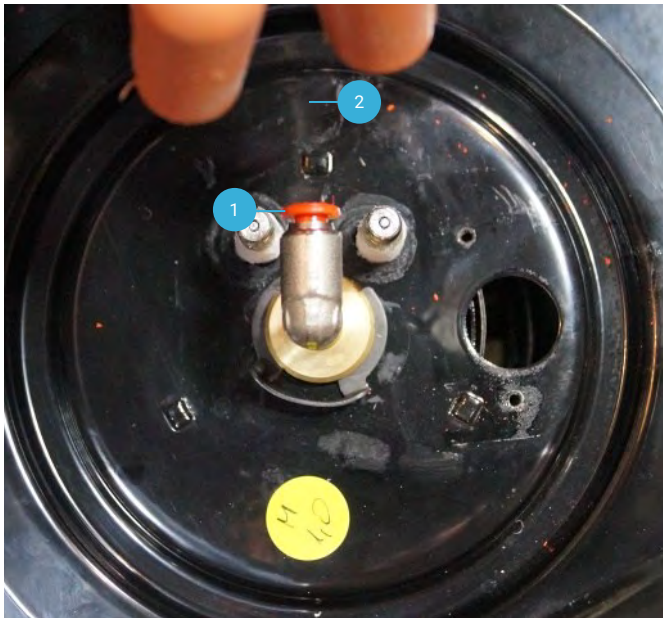
Boiler top view



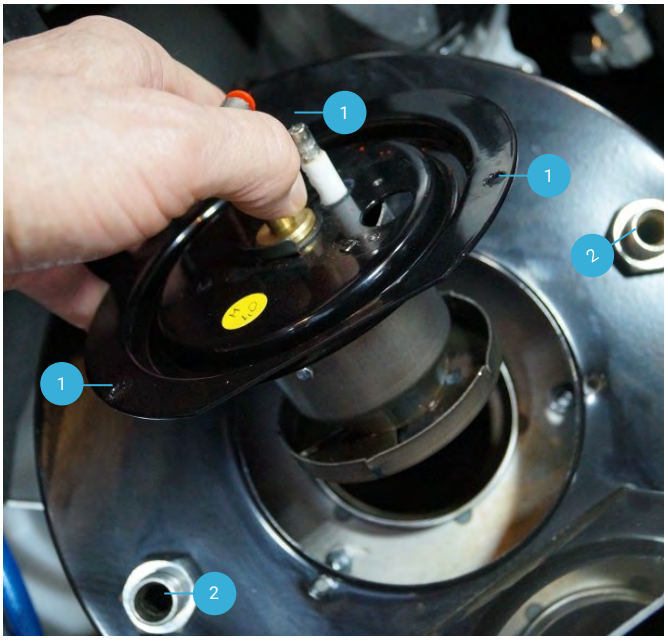
Dismount the water inlet (1) and water outlet (2) connections. Dismount the 2 screws Torx 20 (3) and the cable tie (4) for the exhaust temperature sensor, and pull out the sensor.



Dismount the 2 screws for the flame sensor (1) and the flame sensor holder, to dismount the protection plate (2).

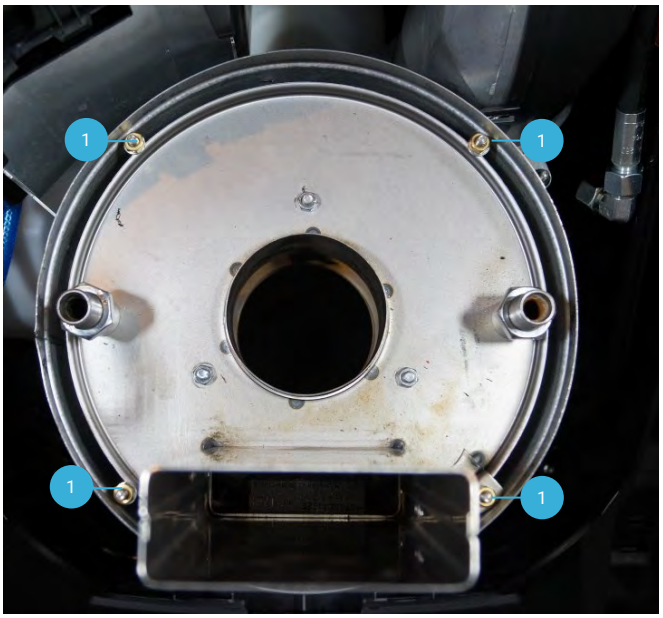


Dismount the fuel hose. (Push the red quick connection (1) and pull out the fuel hose). Pull off the two ignition cables.



Dismount the 3 screws (1) holding the burner cover, and lift up the burner. Dismount the 2 large nuts (2) from the water inlet and water outlet

Carefully push up the outer top plate (1) from the boiler (2)



Dismount the 4 brass nuts (1) and washers from the inner top.

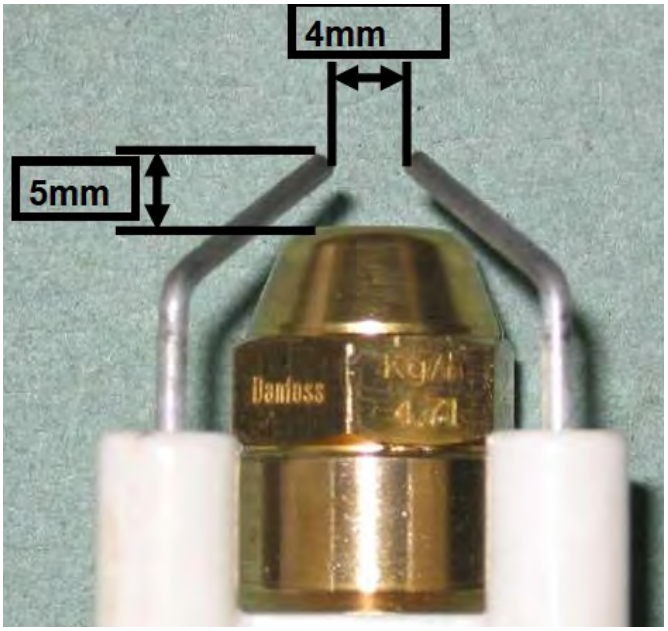
Dismounted the heatiing coil including the inner boiler top can be lifted up.

It is recommended to replace the insulation when servicing the boiler.

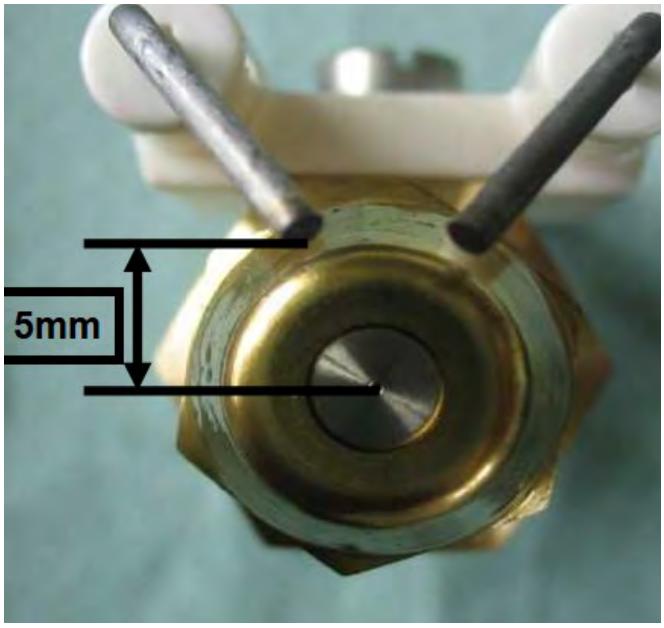
Clean boiler inside for deposits.

Burner unit (1).

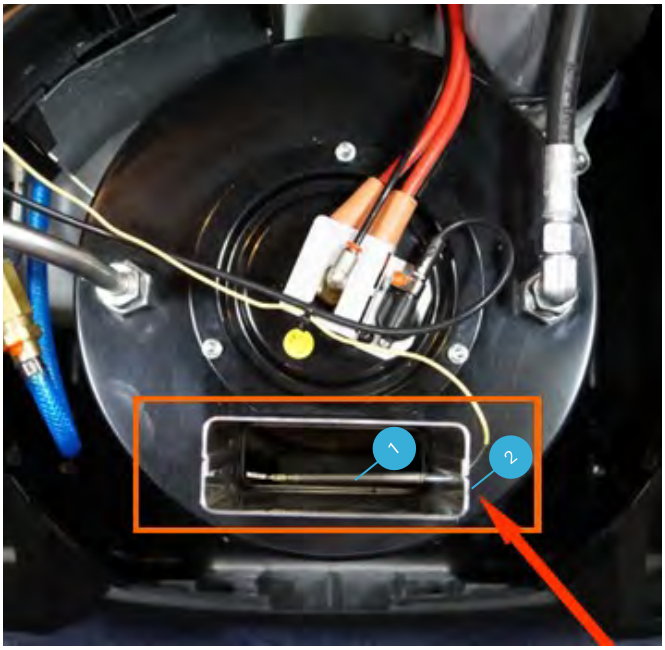
Burner unit disassembled. If impurities on fuel nozzle filter—replace the fuel nozzle (1).



Electrode adjustment.

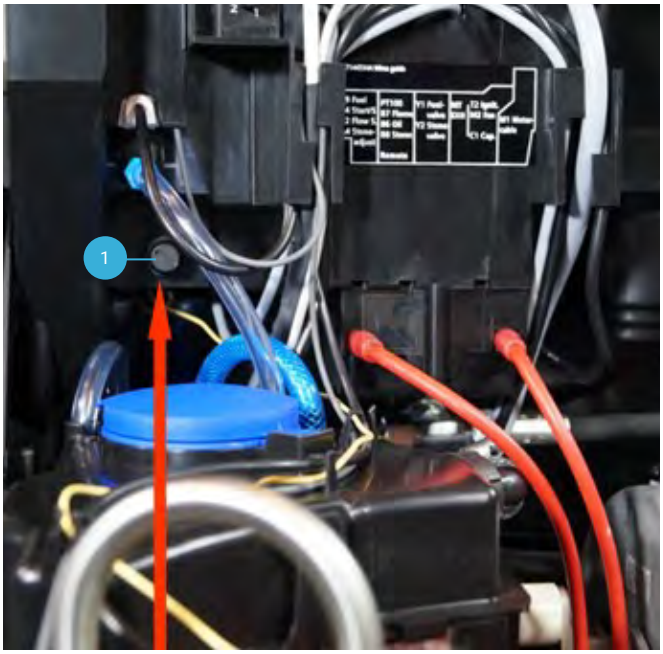


Electrode adjustment.



The exhaust temperature sensor (1) is fitted with 2 screws (2) in the chimney.

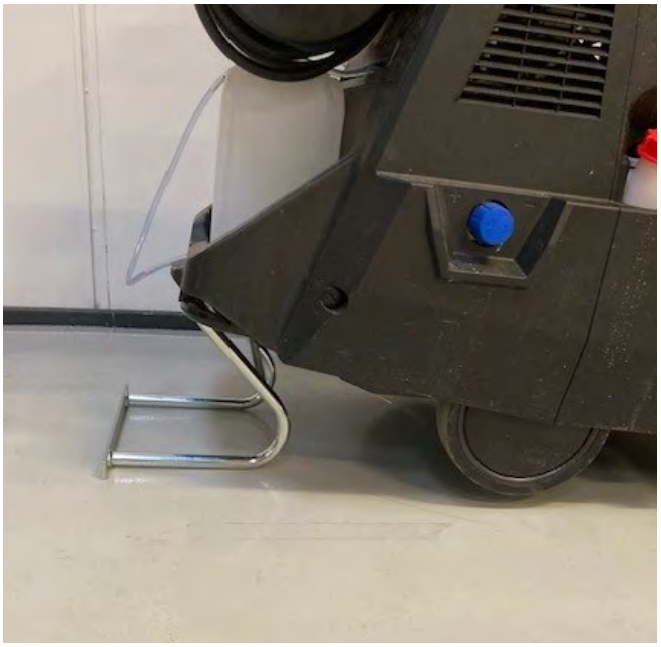
Air intake adjustment screw (1).



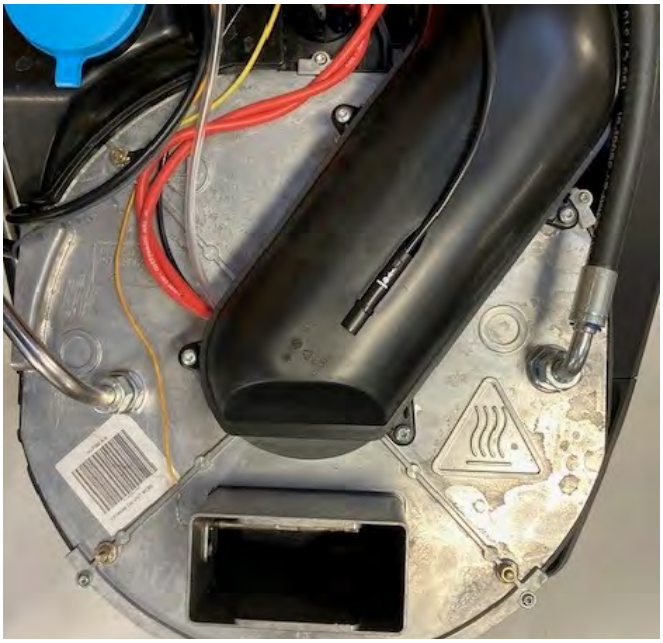
If the exhaust temperature reaches 270°C (518°F) the machine cuts out. The thermostat (1) for the sensor is placed in the E-box, and can be reset by dismounting the cap, and push the button.

If the thermostat has cut out, the following points must be checked.

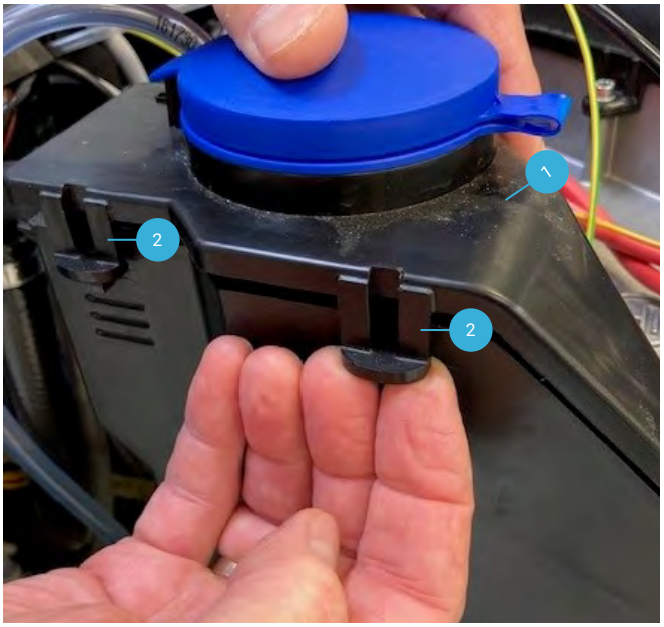
1. If soot has build up on the heating coil pipes the heating coil must be dismounted and cleaned.
2. All fuel filters, fuel tank inlet filter, fuel line filter, fuel nozzle filter and fuel pump filter must be checked/replaced.
3. It is recommended to replace the insulation in the bottom of the boiler at every service.
4. Boiler must be re-set. See section ”G”, and data sheet, section ”B”



Mount the support foot on the machine.



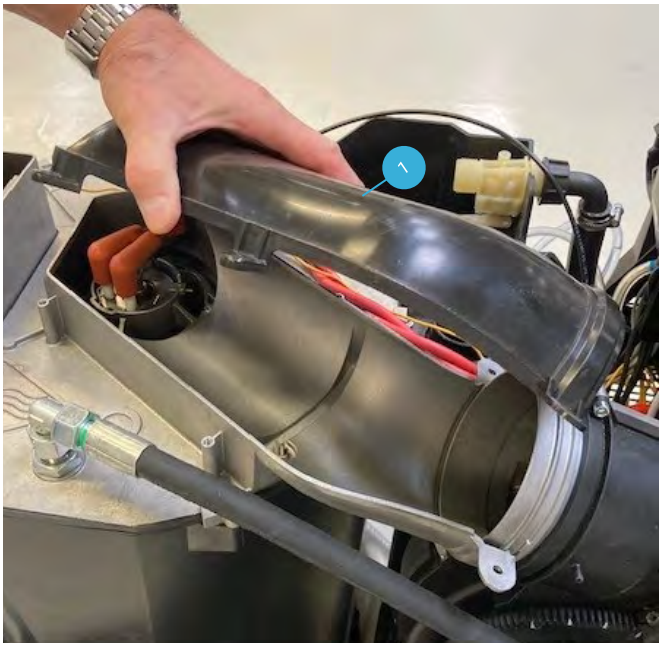
Boiler top wiew.



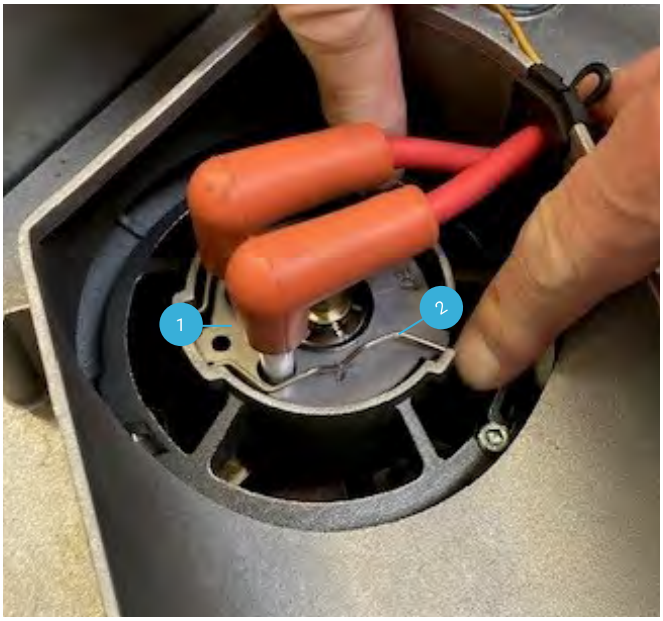
Dismount the top of the WBT (1).

