

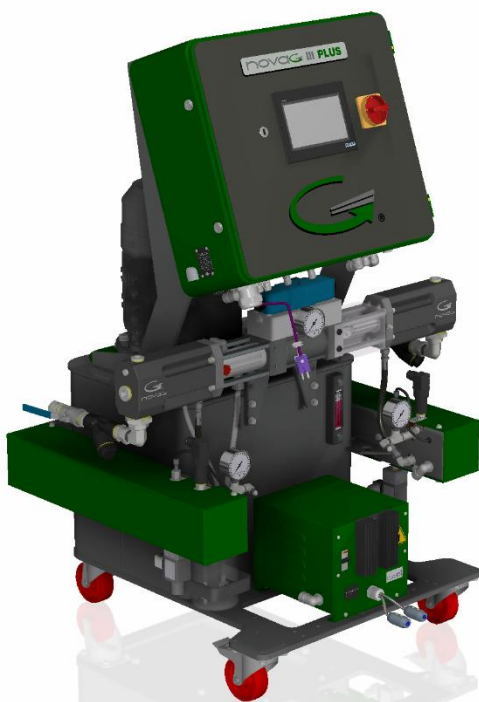


# Parts Manual

## Proportioning Unit

### novaG III PLUS

Issue 3.0 - 07/11/2025  
Ref. NR-00003-ENG



*Before installing the unit and starting it up, carefully read all the technical and safety documentation included in this manual. Pay special attention to the information to know and understand the handling and the conditions of use of the unit. All of the information is aimed at enhancing User Safety and avoiding possible breakdowns derived from the incorrect use of the unit.*



## WARRANTY

HI-TECH SPRAY EQUIPMENT, S. A. (hereinafter "HI-TECH") grants this Limited Guarantee to the original buyer (hereinafter the "Client") for the unit and the original accessories given with the unit (hereinafter the "Product") against any fault in the design, materials or manufacture of the Product at the time of the first purchase by the user and for a duration of two (2) years thereafter, except in the case of hoses and TSU's, which will have a warranty period of one (1) year. Additionally, for any other product manufactured by external suppliers, the warranty period will be as specified by the manufacturer.

If during the guarantee period and under normal conditions of use, the Product should fail to work correctly due to defects of design, material or manufacture, the authorised distributor of the country where the HI-TECH Product or technical assistance service has been purchased shall repair or replace the Product in accordance with what is established in the following:

### CONDITIONS

- a) The validity of this guarantee will be subject to the presentation of the original invoice issued by the HI-TECH authorised distributor for the sale of the Product along with the Product handed over for repair or replacement, which must show the date of purchase and the serial number. HI-TECH reserves the right to refuse to give the guarantee service when the indicated data fail to appear on the invoice or have been modified after the purchase of the Product.
- b) The repaired or replaced Product will continue to maintain the original guarantee for the time remaining until the end of the guarantee or for three (3) months from the repair date, if the remaining period of the original guarantee were shorter.
- c) This guarantee will not be applied to the faults in the Product caused by its faulty installation, the natural wear and tear of the components, any use other than that considered normal for this Product or which should fail to strictly comply with the instructions of use provided by HI-TECH; due to accident, carelessness, adjustments, alterations or modifications of the Product not authorised by HI-TECH or due to the use of accessories, heating devices, pumping equipment and/or dispensers that have not been approved or manufactured by HI-TECH.
- d) The guarantee applicable to the components and accessories forming part of the Product and which have not been made by HI-TECH will be limited to the guarantee offered by the original manufacturer thereof.

**HI-TECH WILL NOT RECOGNISE ANY EXPRESS ORAL OR WRITTEN GUARANTEES OTHER THAN THIS PRINTED LIMITED GUARANTEE. ALL IMPLICIT GUARANTEES, INCLUDING, WITHOUT LIMIT, ADAPTATION FOR A SPECIFIC USE, ARE SUBJECT TO THE DURATION OF THIS WRITTEN GUARANTEE. HI-TECH DOES NOT ASSUME ANY KIND OF COMMITMENT OR RESPONSIBILITY FOR ALL POSSIBLE DAMAGE OR EXPENSE CAUSED BY FAULTS IN THE OUTPUT OF THE PRODUCT, ITS WORKING OR THE DISPENSING OF MATERIAL THROUGH THE PRODUCT, INCLUDING, WITHOUT LIMITATION, ALL EXPENSES CAUSED BY DAMAGE TO PEOPLE OR PROPERTY. EQUALLY, HI-TECH WILL IN NO CASE ACCEPT LIABILITY FOR THE LOSS OF SPECULATIVE PROFITS OR COMMERCIAL LOSSES. ALL REPAIRS OR REPLACEMENT OF FAULTY PRODUCTS WILL CONSTITUTE THE COMPREHENSIVE FULFILMENT OF HI-TECH'S OBLIGATIONS WITH RESPECT TO THE CLIENT. HI-TECH DOES NOT IN ANY WAY GUARANTEE THE SUITABILITY OR APTITUDE OF ITS PRODUCT FOR ANY PARTICULAR PURPOSE OR APPLICATION.**

All information provided on components which have not been manufactured by HI-TECH and which is based on reports received from the original manufacturer, though considered precise and reliable, is provided without any guarantee or responsibility of any explicit or implicit kind.

All concession, sale or financial leasing of the Product by HI-TECH in no case explicitly or implicitly constitutes any authorisation, acceptance or concession for the use of any rights or patents, nor does it encourage, nurture or back their infringement.

The restrictions on the guarantee suppose no limitation on the legal rights of the consumer established in applicable national legislation, nor do they affect any rights derived from the bargain and sale agreement between the consumer and supplier.



All information provided in this manual has been included in the confidence that it is true, although it does not constitute any responsibility or implicit or explicit guarantee. HI-TECH reserves the right at any time and without prior warning to make all improvements and modifications necessary to this manual, in order to rectify any possible typographical errors, increase the information contained or insert the changes caused to the characteristics and performance of the unit.

## SAFETY AND HANDLING

The equipment described in this manual has been designed and manufactured in compliance with the following European Directives, following as application guide the harmonized standards detailed and in conformity with the relevant UK Statutory Instruments (and their amendments):

**2006/42/EC Machinery Directive**

**2014/35/EU Low Voltage Directive**

**2014/30/EU EMC Directive**

**2011/65/EU RoHS Directive with amendment 2015/863**

**2012/19/EU Directive on waste electrical and electronic equipment**

Standards used:

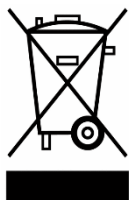
EN ISO 12100:2010

EN 60204-1:2018

EN IEC 61000-6-4:2019

EN IEC 61000-6-2:2019

EN IEC 63000:2018



Electrical products cannot be thrown out with the rubbish. They must be taken to a dedicated collection point for an environmentally sound disposal in accordance with local regulations. You must contact your local collective or retailer for information about recycling. Before leaving WEEE at appropriate collection facilities, batteries must be removed and disposed of separately for proper recycling. The packaging materials are recyclable. Dispose of packaging materials in an environmentally sound manner and place them at the disposal of recycling sectors.

### TRANSPORT AND STORAGE

Proper precautions must be taken so that the equipment can withstand the effects of transport and storage temperatures between  $-25^{\circ}\text{C}$  and  $+55^{\circ}\text{C}$  or up to  $+70^{\circ}\text{C}$  for short periods that do not exceed 24 hours. Also, appropriate means to prevent damage from moisture, vibrations or shocks must be foreseen.