Remove the 6 screws (1)

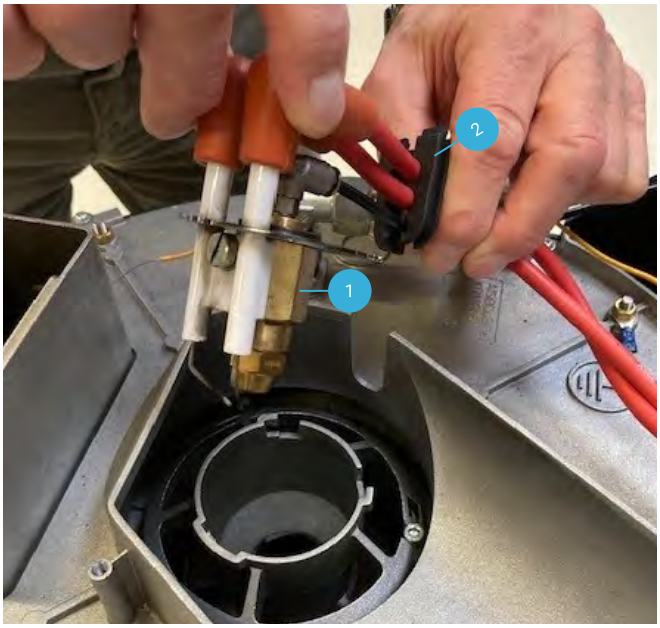
Remove flame detection sensor (1).



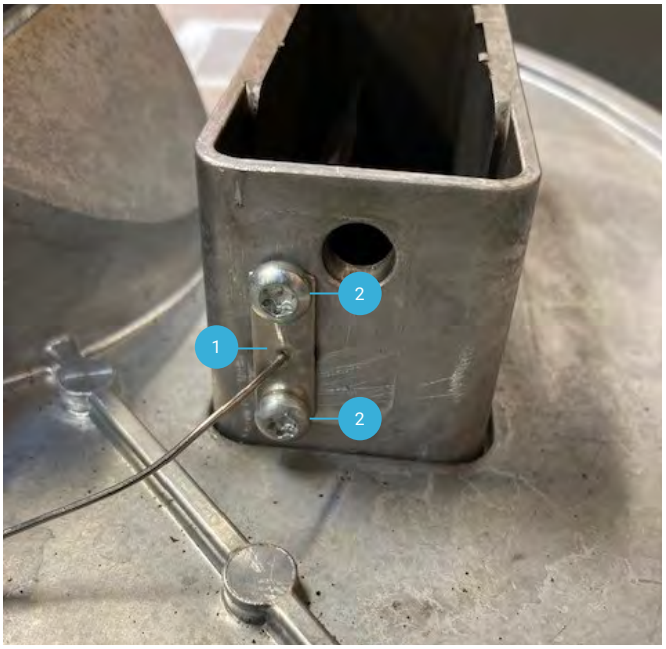
Remove cover (1).



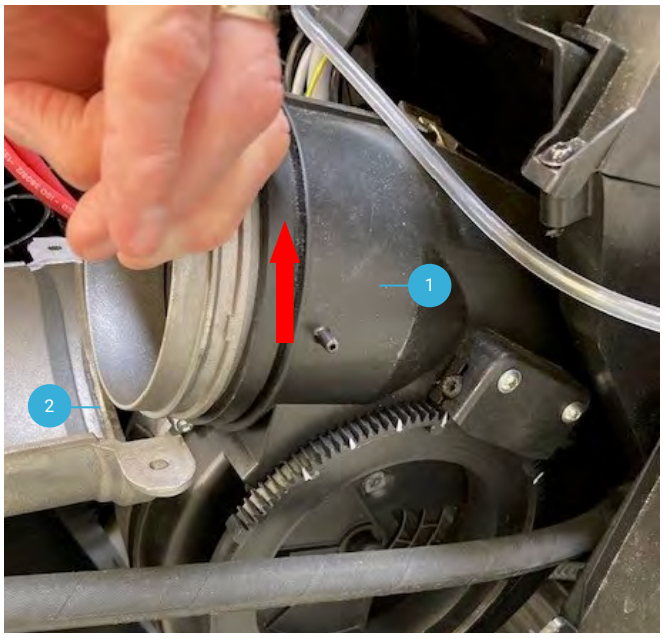
Dismount burner unit (1). Use two fingers to squeeze the clip together and then remove it.
he top of the WBT (1).



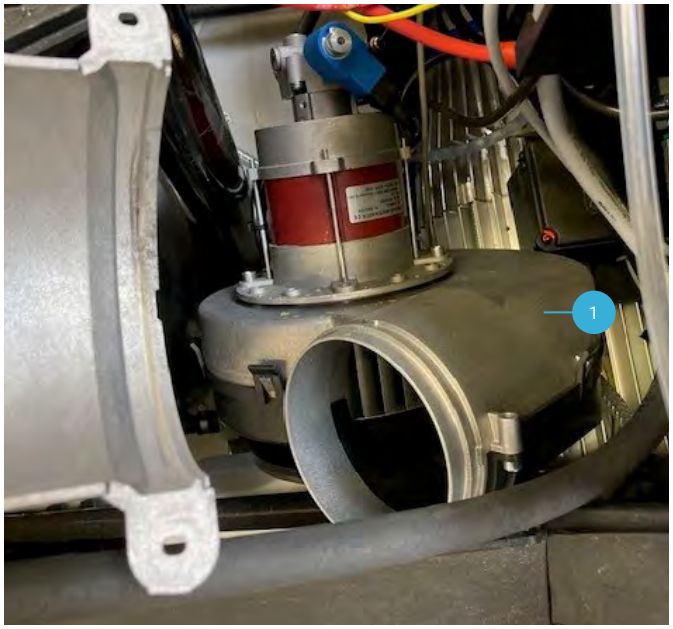
Pull up the complete burner unit (1) including the rubber seal (2).



Remove the exhaust temperature sensor (1) by removing the two screws (2) Torx 20.



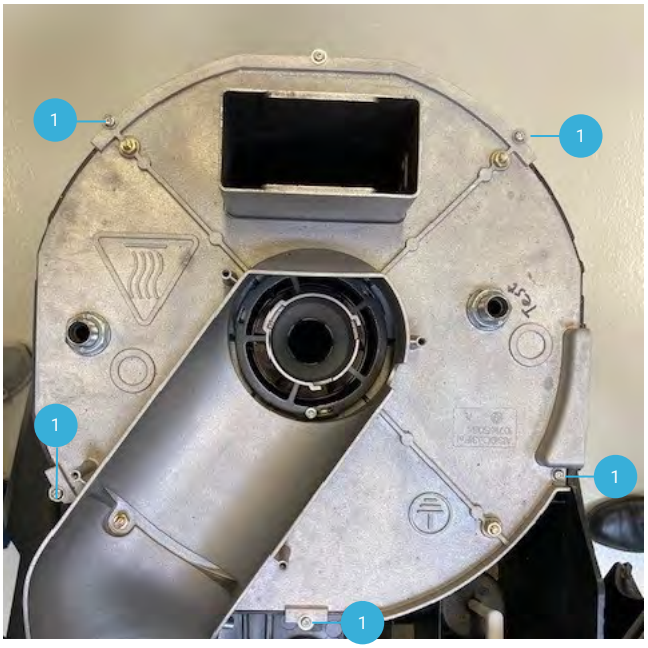
Lift the fan (1) out of the recess (2).



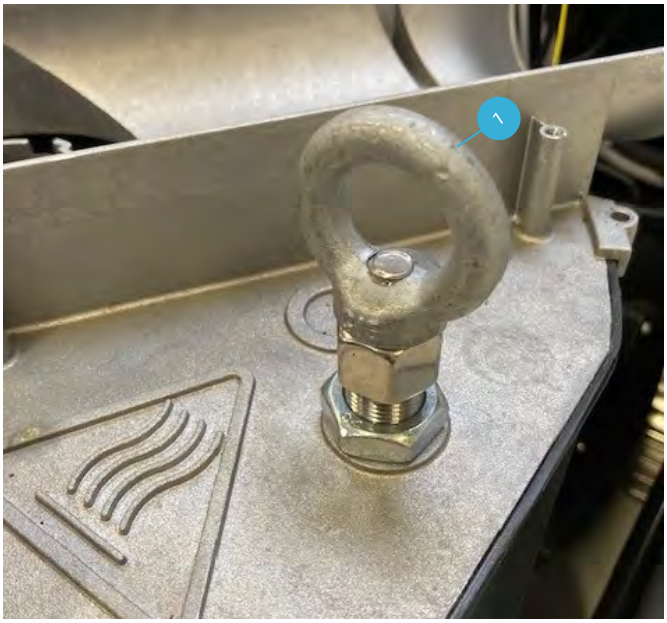
Place the complete fan (1) on top of the fuel tank/ motor as shown.

Dismount the ind and outlet (1) to the boiler.

Remove nut, ground wire and washer.

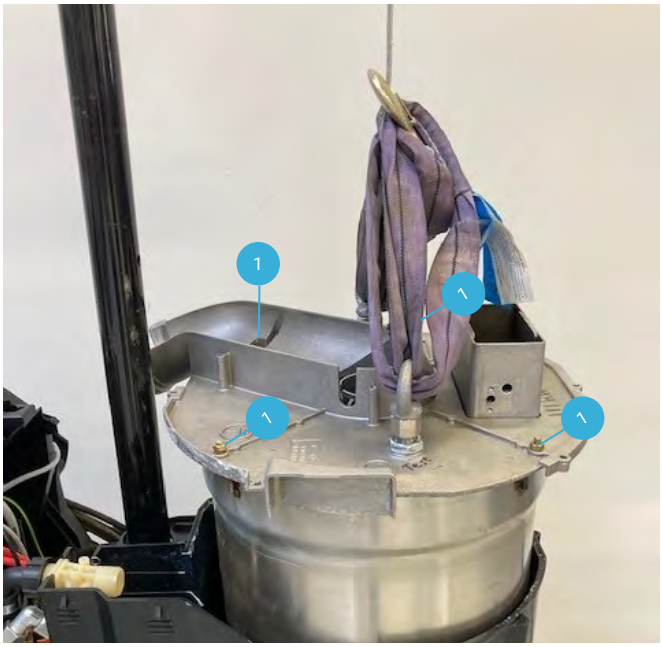


Remove the five screws (1)



Mount the two boiler lifting tool 101221064 (1).

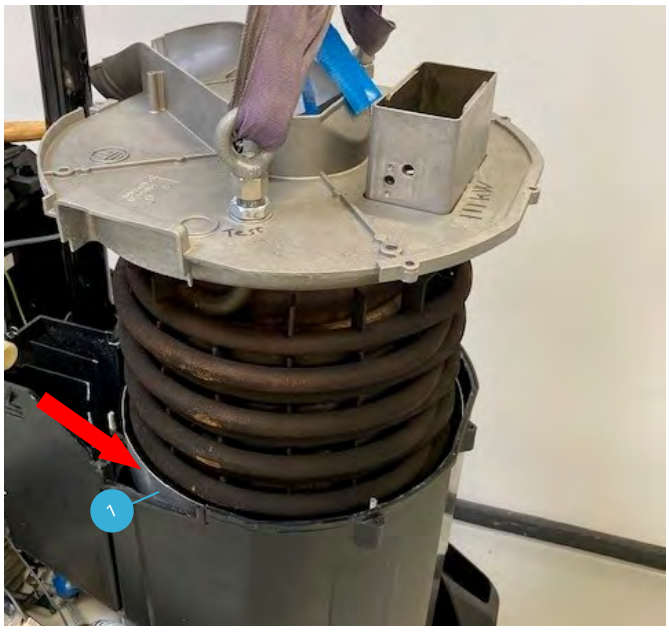
Mount the Nilfisk service crane (1) 301001078 on the machine if no other crane available.



Mount lifting strap and lift the unit 20 - 30 cm up. Remove the four brass nuts (1).

Detach the stainless steel cover (1) from the boiler top (2) by using a screwdriver. There are recesses

stainless steel cover can also be disassembled by gently tapping the threaded rod (1) with a plastic hammer.



Stainless steel cover (1) will now fall to the bottom of the plastic container.

The unit can now be lifted up and placed on the floor. If necessary, place some protection on the floor to prevent damage to the floor.

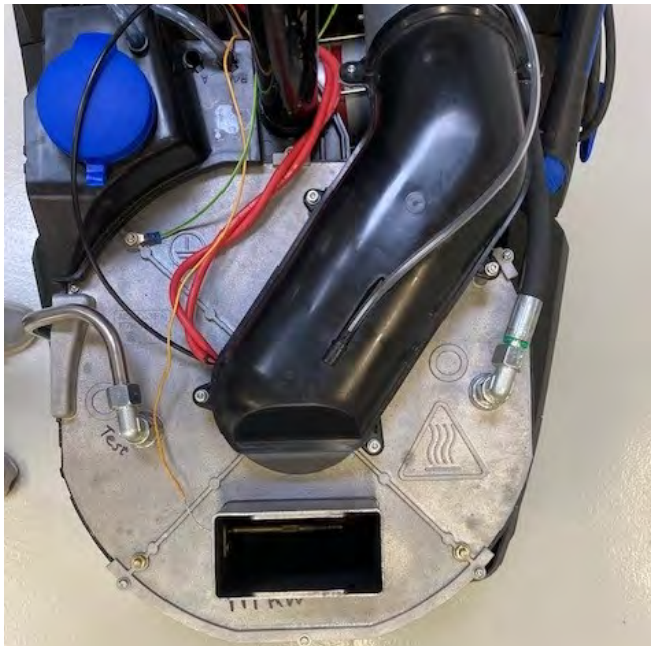
Dismount the two lifting brackets (1) and the nuts (2) below.

Dismount the boiler top (1).

Remove inside boiler top (1).

Dismount the screw (1) for the flametube

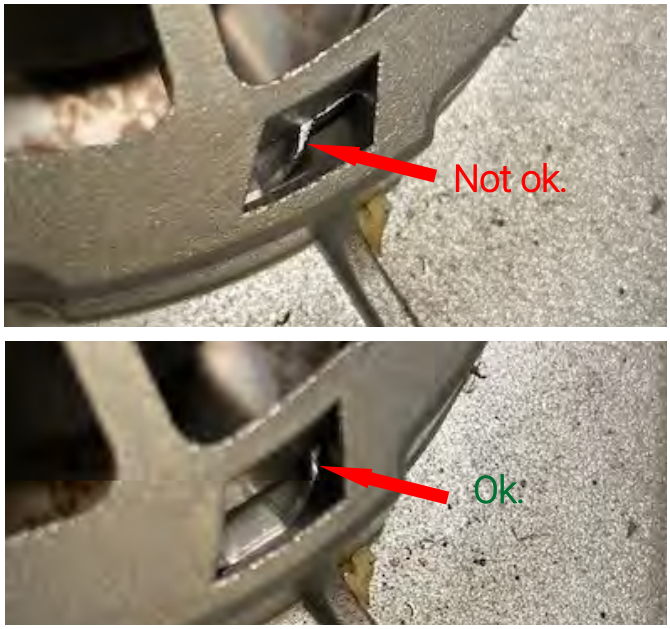
Dismount the flame tube by turning it counter-clockwise.



The boiler can now be assembled in reverse order.

However, special focus should be on the following points.

Flame tube: Make sure to turn it into the correct position. Turn clockwise until mechanical stop. See next illustration.



Turn the inside boiler top over and inspect through the hole to determine if the flame tube is in the correct position.

If the positioning is correct, the locking screw can be installed.

Inside boiler top: It must be ensured that the silicone seal (1) is intact and installed correctly in the recess.

Inside boiler top: It is important to lubricate the inside boiler top with ceramic paste. Clean the surface first if necessary.
Lubrication of the boiler top will ensure that parts can be separated later.

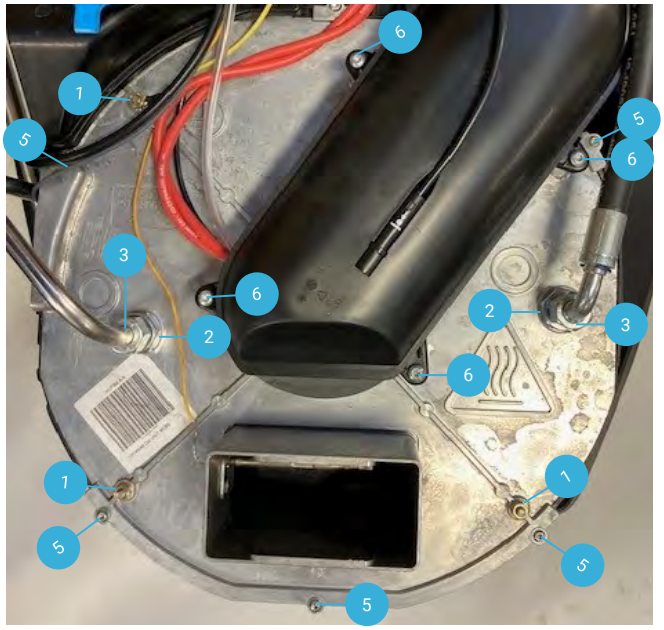
Inside boiler top: Use the above ceramic paste or similar type.
Specifications:
Professional lubricant Xeramic Ceramic Vaseline 500 g is a high-quality ceramic grease that protects against corrosion and facilitates the assembly of metal connections. Extreme resistance to high pressures and temperatures in the range of -40 °C to 1,000 °C. Suitable for easy disassembly of threaded connections.