## PROPORTIONING UNIT NOVAG III PLUS MODEL

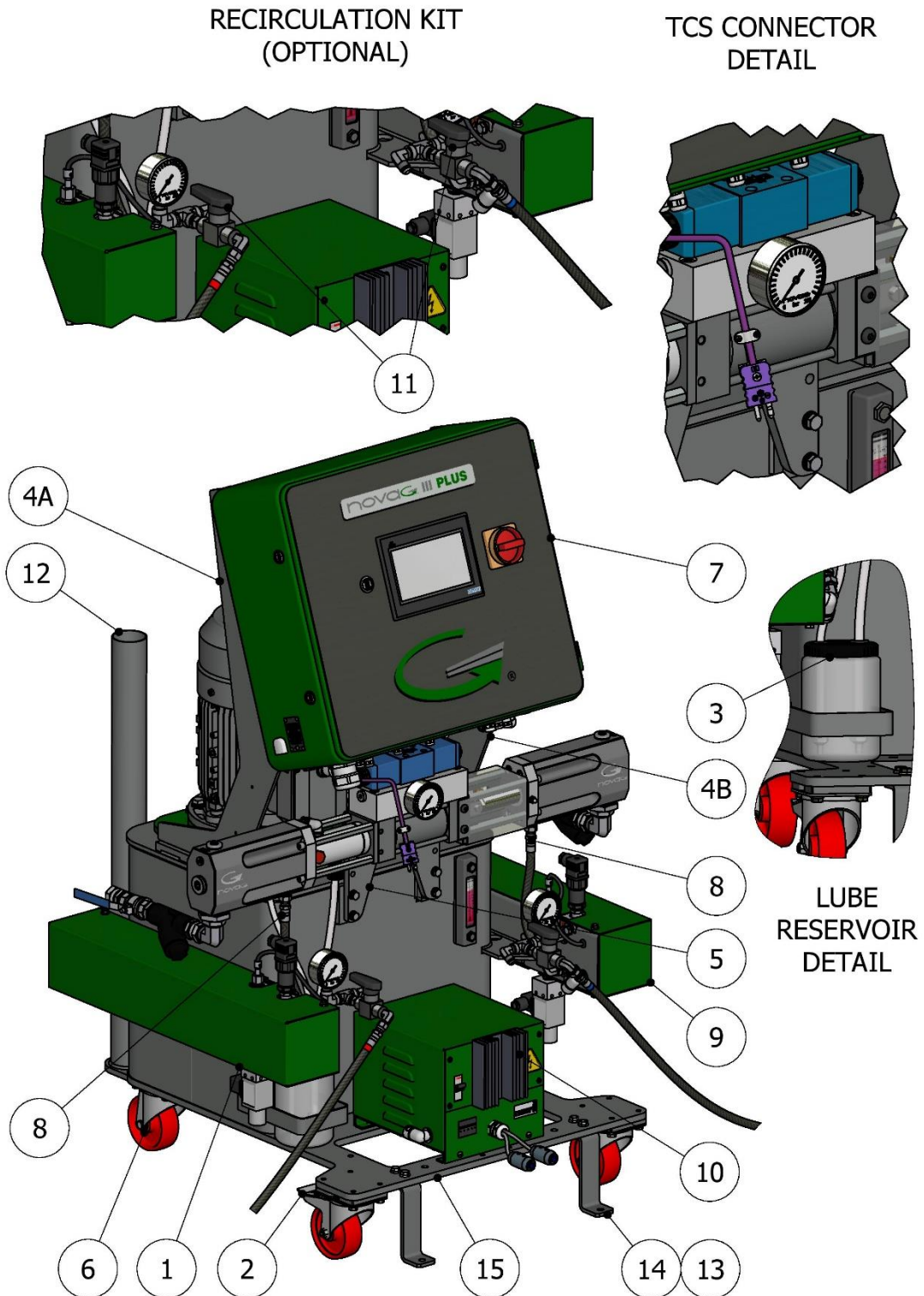
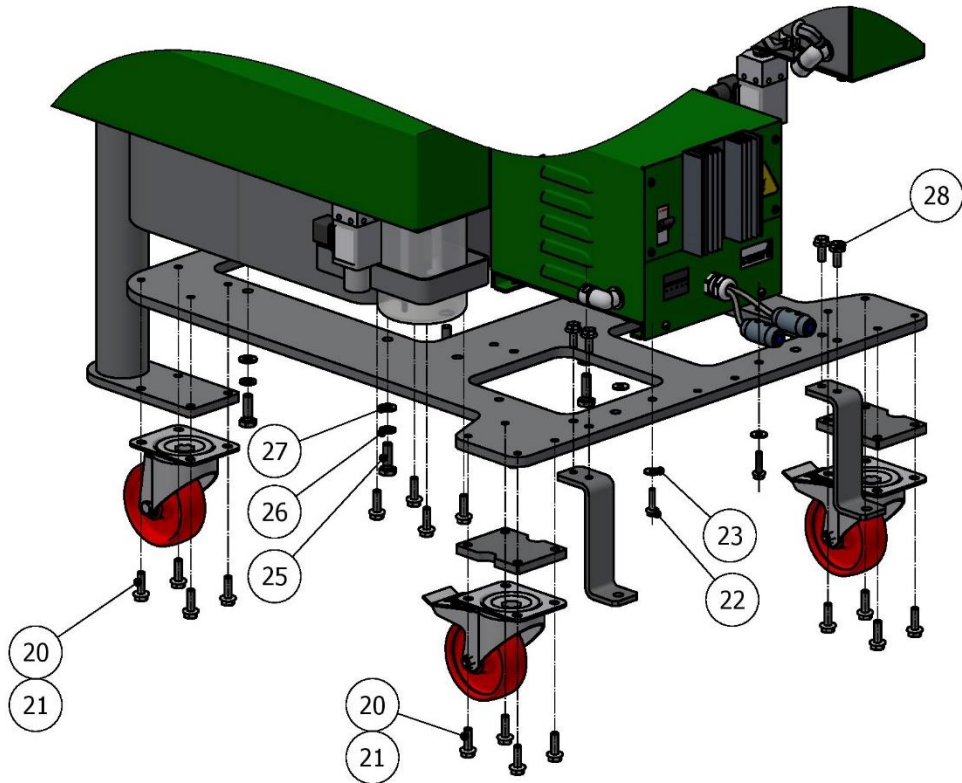


Figure 1. Proportioning Unit novaG III PLUS Model



**Figure 2. Generic Fixings Detail, Unit novaG – III PLUS Model**

**Table 1. Proportioning Unit novaG III PLUS Model, Parts List**

Item	Description	Part Number	Qty.
1	A Primary Heater	See Table 3	1
2	Front Wheel With Brake	MQ-01002	2
3	Lube Reservoir	MQ-01009-01	1
4A	Electrical Console LH Support	MQ-03003-00	1
4B	Electrical Console RH Support	MQ-03004-00	1
5	Pump Line Support	MQ-03000-00	1
6	Back Wheel	MQ-01016	2
7	Electrical Console Assy.	See Table 7	1
8	Hose Pump/Heater	MA-00180	2
9	R Primary Heater	See Table 5	1
10	Hose Transformer	See Table 2	1
11	Recirculation KIT (optional)	KT-00038	1



Item	Description	Part Number	Qty.
12	Transfer Pump Bracket (optional)	NMQ-01015-00	2
13	“Z” Bracket without Transfer Pump Bracket (optional)	NMQ-01017	2
14	“Z” Bracket with Transfer Pump Bracket (optional)	NMQ-02014	2
15	Plate	MQ-01001-05	1
16			
17			
18			
19			
20	Screw Hex. Flange (without transfer pumps bracket)	TN-00507	16
21	Hex. Screw (with transfer pumps support)	TN-00146	16
22	Screw Hex. Flange	TN-00505	4
23	Washer	TN-00395	4
24			
25	Hex. Screw	TN-00129	4
26	Lock Washer Spring	TN-00087	4
27	Flat Washer	TN-00162	4
28	Screw Hex. Flange	TN-00507	4

**Table 2. Hose Transformer Reference List**

Part Number	Description
NEL-00127-24	Hose Transformer 3PE~400V Version
NEL-00127-23	Hose Transformer 3PE~230V Version



**Table 3. A-Primary Tube Heater Reference List**  
(See pg.31)

Part Number		Description
NCL-03101-00H	400V	A Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-03101-00HT		A Heater 6000 W with Transducer, for PLC, 300 bar (optional)
NCL-03101-00I		A Heater 5000 W without Transducer, for PLC, 200 bar (standard)
NCL-03101-00IT		A Heater 5000 W with Transducer, for PLC, 200 bar (optional)
NCL-03101-00D	230V	A Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-03101-00DT		A Heater 6000 W with Transducer, for PLC, 300 bar (optional)

**Table 4. A-Round Primary Heater Reference List**  
(See pg.37)

Part Number		Description
NCL-23107-00C	400V	A Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-23107-00CT		A Heater 6000 W with Transducer, for PLC, 300 bar (optional)
NCL-23107-00B		A Heater 5000 W without Transducer, for PLC, 300 bar (standard)
NCL-23107-00BT		A Heater 5000 W with Transducer, for PLC, 300 bar (optional)
NCL-23107-00G	230V	A Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-23107-00GT		A Heater 6000 W with Transducer, for PLC, 300 bar (optional)
NCL-23107-00J		A Heater 7000 W without Transducer, for PLC, 300 bar (standard)
NCL-23107-00JT		A Heater 7000 W with Transducer, for PLC, 300 bar (optional)

**The round heater versions incorporate the pressure gauge and pressure transducer in the outlet manifold, so they are not part of the pre-assembled heater.**



**Table 5. R-Primary Heater Reference List**  
(See pg.34)

Part Number		Description
NCL-03102-00H	400V	R Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-03102-00HT		R Heater 6000 W with Transducer, for PLC, 300 bar (optional)
NCL-03102-00I		R Heater 5000 W without Transducer, for PLC, 200 bar (standard)
NCL-03102-00IT		R Heater 5000 W with Transducer, for PLC, 200 bar (optional)
NCL-03102-00D	230V	R Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-03102-00DT		R Heater 6000 W with Transducer, for PLC, 300 bar (optional)

**Table 6. R-Round Primary Heater Reference List**  
(See pg.37)

Part Number		Description
NCL-23108-00C	400V	R Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-23108-00CT		R Heater 6000 W with Transducer, for PLC, 300 bar (optional)
NCL-23108-00B		R Heater 5000 W without Transducer, for PLC, 300 bar (standard)
NCL-23108-00BT		R Heater 5000 W with Transducer, for PLC, 300 bar (optional)
NCL-23108-00G	230V	R Heater 6000 W without Transducer, for PLC, 300 bar (standard)
NCL-23108-00GT		R Heater 6000 W with Transducer, for PLC, 300 bar (optional)
NCL-23108-00J		R Heater 7000 W without Transducer, for PLC, 300 bar (standard)
NCL-23108-00JT		R Heater 7000 W with Transducer, for PLC, 300 bar (optional)

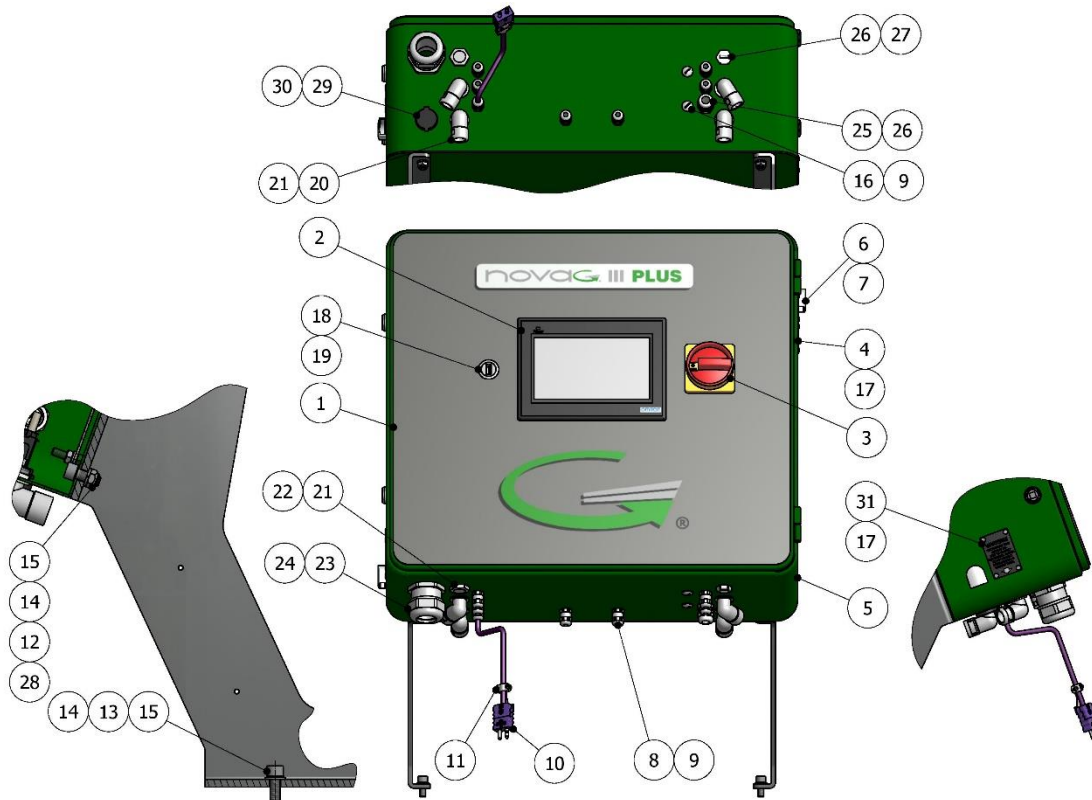
**The round heater versions incorporate the pressure gauge and pressure transducer in the outlet manifold, so they are not part of the pre-assembled heater.**