Fan unit: When installing the fan unit (1), ensure that the guide pin (2) is in the correct position.

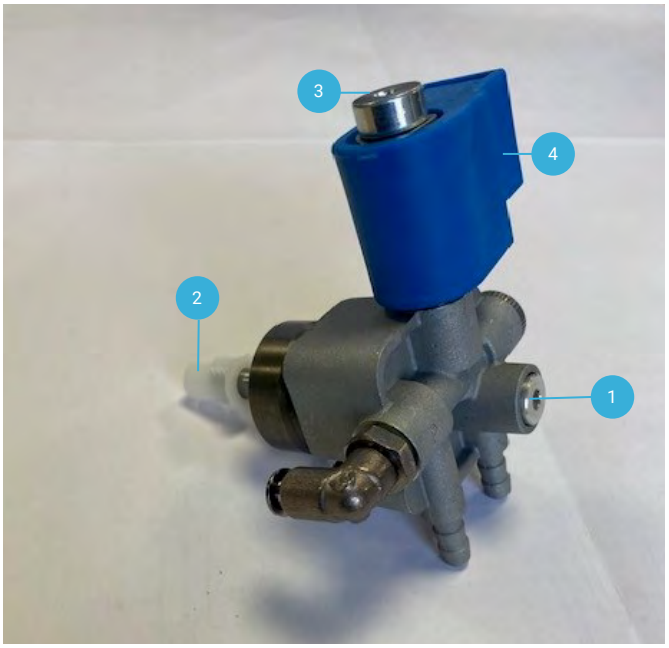
Burner unit: When installing the burner unit it is important to twist the wires (1) at least twice. This is important in terms of EMC noise (Electrical radiation).

Burner unit: When installing the burner unit (1) it is important that the location is correct in the recesses.
After correct positioning, the locking clip (2) can be mounted.

Torque specificcations:



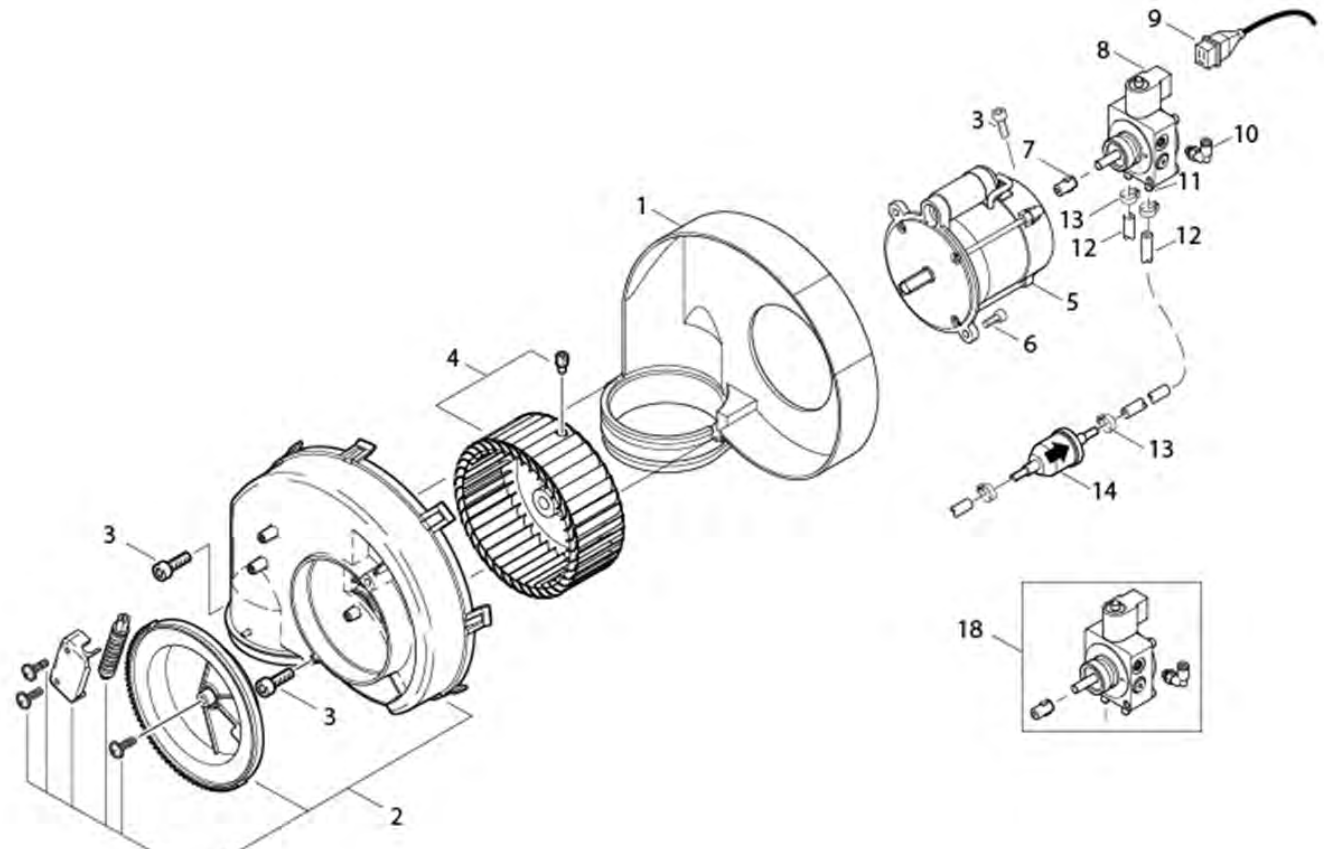
1. 9 Nm ± 10%. (nut 10 mm.)
2. 40 Nm. ± 10%. (nut 27 mm.)
3. 50 Nm. ± 10%. (nut 22 mm.)
4. 6 Nm. ± 10%. (nut 10 mm.)
5. 2 Nm ± 10%. (nut 10 mm.)



Oil pressure can be adjusted on the screw (1). Use allen key 4 mm. Correct oil pressure can be seen in the data sheet section B.

The clutch (2) can be replaced by pulling it off the oil pump shaft.

Solenoid coil (4) can be replaced by removing the screw (3). Use allen key 4 mm.

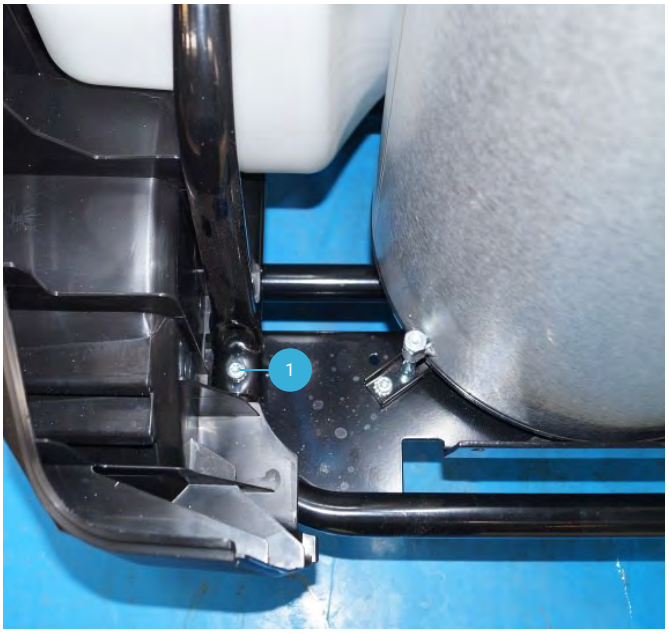


Check and clean fuel filter (1) in fuel tank inlet.

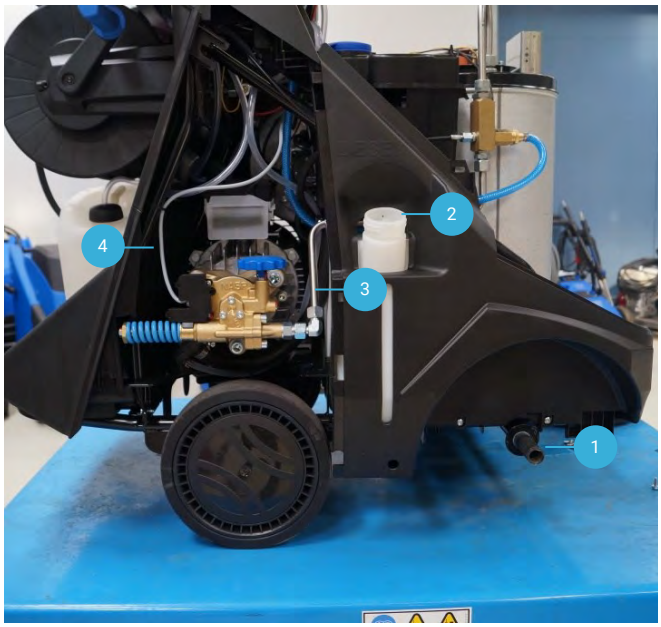
Replace fuel filter (1) on fuel line.

Remove cabinet. Dismount the front bumper, by removing the 4 screws (1)

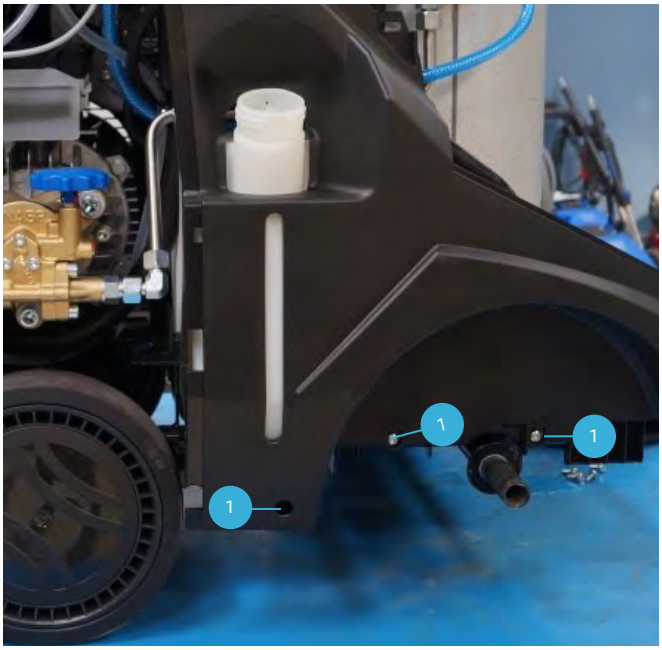
Remove bumper by pulling the bumper up (see red arrows), and then pull bumper against you.



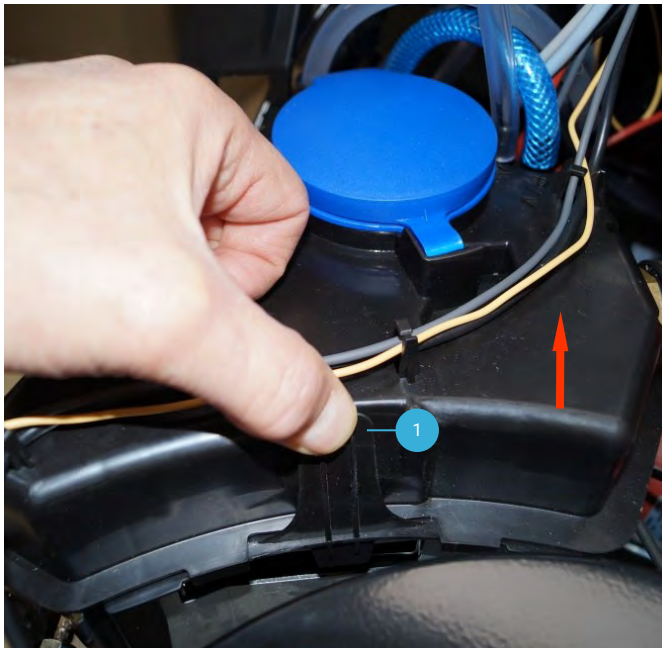
Remove screw for support pipe (1).



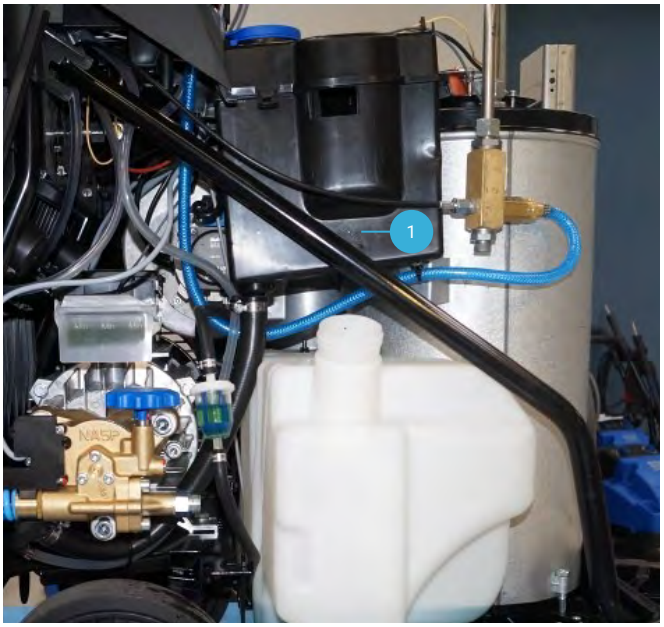
Remove the right wheel (1), fuel tank lid (2), pump outlet pipe (3), and the side cabinet part (4).



Remove the 3 screws (1) holding the side cabinet part. To remove the side cabinet part, pull it out from the machine, and then up.

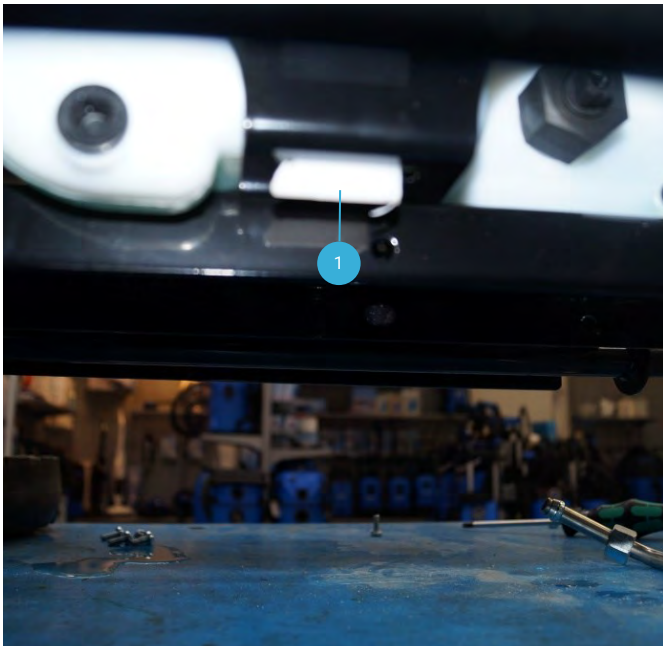


Loosen the water break tank from its bracket by pushing the tap (1) as shown above, and then pull up the tank as far as possible



Water break tank (1) lifted from its bracket.

Lift the fuel tank (1) a little bit, and then pull the tank out as shown above. When the fuel tank is as far out as shown above, the two fuel hoses, and the fuel level sensor (if installed) must be dismounted before removing the tank completely.



When installing the tap in fuel tank, there is a small tap (1) on the bottom of the fuel tank that must go into a slot in the frame.

On the picture above you can see the small tap positioned correctly in the slot.

The machine can now be assembled in reverse order.

Introduction

Every fuel-burning appliance such as pressure washers depends on a proper mix of fuel and air for proper combustion. Therefore some adjustment of the air supply to the burner may be necessary to take account of altitude and the resulting air pressure. This is true whether your fuel is Diesel / Kerosene or HVO → B30. A fuel pressure check will be a part of such an adjustment.

A check of air damper setting and oil pressure are also recommended when fuel nozzle, fuel pump, fan wheel or other fuel related components are changed or the boiler or boiler related components have been taken out for repair.

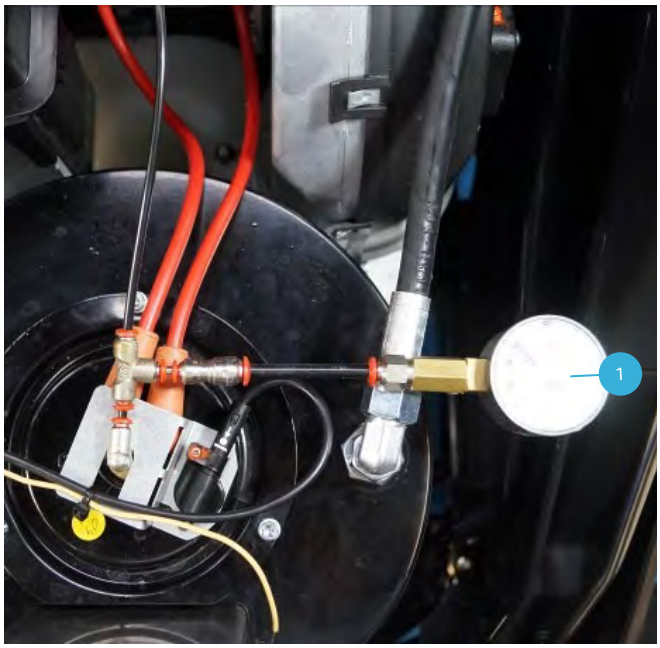
Your Nilfisk hot water pressure washer was thoroughly tested and adjusted for optimum performance before it left the factory.