**Table 7. Electrical Console Reference List**

Part Number	Description
NEL-	Electrical Console Assy. (3PE~400V, with III phases Motor & Logger)
NEL-	Electrical Console Assy. (3PE~230V, with III phases Motor & Logger)



## ELECTRICAL CONSOLE



**Figure 3. Electrical Console novaG III PLUS**



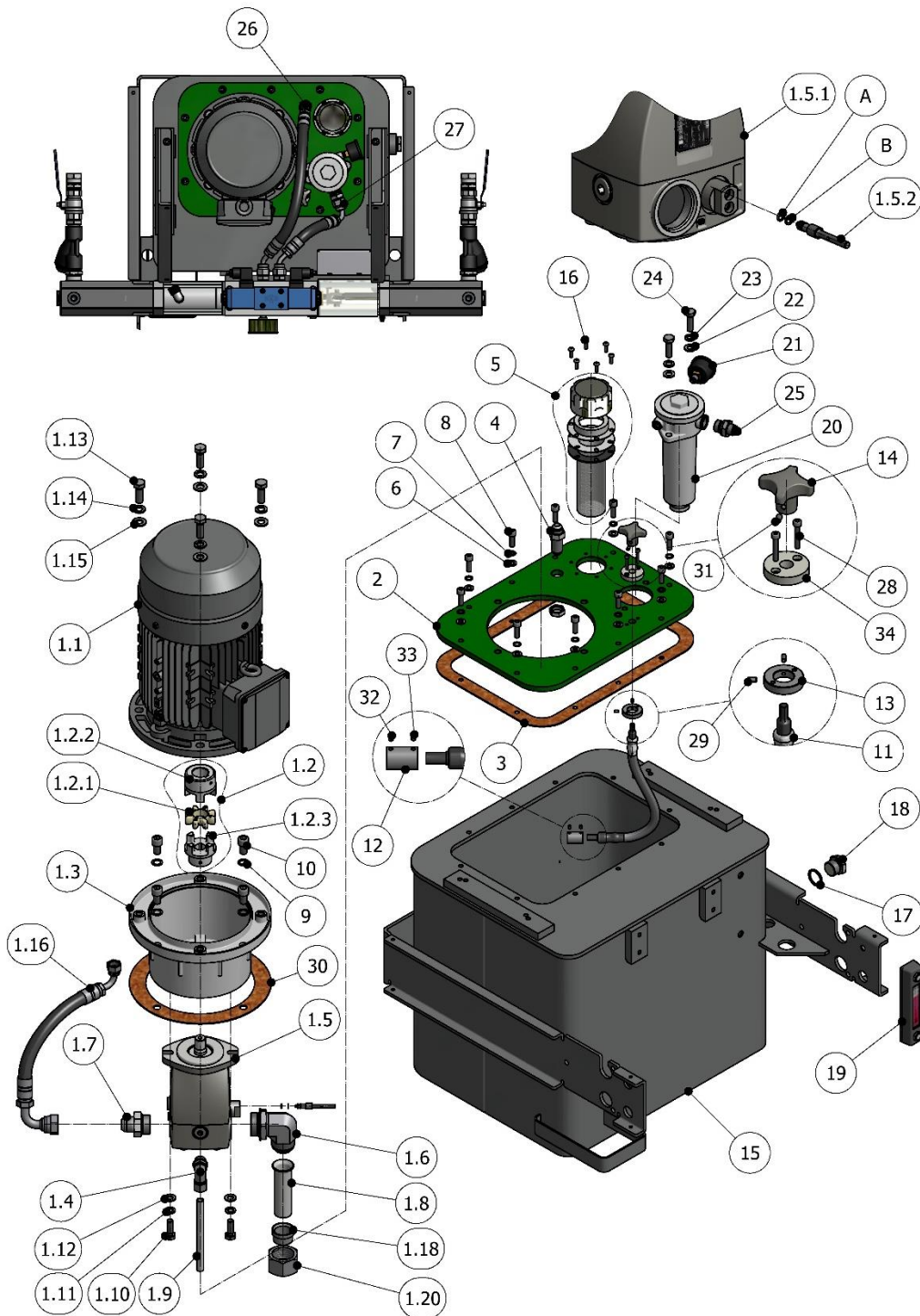
**Table 8. Electrical Console novaG III PLUS Model, Parts List**

Item	Description	Part Number	Qty.
1	Bezel & Electronic Circuit	EL-00249-01	1
2	Touch Screen	EL-00171-02	1
3	Main Switch 3PE~400V version	EL-00107-18	1
	Main Switch 3PE~230V version	EL-00107-23	
3A	Command Switch (common for all versions)	EL-00107-19	1
4	Specs Plate	MQ-01010	1
5	Electrical Console	EL-00246	1
6,7	Air Vent with Nut	EL-00158-05	2
8	Connector	EL-00088-00	7
9	Nut	EL-00090-00	9
10	Connector Sensor Male	EL-00096-84	1
11	Staple	EL-00096-86	1
12	Lock Nut	TN-00283	4
13	Washer	TN-00119	4
14	AET Washer	TN-00038	8
15	Screw	TN-00176	8
16	Plug	EL-00183	2
17	Rivet	TN-00240	8
18	USB Port	EL-00078-04	1
19	Mass. Storage 4 GB (#)	NEL-00078-05	1
20	Elbow	EL-00087-01	4
21	Nut	EL-00090-01	5
22	Plug	EL-00088-03	1
23	Connector	EL-00088-04	1
24	Nut	EL-00090-05	1
25	Connector	EL-00088-05	1
26	Nut	EL-00090-06	2
27	Plug	EL-00088-08	1
28	Lock Washer	TN-00028	4
29,30	Female Connector with Cap and Cable 0.5m with Nut	EL-00078-10	1
31	Warning Label	EM-00094	1

**Notes: (#) Parts not show in draw.**



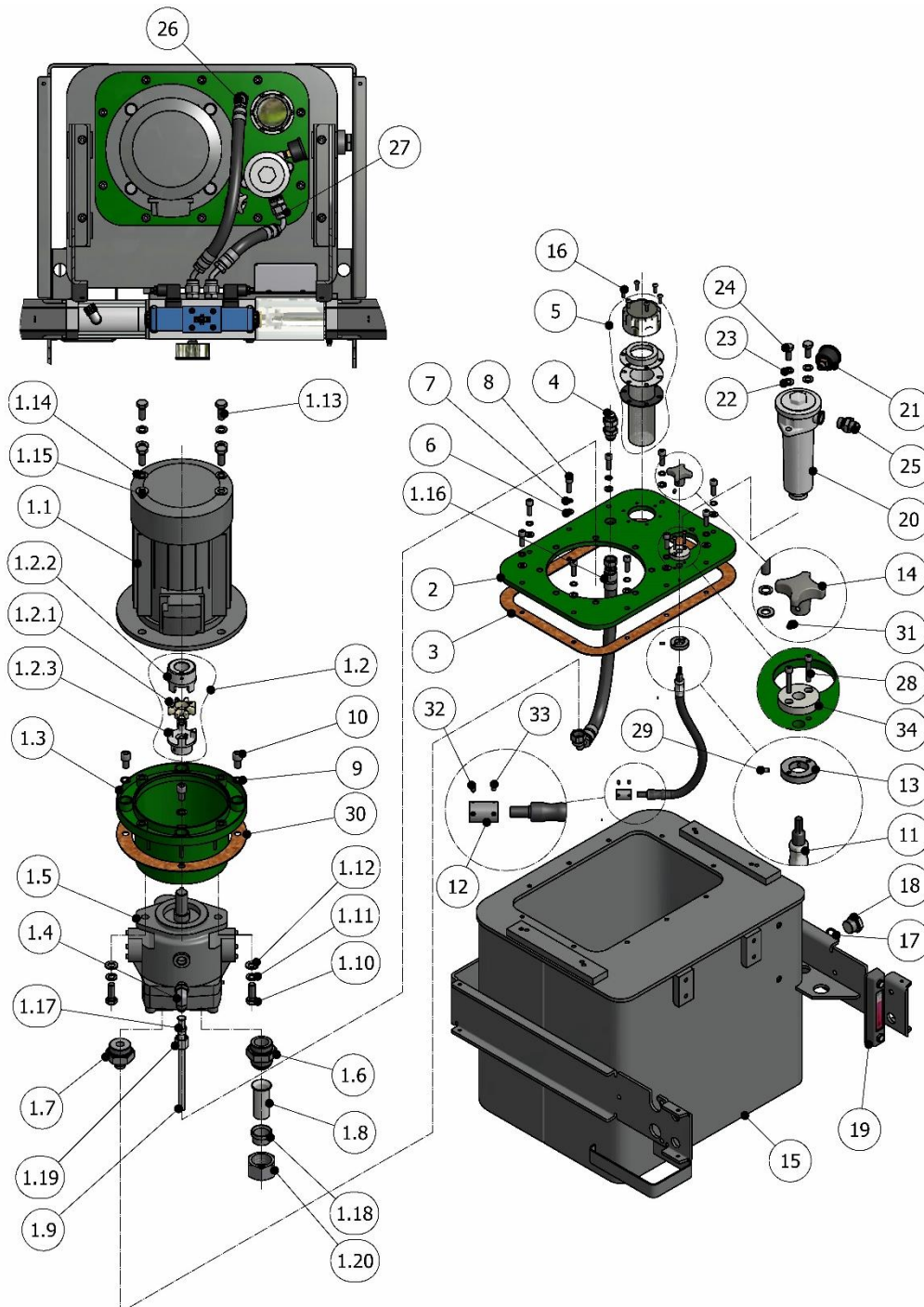
**HYDRAULIC MANIFOLD WITH MOTOR 3PE~400V/230V  
50/60Hz (hyd. Pump 18 cc.)**