Measurement Equipment:
Testo 327 (1) or similar, or Orsat, Fyrite, Bacha-

Measurement Equipment:
Soot pump (1) or Testo 308 (2)

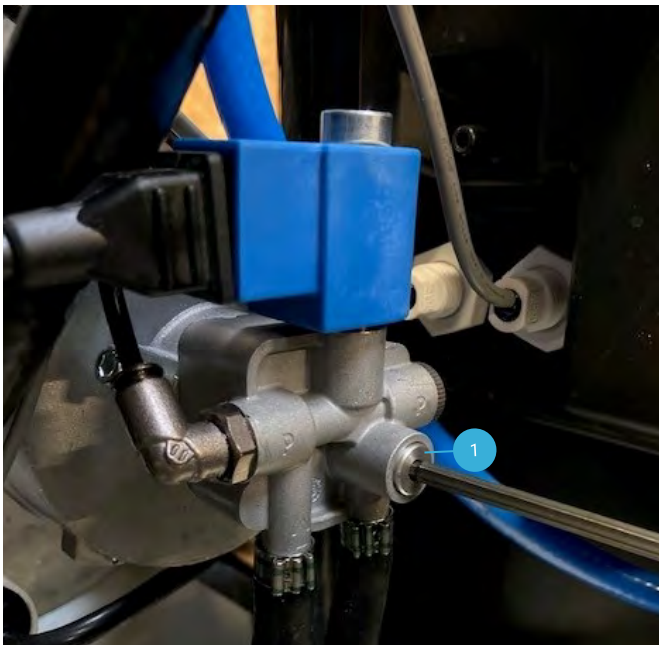
Measurement Equipment:
Oil manometer. Max 25 bar for fuel pressure.

Measurement Equipment:
Connection for manometer.



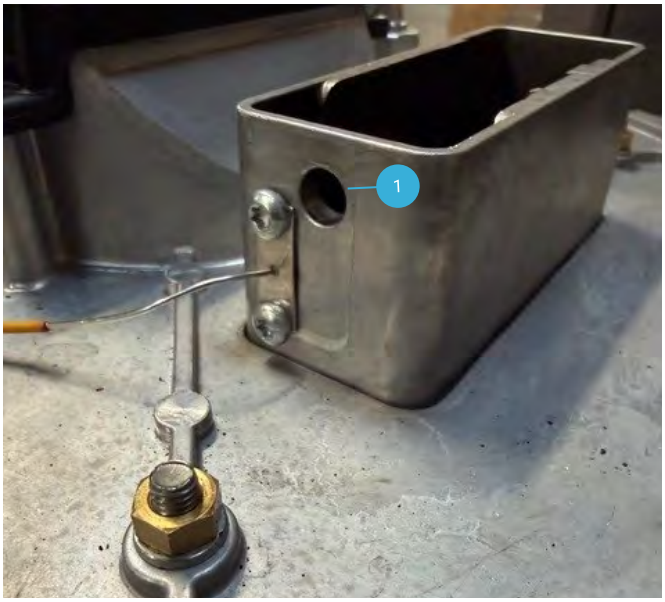
Mount the fuel pressure manometer (1) on the fuel pump, or on the pipeline between fuel pump and fuel nozzle.

Start up the machine on max pressure and flow. Switch on the heat/boiler and turn to max temperature



Set the oil pressure according to Technical Data in the service manual. The oil pressure can be adjusted on the adjusting screw (1). Screw 4mm. Allen key.
Start up the flue gas analyzer. Wait until the instrument is calibrated (See flue gas analyzer manual).

ECO boiler: Place the flue gas probe (1) in the centre of the chimney



WCB: Place the flue gas probe in the hole (1) and in the centre of the chimney

1. Set the air damper until specified CO_2 is obtained. Be aware that it can take several minutes before stabilizing.

Open the damper: More air decreasing CO_2.

Close the damper: Less air increasing CO_2

2. Let the machine run at least 7 minutes, until the exhaust temperature is at max. and stable.

3. Fine tune the oil pressure and the air damper setting.

4. Control the values on the Testo 327. CO_2 must be according to Technical Data in the service manual.

1. Demount the fluegas analyser and measure the soot with soot pump (1) or Testo 308 (2) in the centre of the chimney (3).

Soot test must be done according to the soot test equipment manual. (For soot pump 10 strokes, slowly)

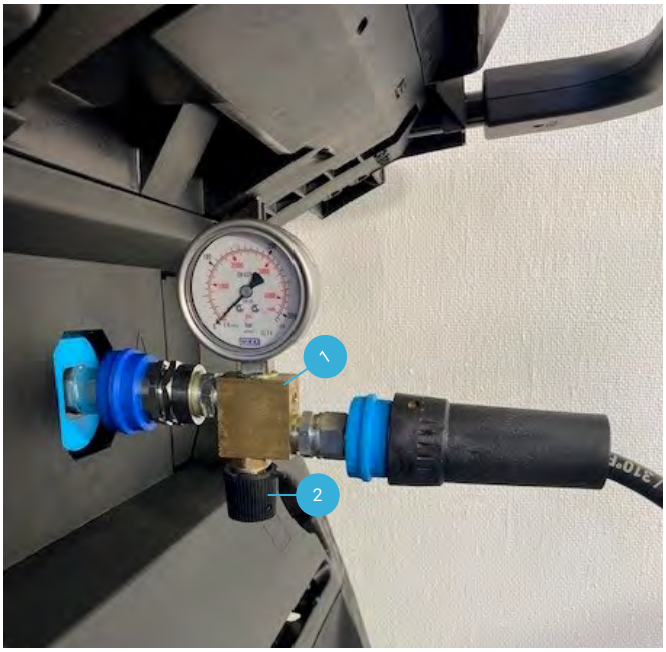
Soot < 1 (the Bacharach scale) for all boilers

2. Turn off the heat switch and let the machine run for 1 min. on cold mode and stop the machine.

3. Demount the fuel pressure manometer and assemble the fuel pump and tube.

4. If a hot water machine is installed higher than 500 meter above sea level, the burner may require re-adjustment for proper performance and fuel economy.

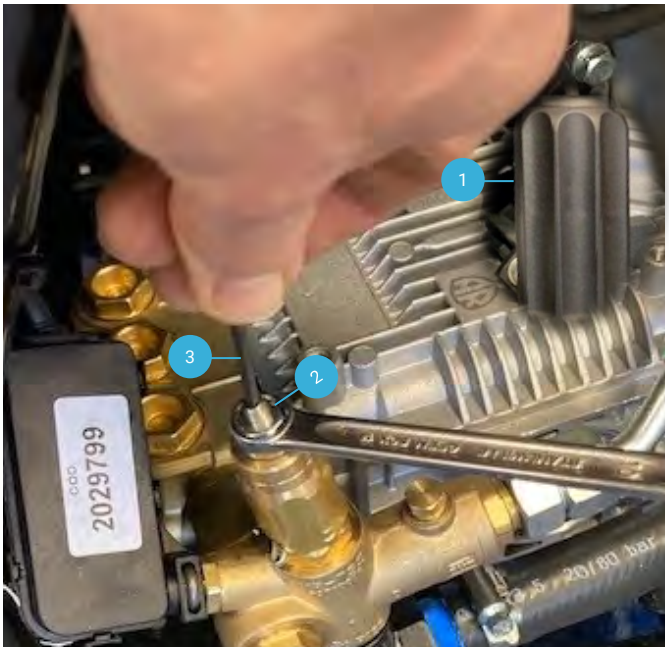
5. If a hot water machine is installed higher than 1000-2500 meter above sea level it might require an optional burner kit. Contact Nilfisk Service for assistance.



Check of retaining pressure

1. Install test pressure gauge 1206358 (1) between machine outlet and the high pressure hose.
2. Open the valve on the test gauge completely (2).
3. Start machine and run with full pressure.
4. Close the gun, and read the retaining pressure on the test gauge.
5. The correct retaining pressure is shown in the data sheets in section ”B” in this manual.

NOTE:
Retaining pressure is the pressure the pump reaches when the motor stops.



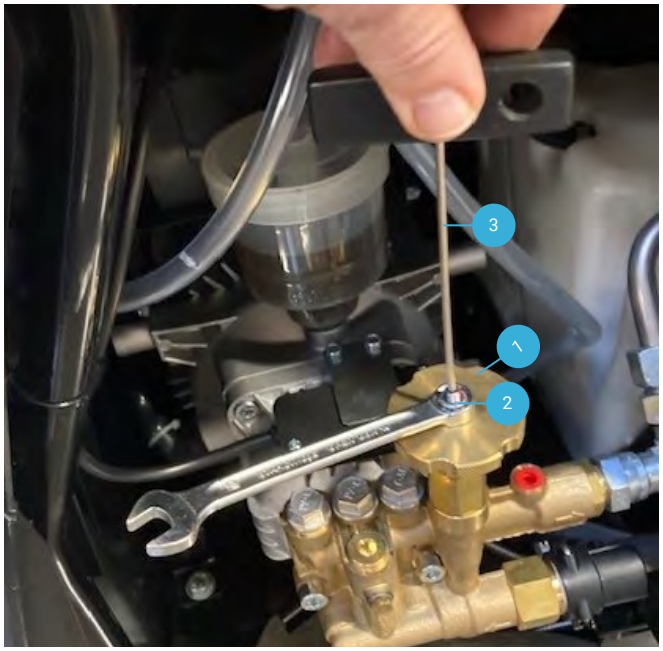
Adjustment of retaining pressure

1. Dismount the black water regulator (1).
2. Use a 3 mm. Allen Key and a 10 mm. open ring spanner.
3. Loosen the counter nut (2) with the 10 mm. open ring spanner.
4. Turn the Allen Key (3) clockwise to increase, and counterclockwise to decrease the retaining pressure.
5. The correct retaining pressure is shown in the data sheets in section ”B” in this manual.
6. After adjustment, retighten the counter nut (2) and mount the water regulator *(1)*.

Check of retaining pressure:

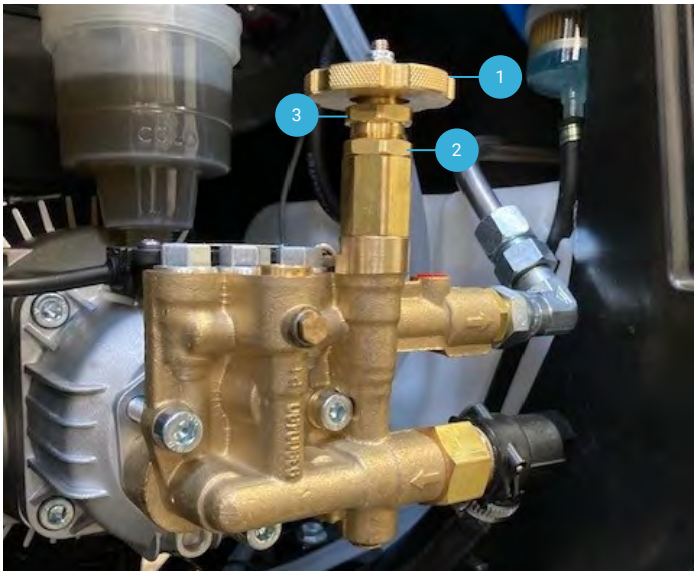
1. Install test pressure gauge 1206358 (1) between machine outlet and the high pressure hose.
2. Open the valve on the test gauge completely (2).
3. Start machine and run with full pressure.
4. Close the gun, and read the retaining pressure on the test gauge.
5. The correct retaining pressure is shown in the data sheets in section ”B” in this manual.

NOTE:
Retaining pressure is the pressure the pump reaches when the motor stops.



Adjustment of retaining pressure:

1. Tighten the water regulator (1) by hand. Turn clockwise.
2. Use a 3 mm. Allen Key and a 10 mm. open ring spanner.
3. Loosen the counter nut (2)with the 10 mm. open ring spanner.
4. Turn the Allen Key (3) clockwise to increase, and counterclockwise to decrease the retaining pressure.
5. The correct retaining pressure is shown in the data sheets in section ”B” in this manual.
6. After adjustment, retighten the counter nut *(2).*



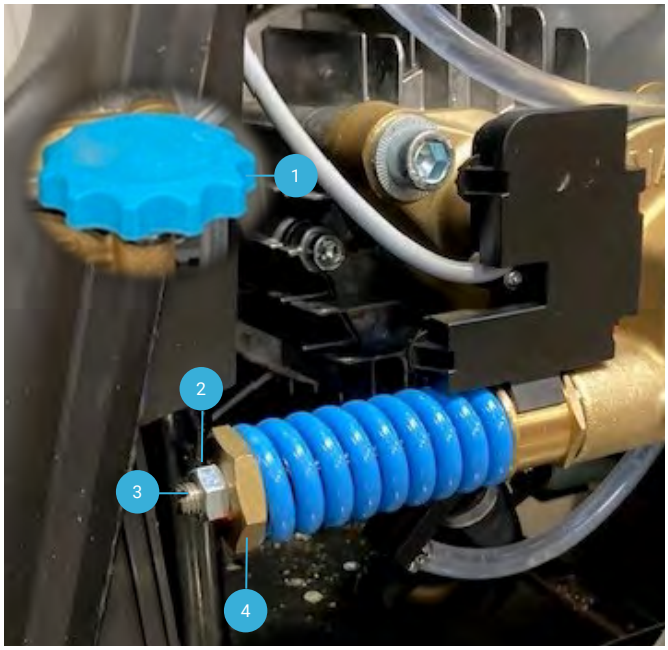
Minimum water volume adjustment:

1. Install test manometer (FULLY OPEN), high pressure hose, spray handle and lance with Good/new high pressure nozzle
2. Turn water regulator handle (1) fully counter clockwise
3. Loosen counter nut (2).
4. Adjust the water volume by turning the adjustment nut (3) until you reach **32 bar** on your test manometer.
5. Tighten the counter nut (2).

Check of retaining pressure:

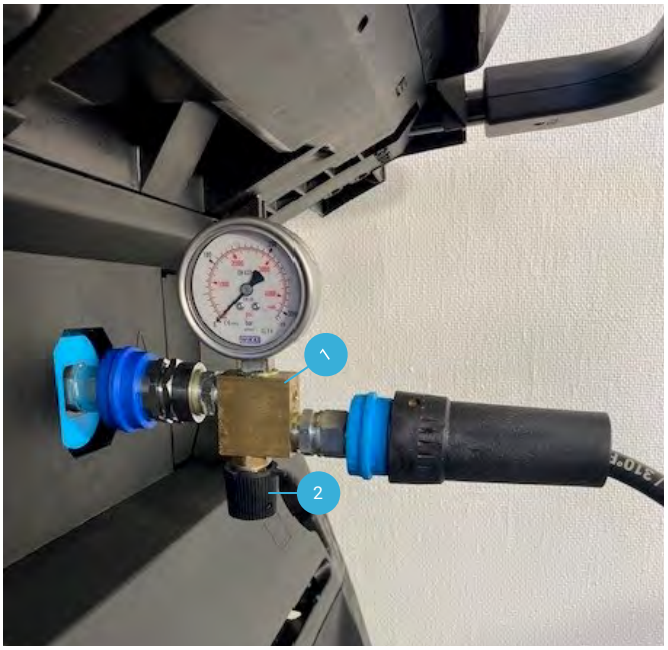
1. Install test pressure gauge 1206358 between machine outlet and the high pressure hose.
2. Open the valve on the test gauge completely
3. Close the water regulator (1) completely. turn clockwise.
4. Start machine and run with full pressure.
5. Close the gun, and read the retaining pressure on the test gauge.
6. The correct retaining pressure is shown in the data sheets in section ”B” in this manual.

NOTE:
Retaining pressure is the pressure the pump reaches when the motor stops.



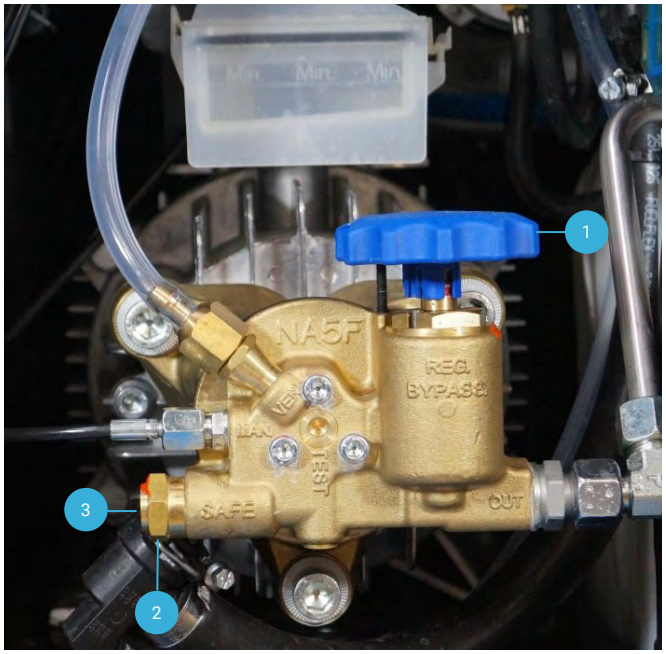
Adjustment of retaining pressure:

1. The retaining pressure is adjusted on the unloader
2. Loosen the counter nut (2) with the 10 mm. open ring spanner. Use a flat screwdriver on threaded bolt (3) as counterweight.
3. Turn the adjusting screw (4) with screwdriver clockwise to increase, and counterclockwise to decrease the retaining pressure.
4. The correct retaining pressure is shown in the data sheets in section ”B” in this manual.

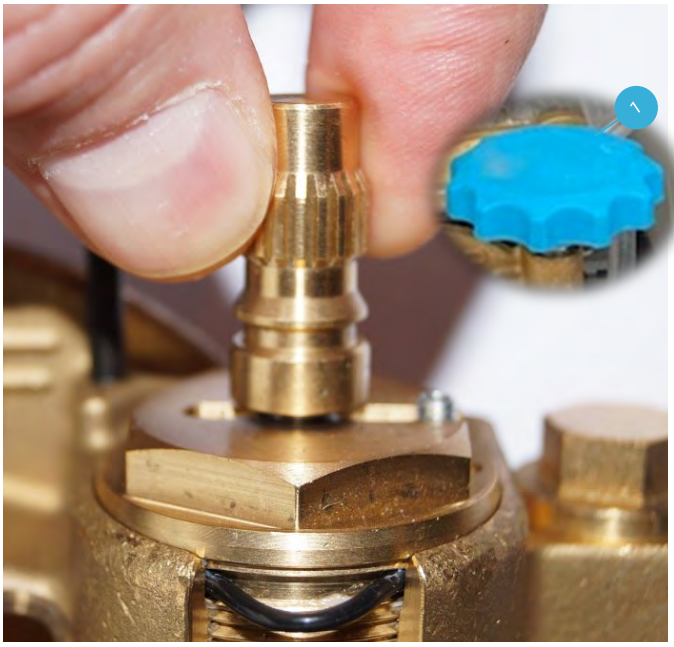


By-pass valve—opening pressure adjustment

1. Install test pressure gauge 1206358 (1) between machine outlet and the high pressure hose.
2. Open the valve on the test gauge completely (2).

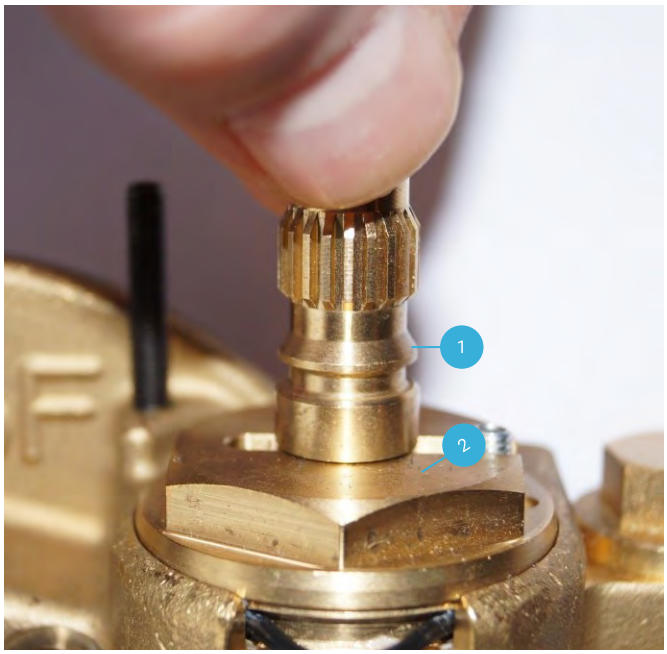


1. Start machine in cold water with full water volume (water regulator 1 closed) with correct high pressure nozzle, and read the output pressure on the test manometer.
2. Dismount the high pressure hose from the test manometer and start machine with open test manometer.
3. Slowly close the needle valve on the test manometer, and force the pressure up.
4. The safety valve opening pressure on the test manometer must be between 25 and 30 bar higher than the output pressure you had when running with the lance at full pressure.
5. To adjust opening pressure, loosen the counter nut (2). Adjust the opening pressure on the adjusting screw (3). Retighten the counter nut (2) after adjustment.

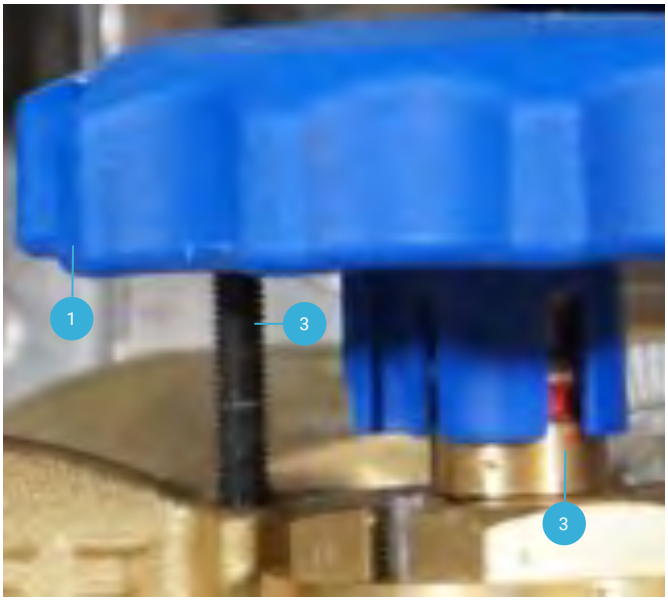


Water regulator adjustment:

Turn off the machine and ensure it is depressurized. Dismount water regulator (1) .

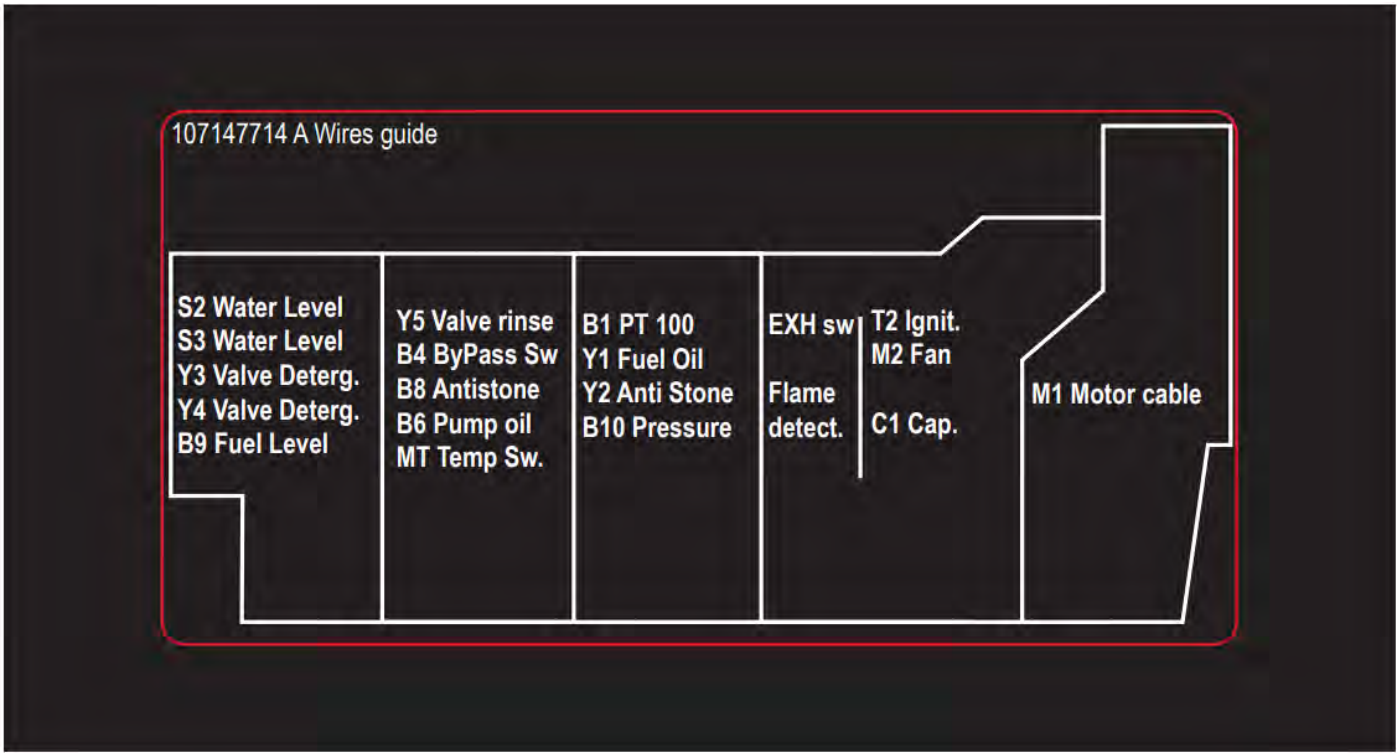


Turn gently the small brass shaft (1) counterclockwise until it JUST touches the surface of the plug (2).



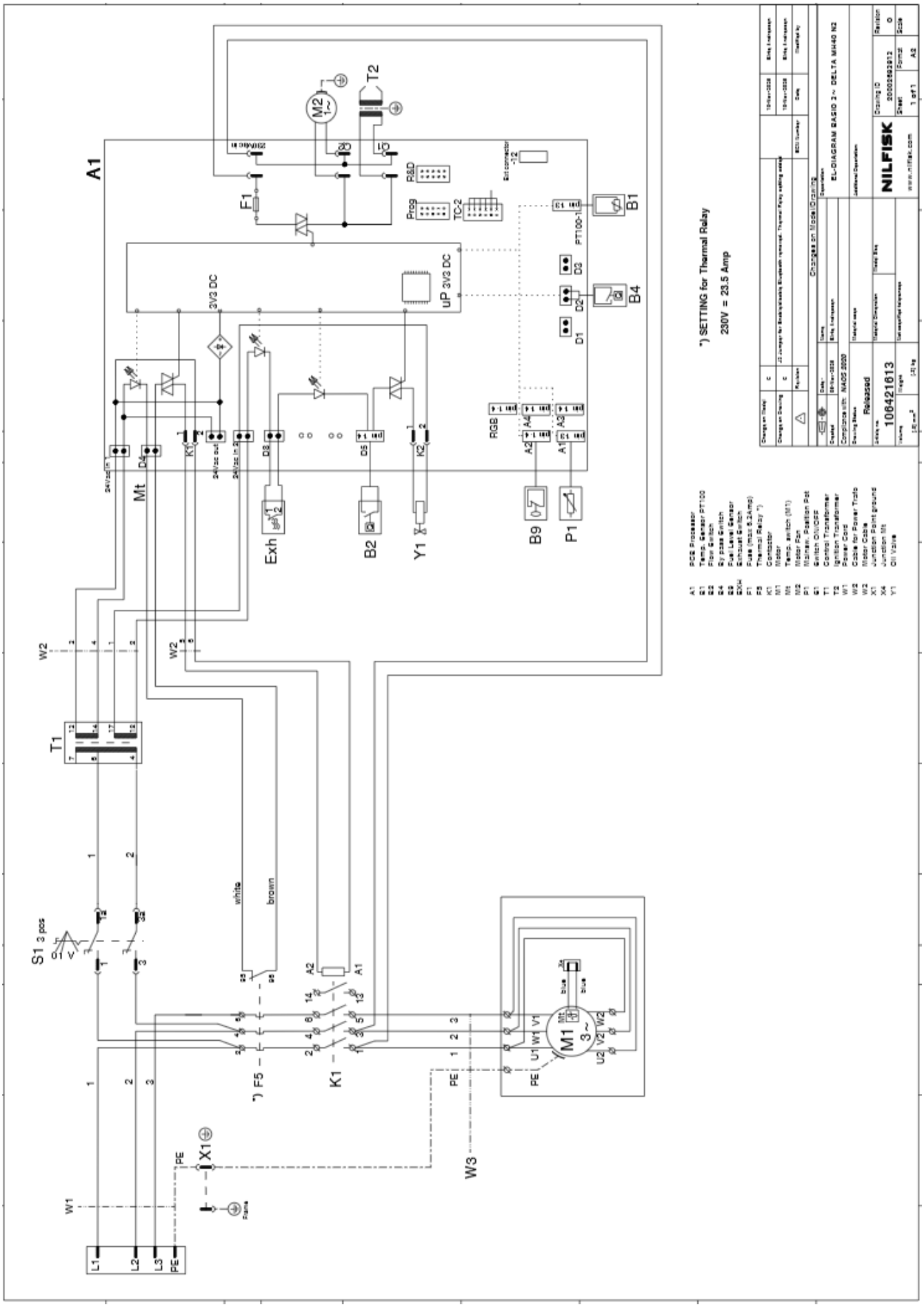
Push down the blue handle (1) on the top of the shaft (2) , and position it so the handle stop is positioned on front of the screw (3).

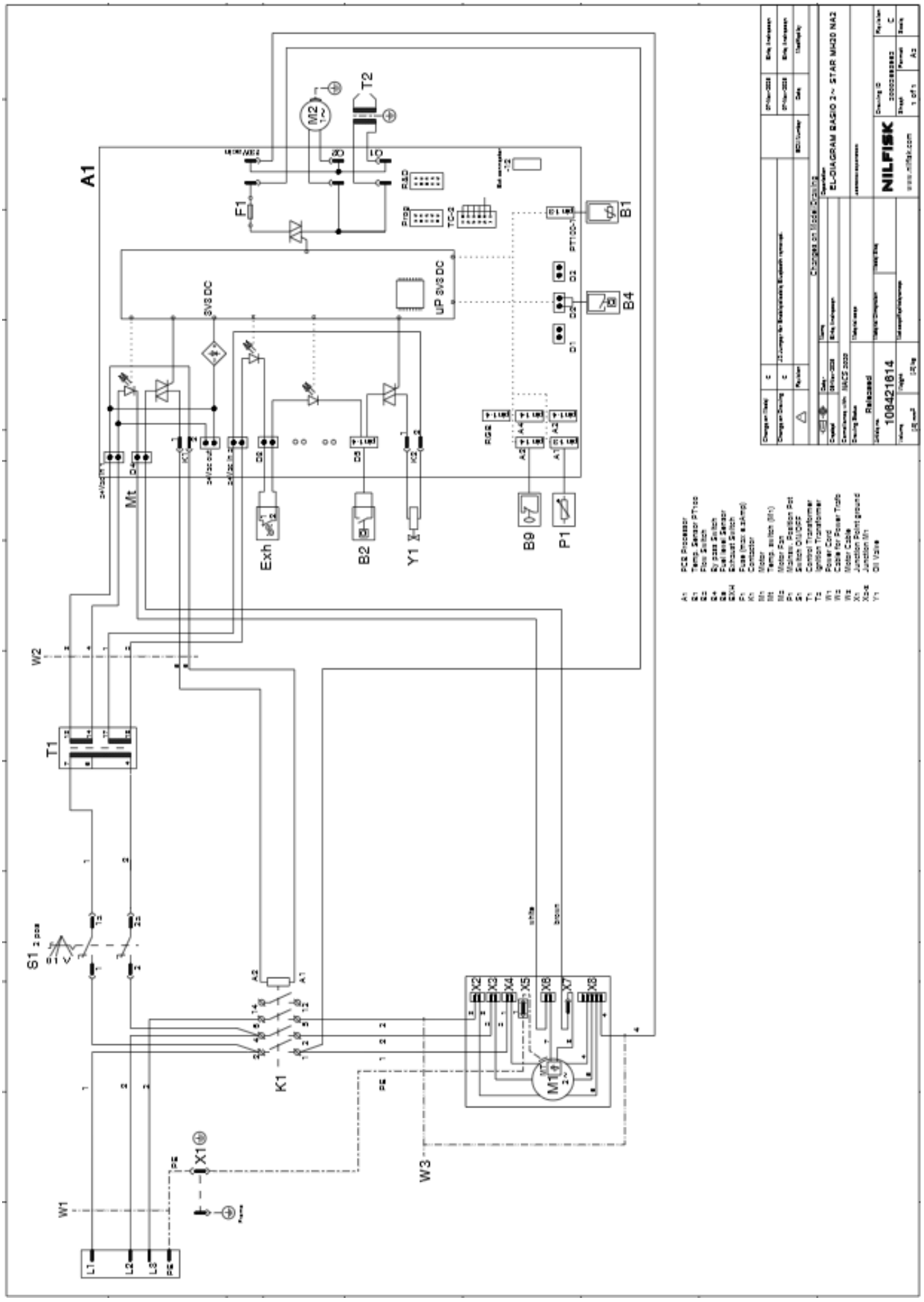
Correct assembly of the water regulator . The water regulator can now **only** be turned counterclockwise when viewed from the top.