**Figure 4. Hydraulic Manifold 3PE~400V/230V 50/60Hz (hyd. Pump 18 cc),  
Exploded View**



## HYDRAULIC MANIFOLD WITH MOTOR 3PE~400V/230V 50/60Hz (hyd. Pump 20 cc.)



**Figure 5. Hydraulic Manifold 3PE~400V/230V 50/60Hz (hyd. Pump 20 cc),  
Exploded View**

**Table 9. Hydraulic Manifold with Motor 3PE~400V/230V 50/60Hz, Parts List**

Item.	Description	Part Number	Qty.
1	Motor/Pump Line Assembly	-	1
1.1	Electric Motor 4kW 50/60Hz	NEL-00138-04	1
1.2	Coupler Assembly (18 cc)	HI-00046-00	1
	Coupler Assembly (20 cc)	HI-00006-00	
1.2.1	Alignment Spider (18 cc) & (20 cc)	HI-00006-01	1
1.2.2	Motor Shaft Coupling (18 cc) & (20 cc)	HI-00006-02	1
1.2.3	Pump Shaft Coupling (18 cc)	HI-00046-01	1
	Pump Shaft Coupling (20 cc)	HI-00006-03	
1.3	Bell Housing for 18 cc Pump	HI-00139-00	1
	Bell Housing for 20 cc Pump	HI-00005	
1.4	Elbow (18 cc)	RA-00494	1
	Elbow (20 cc)	-	
1.5	HYD Pump Assembly 18 cc. (items 1.5.1 & 1.5.2)	HI-00190-NIII	1
	HYD Pump Assembly 20 cc. (items 1.5.1 , 1.5.2 & 1.5.3)	HI-00038-NIII	
1.5.1	HYD Pump 18 cc (included in item 1.5)	HI-00190-00	1
	"A" Anti Extrusion Ring	OR-	1
	"B" O-Ring	OR	1
	HYD Pump 20 cc (included in item 1.5)	HI-00038-00	1
	O-Ring	OR-00025	1
1.5.2	18 cc Regulating rod (included in item 1.5)	HI-00149-03	1
	20 cc Regulating rod (included in item 1.5)	HI-00042	1
1.5.3	Stopper Nut (included in item 1.5), only for 20 cc	HI-00043	1
1.6	Elbow (18 cc)	RA-00027	1
	Ferrule (18 cc)	RA-00029	
	Nut (18 cc)	RA-00028	
	Nipple (20 cc)	-	
1.7	Nipple (18 cc)	RA-00500	1
	Nipple (20 cc)	RA-00069	
1.8	Suction Pipe (18 cc)	HI-00194	1
	Suction Pipe (20 cc)	-	