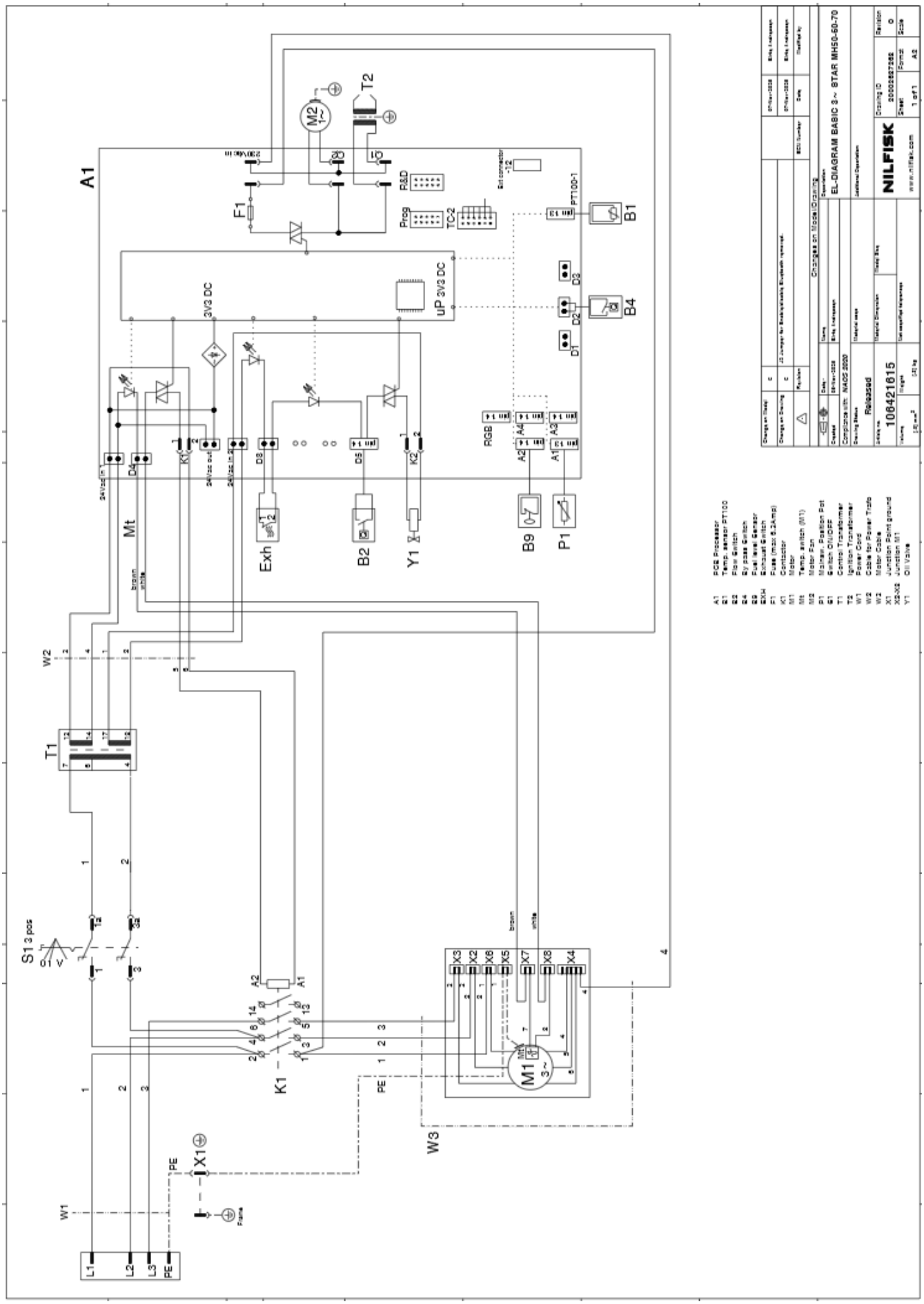


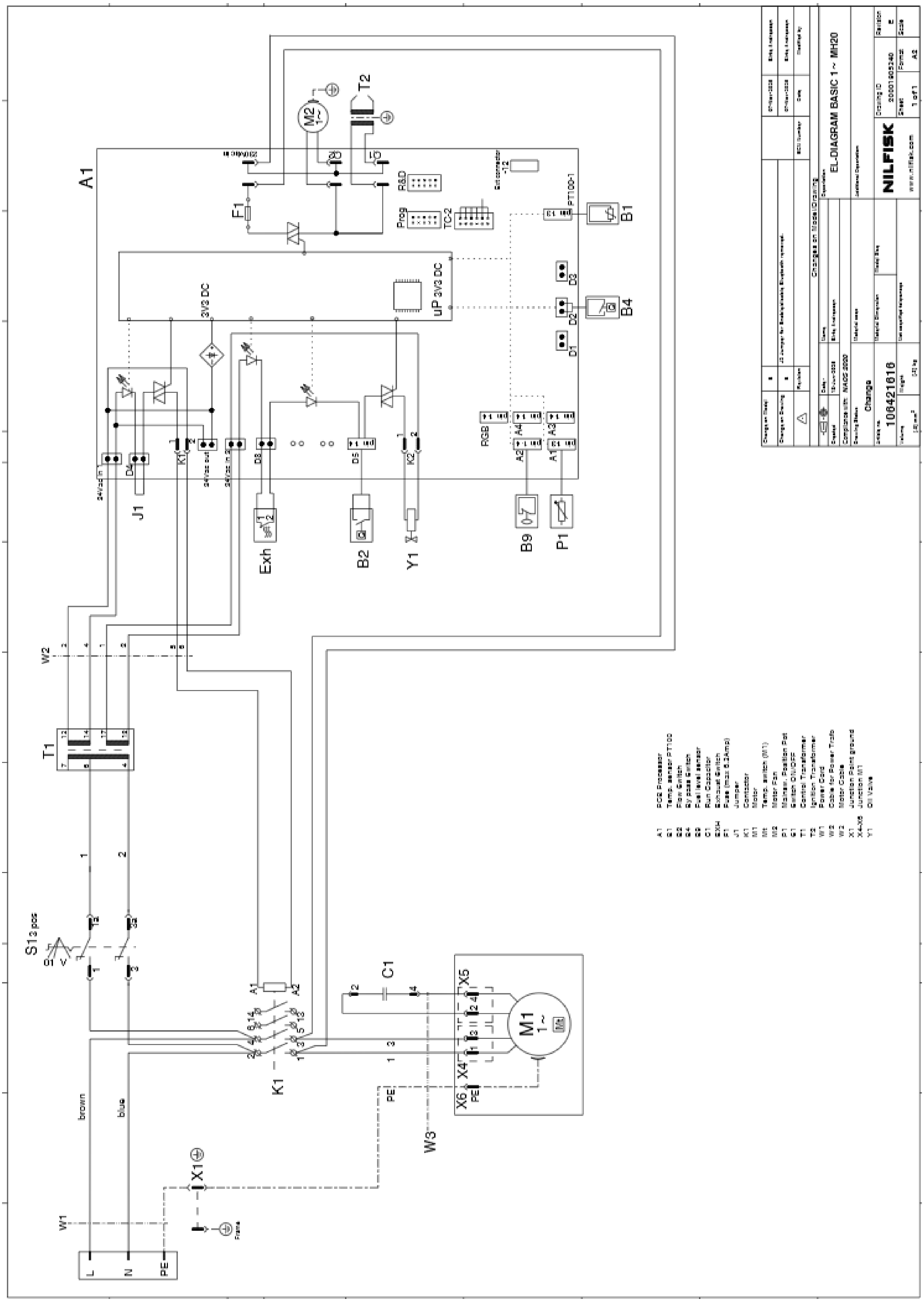
Wire guide:

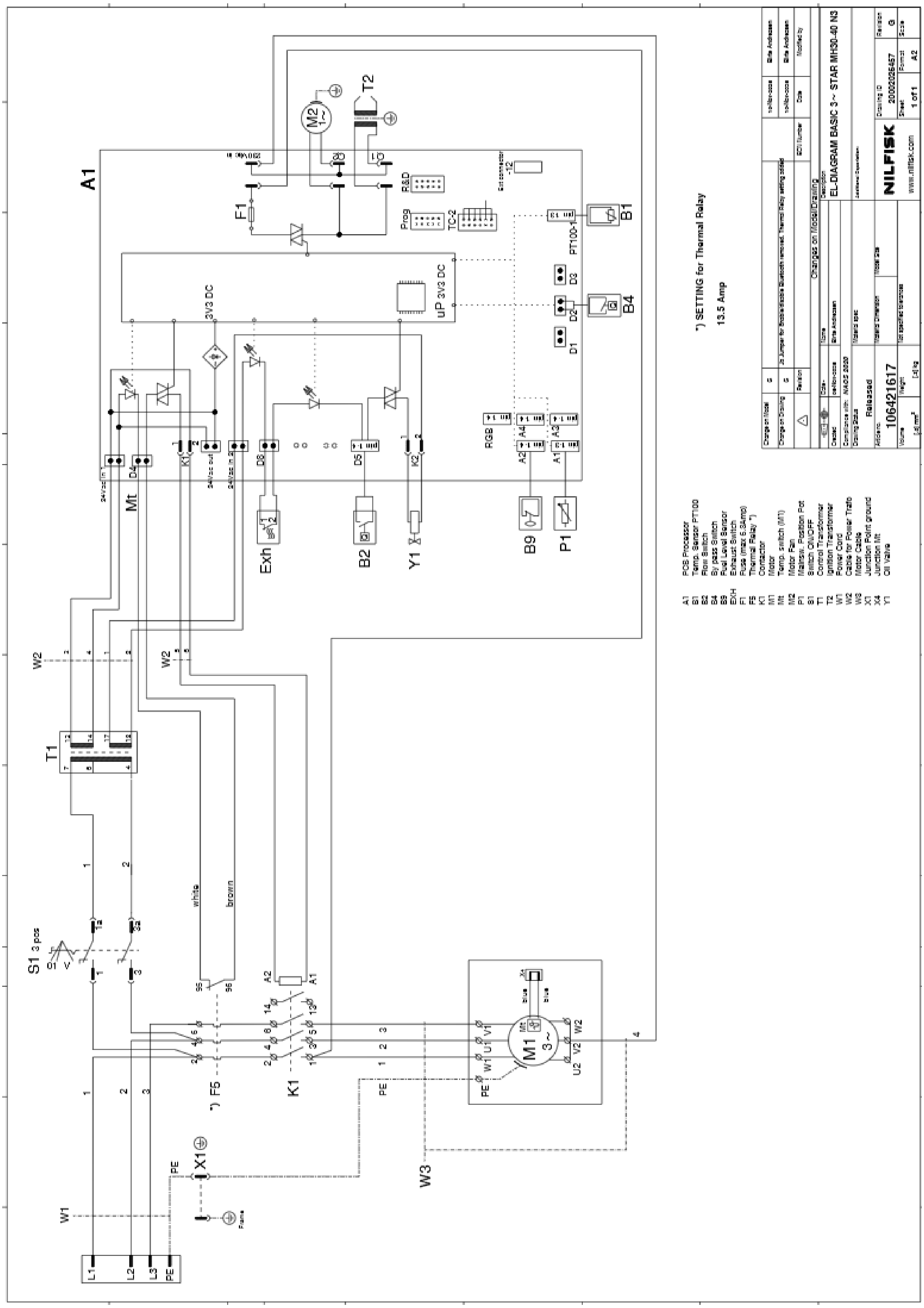
To ensure proper functioning of the machine, wires must be routed into the electrical box as shown in the diagram above.

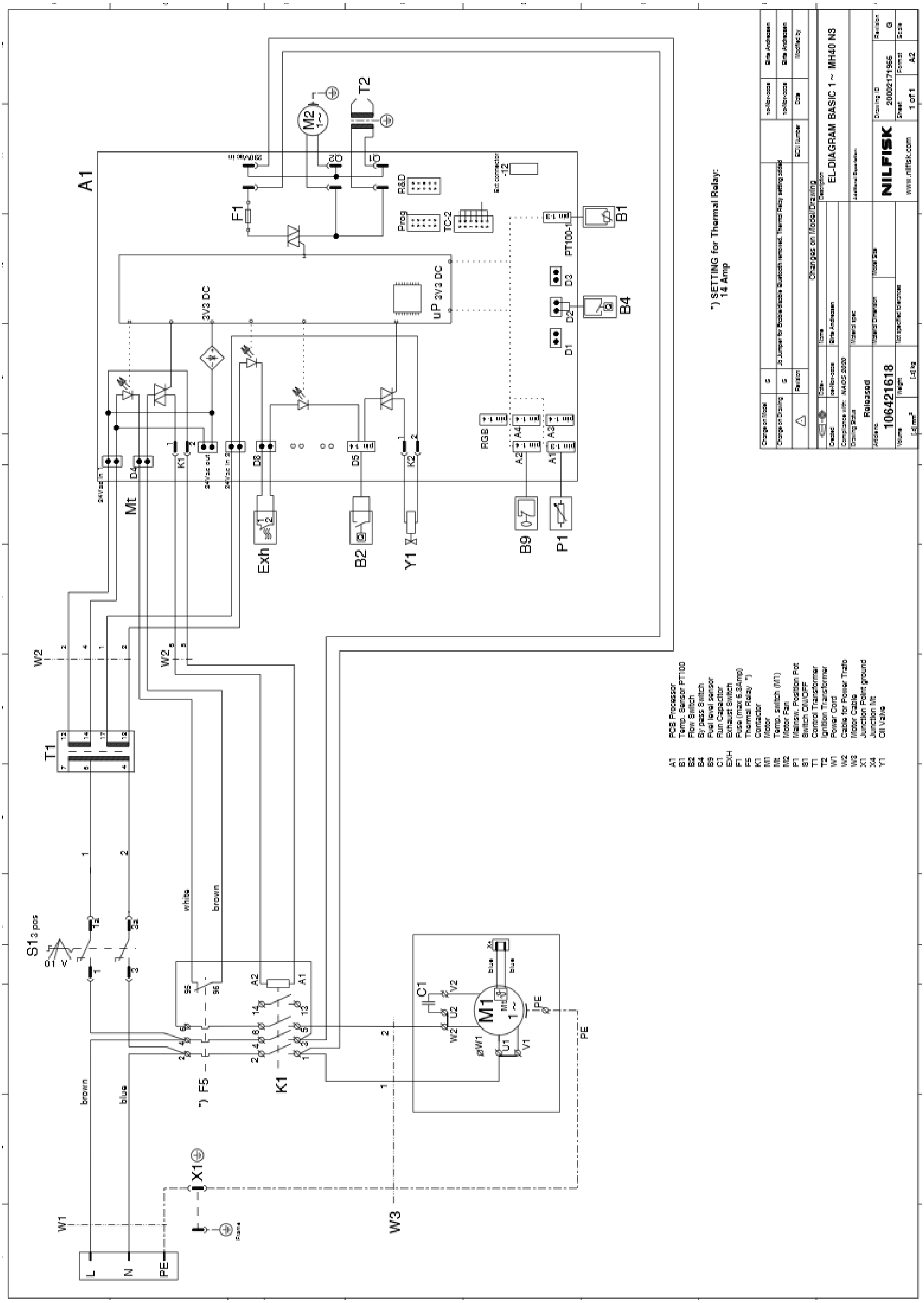

A1
T2
M2
F1
R&D
Prog
TC-2
B1
B4
uP 3V3 DC
3V3 DC
D1
D2
D3
RGB
Mt
D4
K1
D8
D5
K2
Exh
B2
Y1
B9
P1
*) SETTING for Thermal Relay
230V = 23.5 Amp
T1
W2
S1 3 pos
white
brown
A2
A1
K1
*) F5
M1
3~
U1 V1 W1
U2 V2 W2
PE
W3
X1
W1
L1
L2
L3
NILFISK
106421613
EL-DIAGRAM BASIC 3~ DELTA MH40 W2
Released


A1
T2
M2
F1
B1
B4
uP 5VS DC
5VS DC
Mt
Exh
B2
Y1
B9
P1
W2
T1
S1
K1
X1
W3
W1
M1
L1
L2
L3
PE
NILFISK
108421614
EL-DIAGRAM BASIO 2~ STAR MH20 NA2

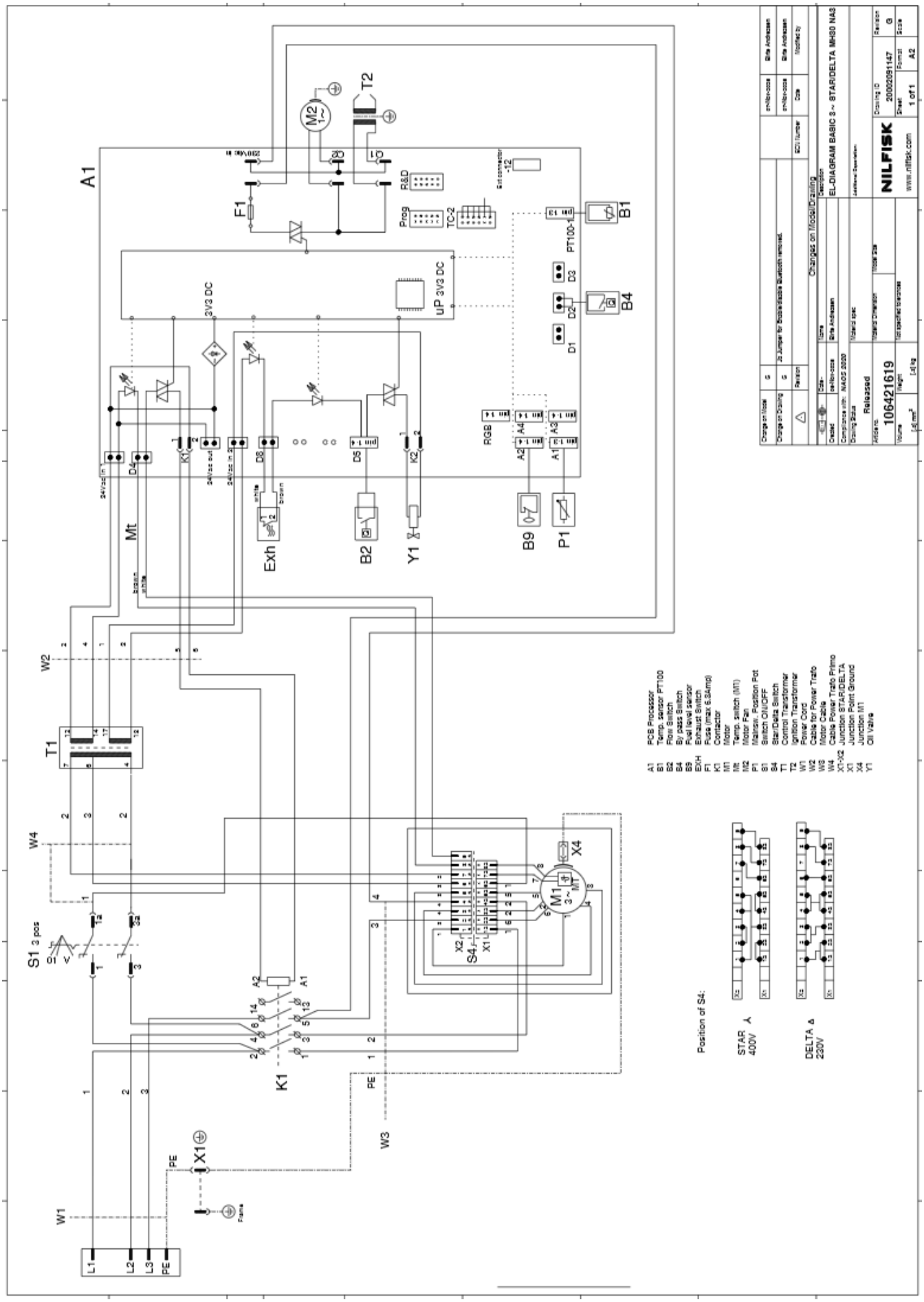

EL-DIAGRAM BABIC 3~ STAR MH50-60-70
NILFISK
106421615
Released
A1 PCB Processor
B1 Temp. sensor PT100
B2 Flow Switch
B4 By pass Switch
B9 Fuel level Sensor
EXH Exhaust Switch
F1 Fuse (max 8.2Amp)
K1 Contactor
M1 Motor
M2 Temp. switch (M1)
M3 Motor Fan
P1 Hourmeter, Position Pot
S1 Switch ON/OFF
T1 Control Transformer
T2 Ignition Transformer
W1 Power Cord
W2 Cable for Power Trafo
W3 Motor Cable
X1 Junction Point ground
X2-X8 Junction M1
Y1 Oil Valve
A1
M2
T2
F1
B1
B4
B9
P1
Exh
B2
Y1
Mt
W2
T1
S1 3 pos
K1
M1
W3
X1
W1
L1
L2
L3
PE

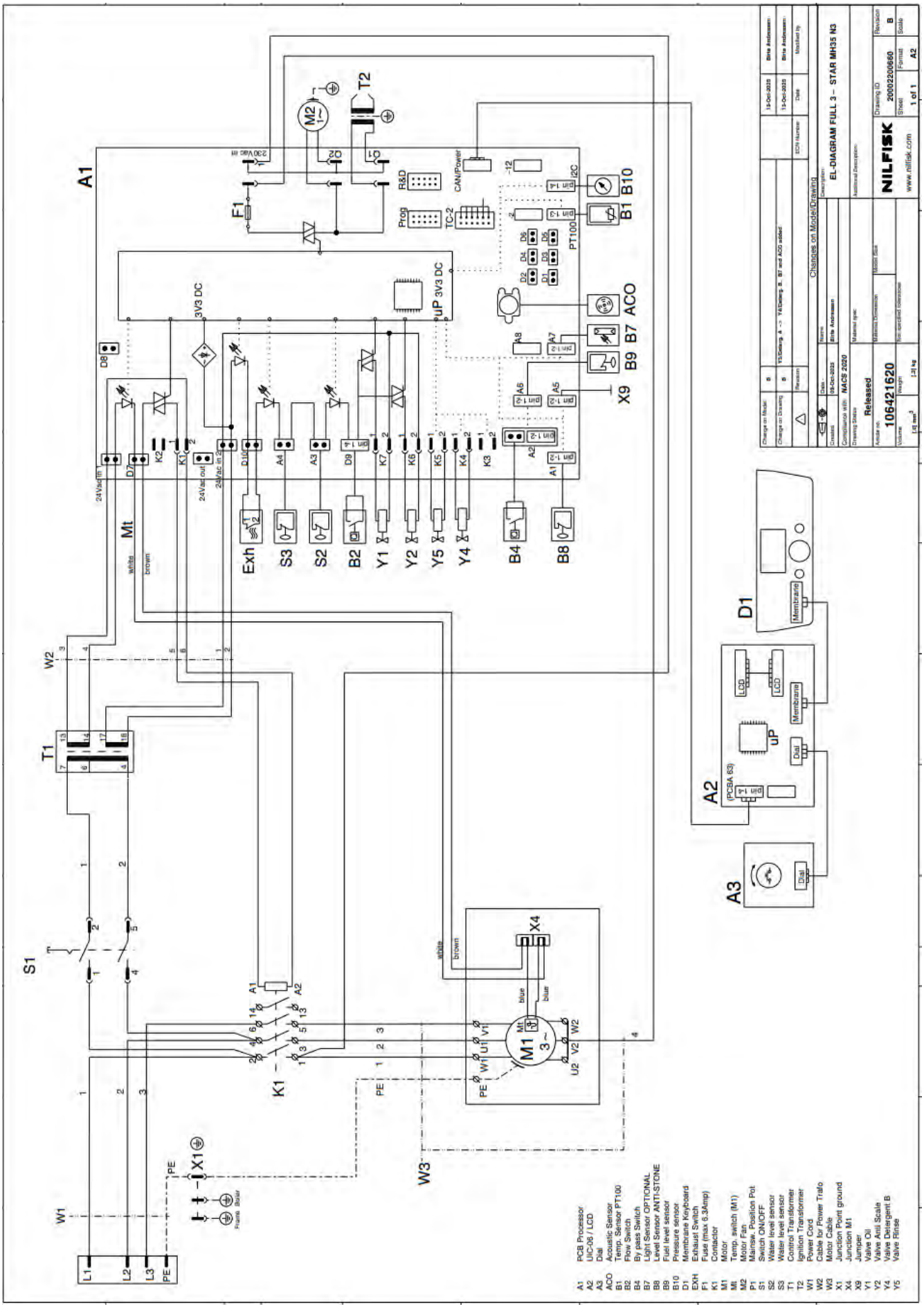

A1
T2
M2
F1
B1
B4
D1
D2
D3
T1
W2
S1
K1
C1
X5
M1
X4
X6
W3
X1
W1
J1
Exh
B2
Y1
B9
P1
brown
blue
EL-DIAGRAM BASIC 1~ MH20
NILFISK


A1
M2
T2
F1
Prog
R&D
TC-2
3V3 DC
uP 3V3 DC
PT100-1
B1
B4
D1
D2
D3
Mt
Exh
B2
Y1
B9
P1
RGB
A1
A2
A3
A4
K1
K2
D4
D5
D8
T1
W1
W2
W3
X1
S1 3 pos
F5
M1 3~
L1
L2
L3
PE
white
brown
*) SETTING for Thermal Relay
13.5 Amp
NILFISK
www.nilfisk.com
EL-DIAGRAM BASIC 3~ STAR MH30-40 N3
106421617
Released



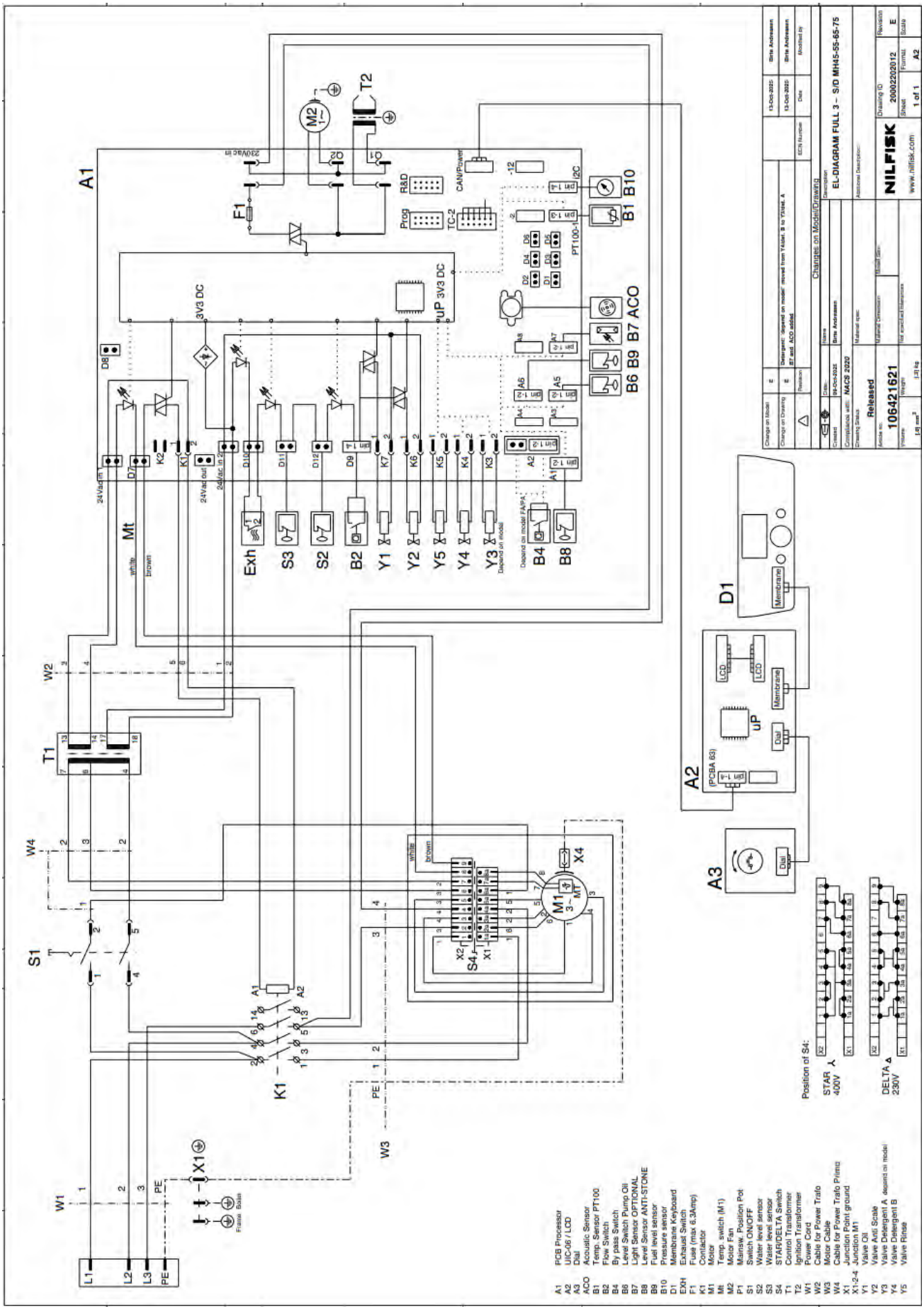
A1
M2
T2
F1
Mt
Exh
B2
Y1
B9
P1
B1
B4
T1
W1
W2
W3
S1
K1
F5
M1
C1
X1
*) SETTING for Thermal Relay:
14 Amp
A1 PCB Processor
B1 Temp. Sensor PT100
B2 Flow Switch
B4 By pass Switch
B9 Fuel level sensor
C1 Run Capacitor
EXH Exhaust Switch
F1 Fuse (max 6.3Amp)
F5 Thermal Relay *)
K1 Contactor
M1 Motor
Mt Temp. switch (M1)
M2 Motor Fan
P1 Mainsw. Position Pot
S1 Switch ON/OFF
T1 Control Transformer
T2 Ignition Transformer
W1 Power Cord
W2 Cable for Power Trafo
W3 Motor Cable
X1 Junction Point ground
X4 Junction Mt
Y1 Oil Valve
EL-DIAGRAM BASIC 1 ~ MH40 N3
NILFISK
106421618

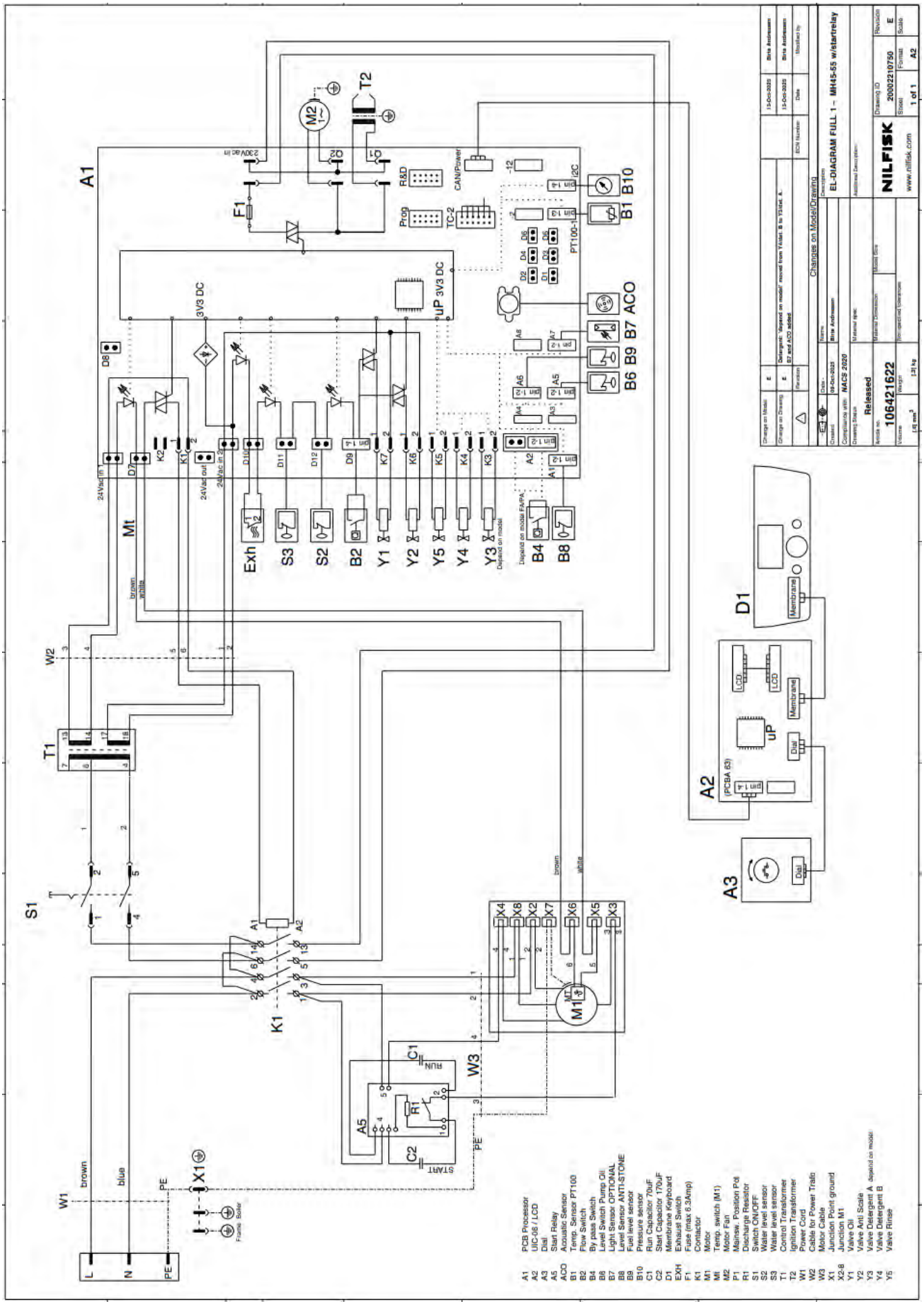

A1 PCB Processor
B1 Temp. sensor PT100
B2 Flow Switch
B4 By pass Switch
B9 Fuel level sensor
EXH Exhaust Switch
F1 Fuse (max 6.3Amp)
K1 Contactor
M1 Motor
Mt Temp. switch (MT)
M2 Motor Fan
P1 Mainsw. Position Pot
S1 Switch ON/OFF
S4 Star/Delta Switch
T1 Control Transformer
T2 Ignition Transformer
W1 Power Cord
W2 Cable for Power Trafo
W3 Motor Cable
W4 Cable Power Trafo Primo
X1-X2 Junction STAR/DELTA
X3 Junction Point Ground
X4 Junction M1
Y1 Oil Valve
Position of S4:
STAR Y 400V
DELTA Δ 230V
NILFISK
106421619
EL-DIAGRAM BASIC 3~ STAR/DELTA MH80 NA3

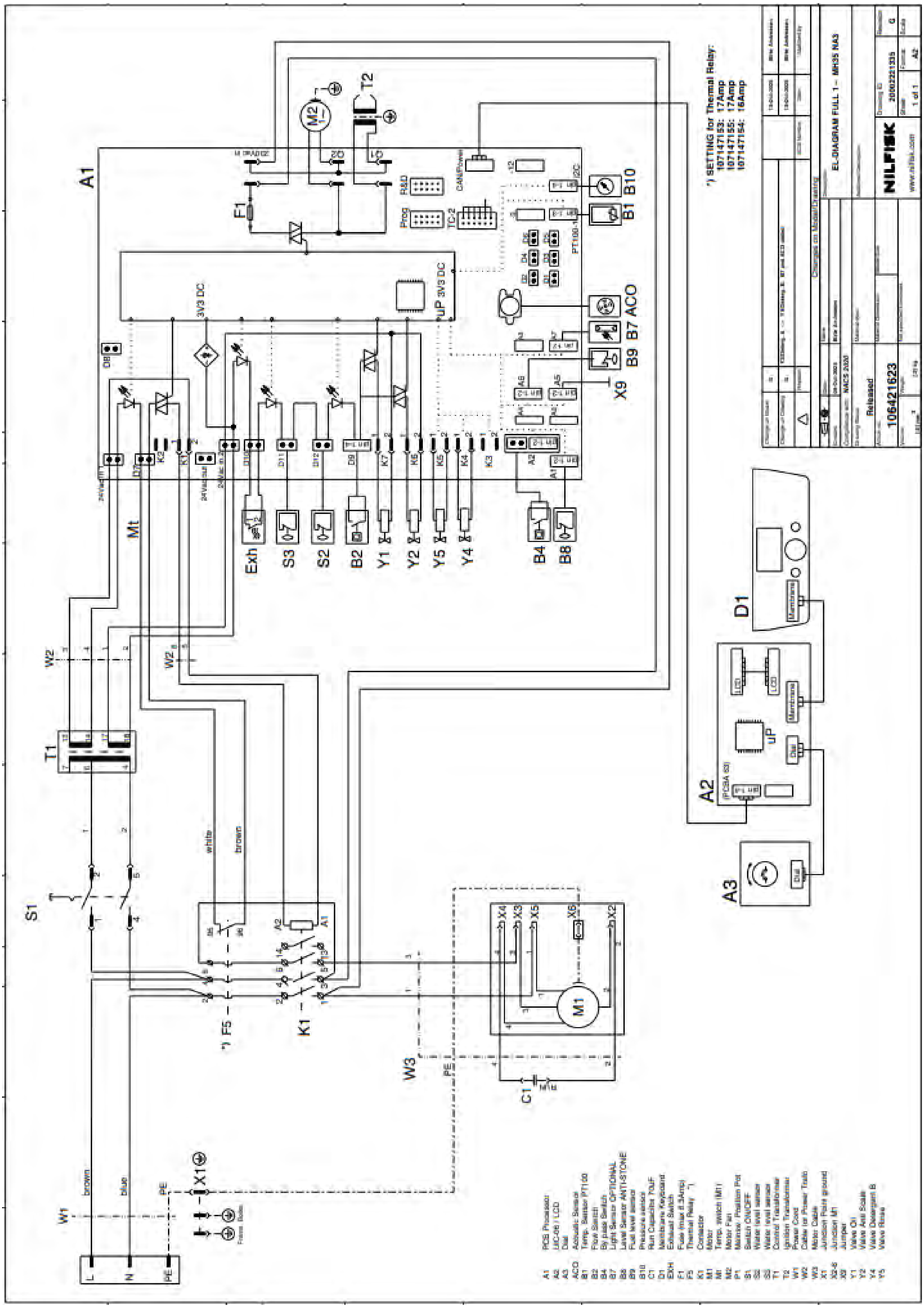

A1 PCB Processor
A2 UIC-06 / LCD
A3 Dial
ACO Acoustic Sensor
B1 Temp. Sensor PT100
B2 Flow Switch
B4 By pass Switch
B7 Light Sensor OPTIONAL
B8 Level Sensor ANTI-STONE
B9 Fuel level sensor
B10 Pressure sensor
D1 Membrane Keyboard
EXH Exhaust Switch
F1 Fuse (max 6.3Amp)
K1 Contactor
M1 Motor
M1 Temp. switch (M1)
M2 Motor Fan
P1 Mainsw. Position Pot
S1 Switch ON/OFF
S2 Water level sensor
S3 Water level sensor
T1 Control Transformer
T2 Ignition Transformer
W1 Power Cord
W2 Cable for Power Trafo
W3 Motor Cable
X1 Junction Point ground
X4 Junction M1
X9 Jumper
Y1 Valve Oil
Y2 Valve Anti Scale
Y4 Valve Detergent B
Y5 Valve Rinse
Changes on Model/Drawing
EL-DIAGRAM FULL 3 – STAR MH35 N3
Released
106421620
NILFISK
www.nilfisk.com
20002200660
1 of 1
A2

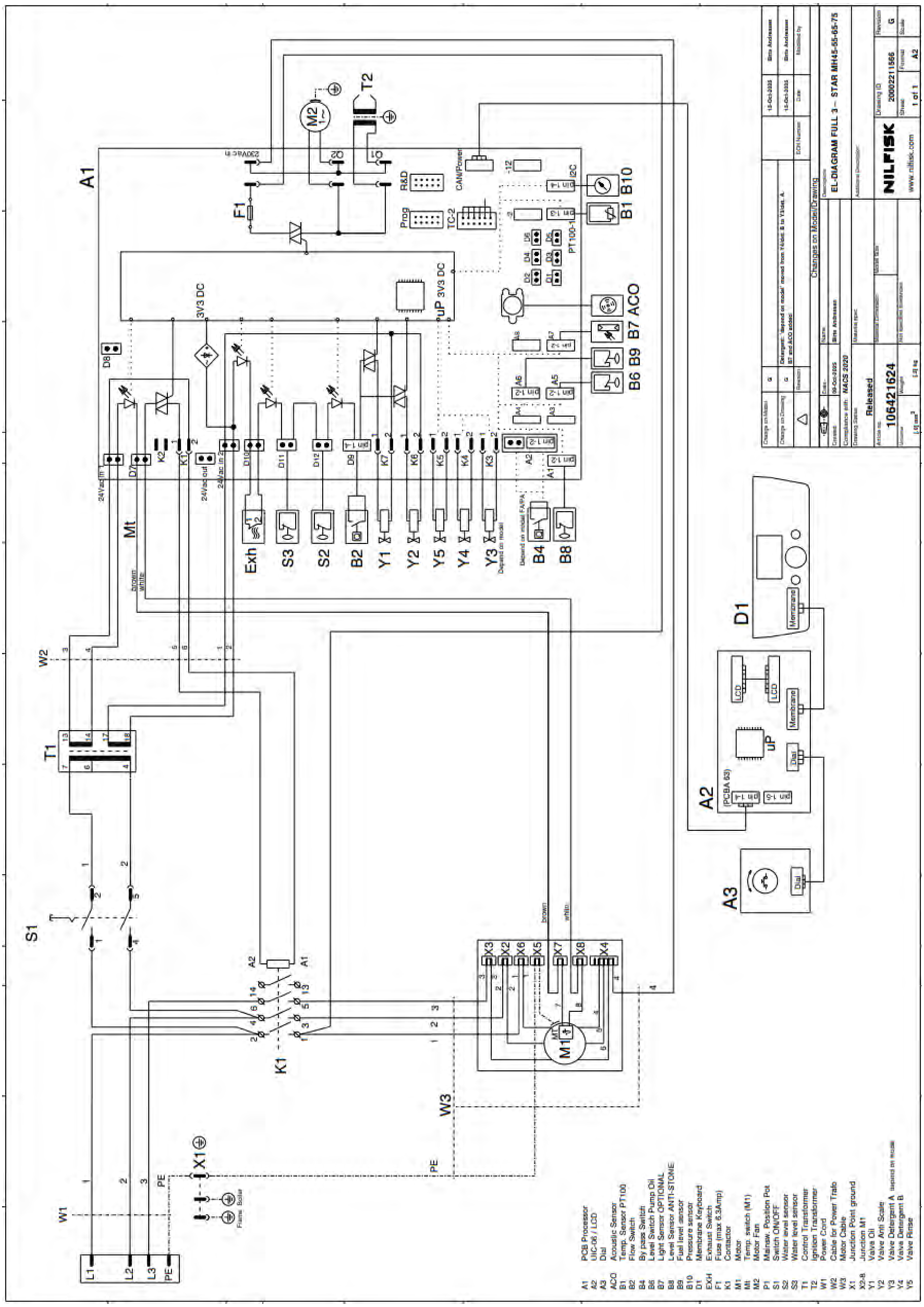
Wiring diagrams

H

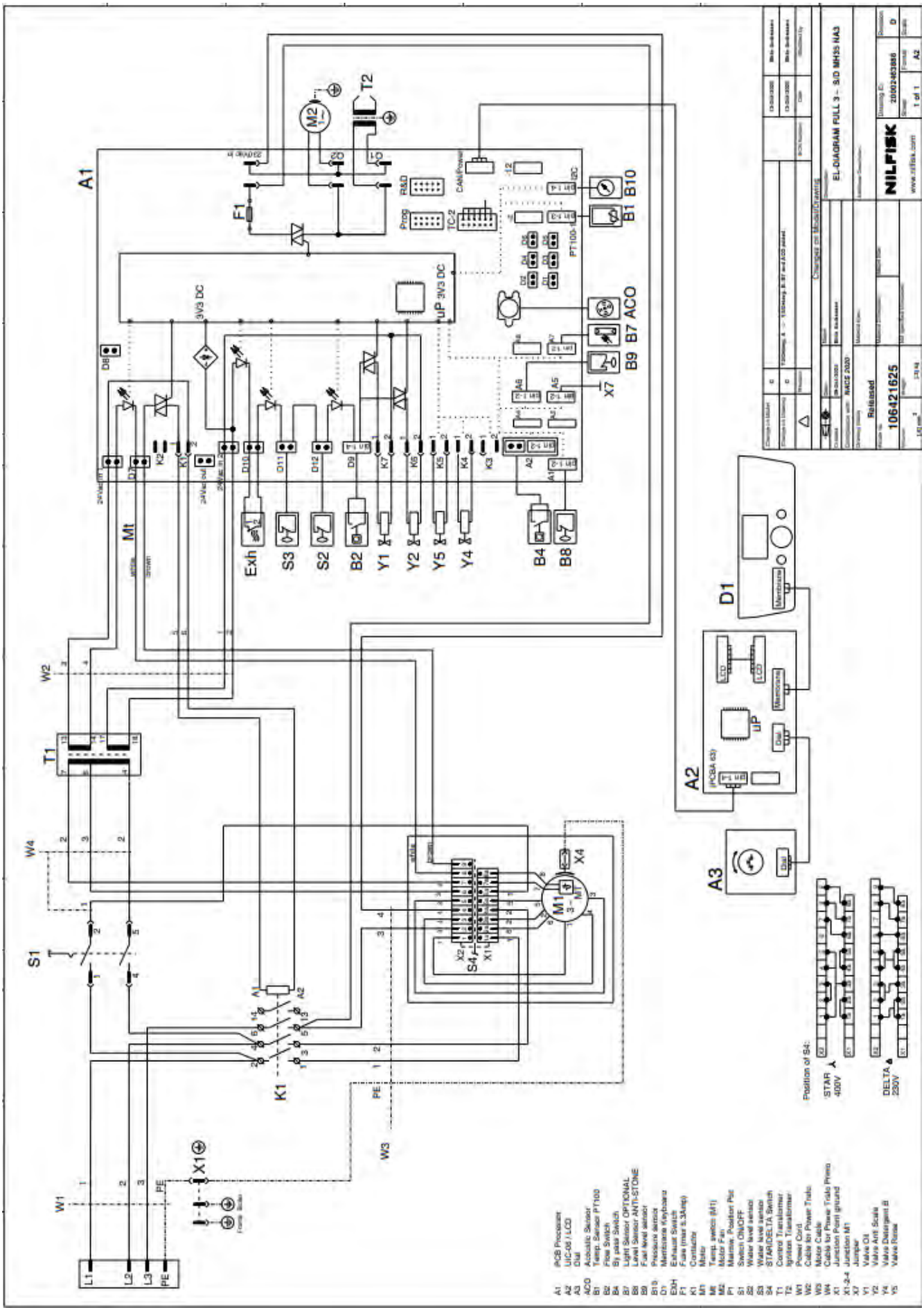


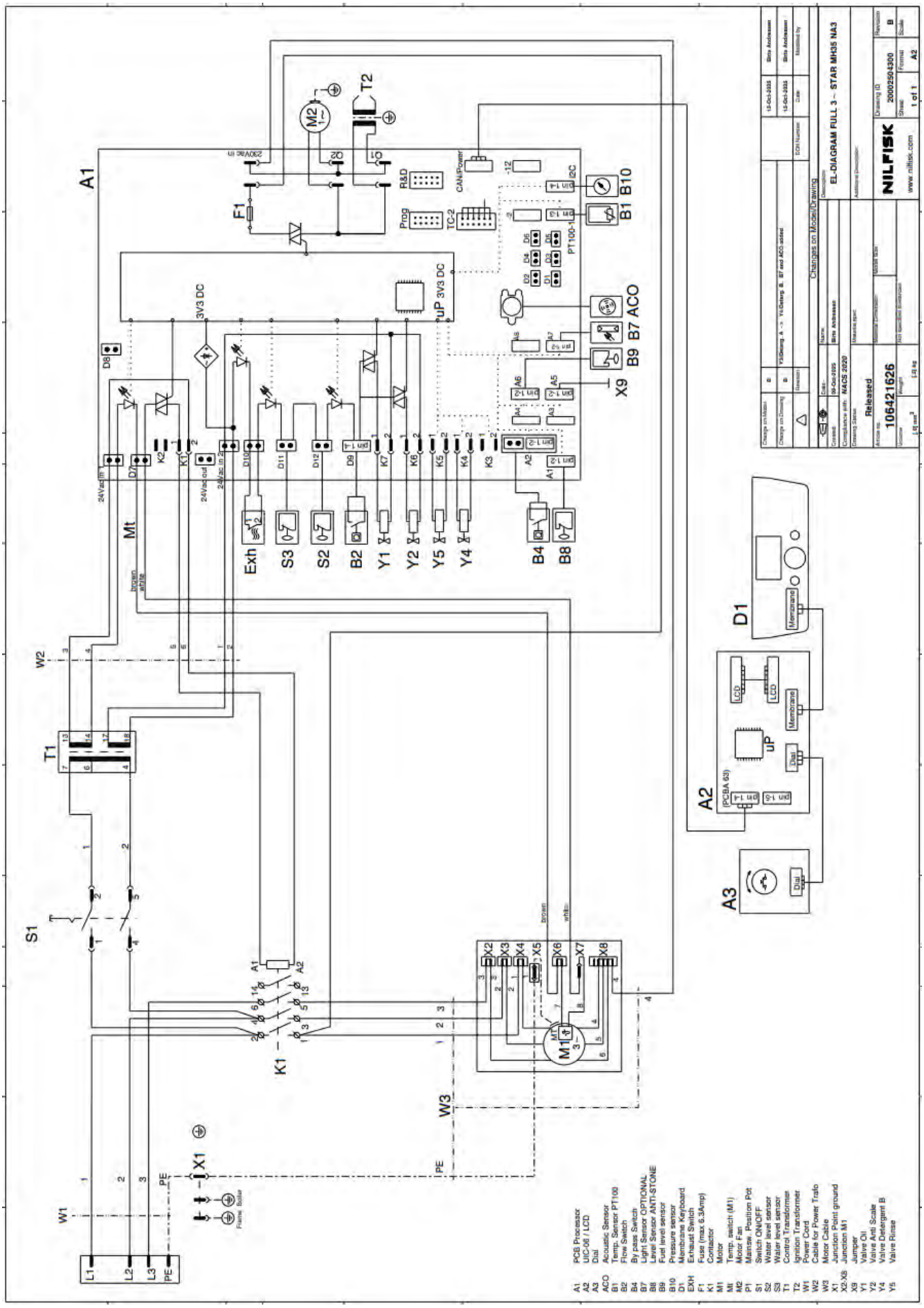

A1 PCB Processor
A2 UIC-06 / LCD
A3 Dial
A5 Start Relay
AOO Acoustic Sensor
B1 Temp. Sensor PT100
B2 Flow Switch
B4 By pass Switch
B6 Level Switch Pump Oil
B7 Light Sensor OPTIONAL
B8 Level Sensor ANTI-STONE
B9 Fuel level sensor
B10 Pressure sensor
C1 Run Capacitor 70uF
C2 Start Capacitor 170uF
D1 Membrane Keyboard
EXH Exhaust Switch
F1 Fuse (max 6.3Amp)
K1 Contactor
M1 Motor
Mt Temp. switch (M1)
M2 Motor Fan
P1 Mainsw. Position Pot
R1 Discharge Resistor
S1 Switch ON/OFF
S2 Water level sensor
S3 Water level sensor
T1 Control Transformer
T2 Ignition Transformer
W1 Power Cord
W2 Cable for Power Trafo
W3 Motor Cable
X1 Junction Point ground
X2:8 Junction M1
Y1 Valve Oil
Y2 Valve Anti Scale
Y3 Valve Detergent A depend on model
Y4 Valve Detergent B
Y5 Valve Rinse
EL-DIAGRAM FULL 1 - MH45-55 w/startrelay
NILFISK
www.nilfisk.com
106421622
20002210750
Changes on Model/Drawing
Released
NACS 2020
A1
A2
A3
D1
T1
T2
S1
K1
M1
M2
W1
W2
W3
X1
Exh
S2
S3
B1 B10
B2
B4
B6 B9 B7 ACO
B8
Y1
Y2
Y5
Y4
Y3
Mt
F1
C1
C2
R1
A5
PE
L
N
brown
blue
white
Membrane
LCD
uP
Dial
CAN/Power
R&D
Prog
TC-2
PT100-1
3V3 DC
230Vac in
24Vac in
24Vac out


A1
A2
A3
D1
T1
T2
M2
F1
S1
K1
W1
W2
W3
X9
B1
B10
B7
ACO
B9
Exh
S3
S2
B2
Y1
Y2
Y5
Y4
B4
B8
Mt
M1
C1
brown
blue
white
PE
NILFISK


A1
T1
S1
K1
W1
W2
W3
D1
A2
A3
M2
T2
F1
B1
B10
B7 ACO
B6
B9
Exh
S3
S2
B2
Y1
Y2
Y5
Y4
Y3
B4
B8
Mt
M1
NILFISK
Released
106421624

Wiring diagrams




A1 PCB Processor
A2 UIC-06 / LCD
A3 Dial
ACO Acoustic Sensor
B1 Temp. Sensor PT100
B2 Flow Switch
B4 By pass Switch
B7 Light Sensor OPTIONAL
B8 Level Sensor ANTI-STONE
B9 Fuel level sensor
B10 Pressure sensor
D1 Membrane Keyboard
EXH Exhaust Switch
F1 Fuse (max 6.3Amp)
K1 Contactor
M1 Motor
Mt Temp. switch (M1)
M2 Motor Fan
P1 Mainse. Position Pot
S1 Switch ON/OFF
S2 Water level sensor
S3 Water level sensor
T1 Control Transformer
T2 Ignition Transformer
W1 Power Cord
W2 Cable for Power Trafo
W3 Motor Cable
X1 Junction Point ground
X2-X8 Junction M1
X9 Jumper
Y1 Valve Oil
Y2 Valve Anti Scale
Y4 Valve Detergent B
Y5 Valve Rinse
EL-DIAGRAM FULL 3 – STAR MH35 NA3
NILFISK
106421626
www.nilfisk.com
Released
Changes on Model Drawing

Special tools / Spare parts

I

Part Number	Description	Remarks
1206358	Test Pressure Gauge	Adjustment unloader & By-pass valve
8966	Fuel pressure gauge	Measuring fuel pressure
5218656	UNISILKON L 250 L	Grease for moving parts, O-rings and seals
106403200	Lifting Jack	Supporting machine when removing boiler, or removing wheels
101221064	Lifting eye for MH 2-8	Lifting tool for the boiler
301001078	Service crane	Crane for the boiler
1210996	Tool for u-sleeve	For mounting oil seals
N/A	BAHCO 4521N-0 BAHCO 4524G	Dismount seals and bushings
N/A	16 mm Bolt	Dismounting wobble disc NA5.2 pump
N/A	Soot pump	Measuring soot from boiler
N/A	Testo 327 or similar combustion gas analyzer.	Measuring CO^2 value
101221034	Tool for water seals	Mounting tool for water seals.

Notes

Nilfisk A/S
Industrivej 1
9650 Hadsund
Denmark

www.nilfisk.com

NILFISK