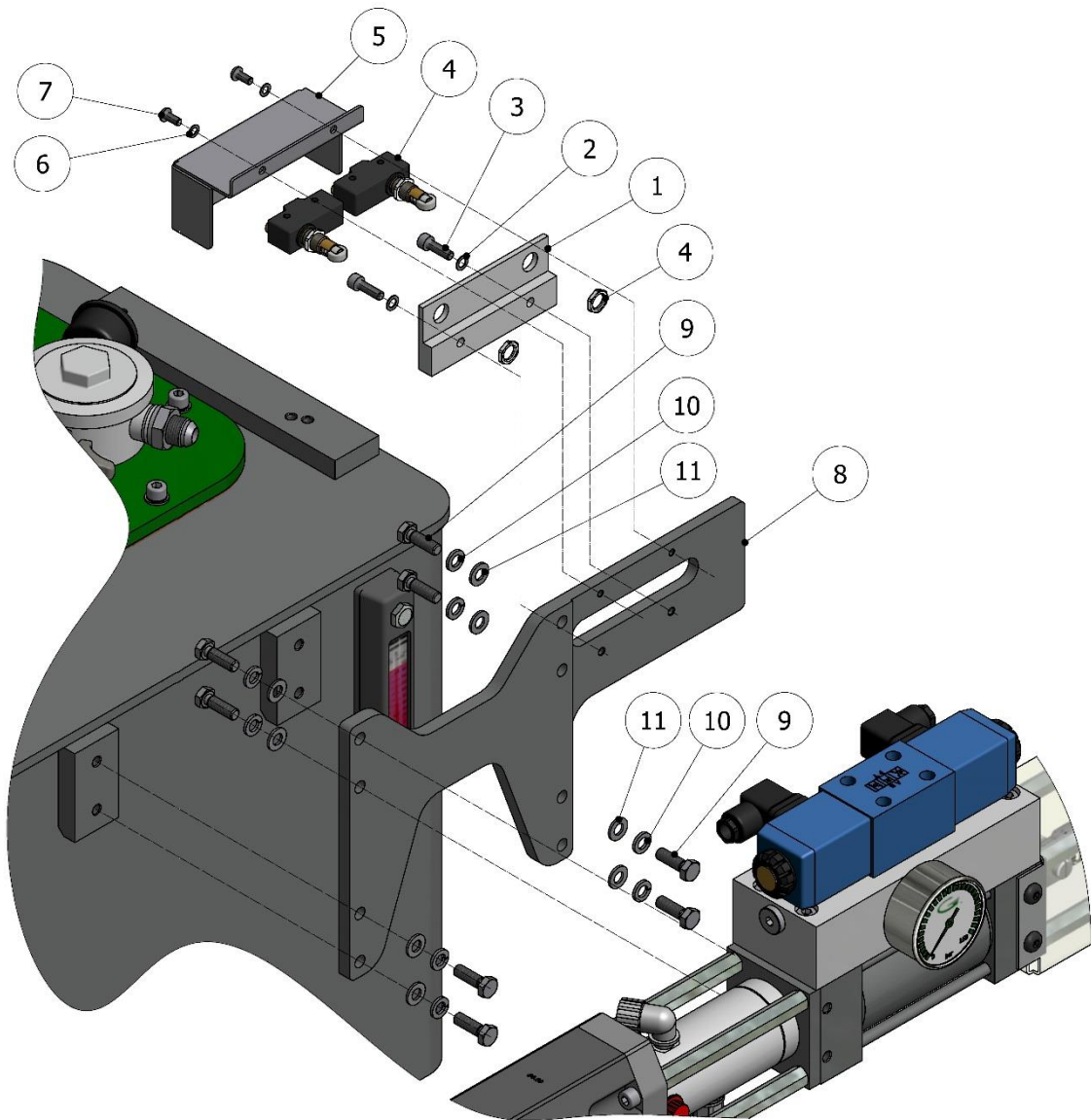
<b>Item.</b>	<b>Description</b>	<b>Part Number</b>	<b>Qty.</b>
1.9	Drain Pump Pipe (18 cc)	HI-00156	1
	Drain Pump Pipe (20 cc)	-	
1.10	Hex. Cap Screw (18 cc)	TN-00129	2
	Hex. Cap Screw (20 cc)	TN-00199	
1.11	Lock Washer (18 cc)	TN-00087	2
	Lock Washer (20 cc)	TN-00039	
1.12	Washer (18 cc)	TN-00162	2
	Washer (20 cc)	TN-00040	
1.13	Hex. Cap Screw	TN-00199	4
1.14	Lock Washer	TN-00039	4
1.15	Washer	TN-00040	4
1.16	Pressure Hose (18 cc)	HI-00157	1
	Pressure Hose (20 cc)		
1.17	Ferule (20 cc)	RA-00173	1
1.18	Ferule (18 cc - 20 cc)	RA-00029	1
1.19	Nut (20 cc)	RA-00174	1
1.20	Nut (18 cc - 20 cc)	RA-00028	1
2	Reservoir Cover Plate	HI-00163-00	1
3	Reservoir Cover Plate Gasket	HI-00164	1
4	Bulkhead Union	RA-00172	1
5	HYD-Oil Filler	HI-00002	1
6	Washer	TN-00119	10
7	Lock Washer	TN-00038	10
8	Screw	TN-00027	10
9	AET Washer	TN-00015	4
10	Screw	TN-00177	4
11	Flexible Extension	RA-00473	1
12	Coupler Extension to Pump	RA-00474	1
13	Support Extension to Cover	RA-00475	1
14	Handle	HI-00044-01	1
15	Hydraulic Tank	HI-00166-00	1
16	ULS Screw	TN-00166	6



Item.	Description	Part Number	Qty.
17	Metal O-Ring	OR-00082	1
18	Hex.Cap Plug	RA-00022	1
19	Thermometer and Fluid Level Gauge	HI-00001	1
20	Hydraulic Filter	HI-00123-00	1
21	Pressure Gauge (included in item 20)	HI-00123-03	1
22	Washer	TN-00162	2
23	Lock Washer	TN-00087	2
24	Hex. Cap Screw	TN-00163	2
25	Nipple	RA-00316	1
26	Hyd. Pressure Hose	HI-00158	1
27	Hyd. Return Hose	HI-00159	1
28	Allen Screw	TN-00117	2
29	Screw	TN-00436	2
30	Bell Gasket	HI-00160	1
31	Screw	TN-00437	1
32	Screw	TN-00099	2
33	Screw	TN-00246	2
34	Extension Guide	RA-00475-01	1



## REVERSING SWITCH & PUMP LINE SUPPORT



*Figure 6. Reversing Switch & Pump Line Support, Exploded View*

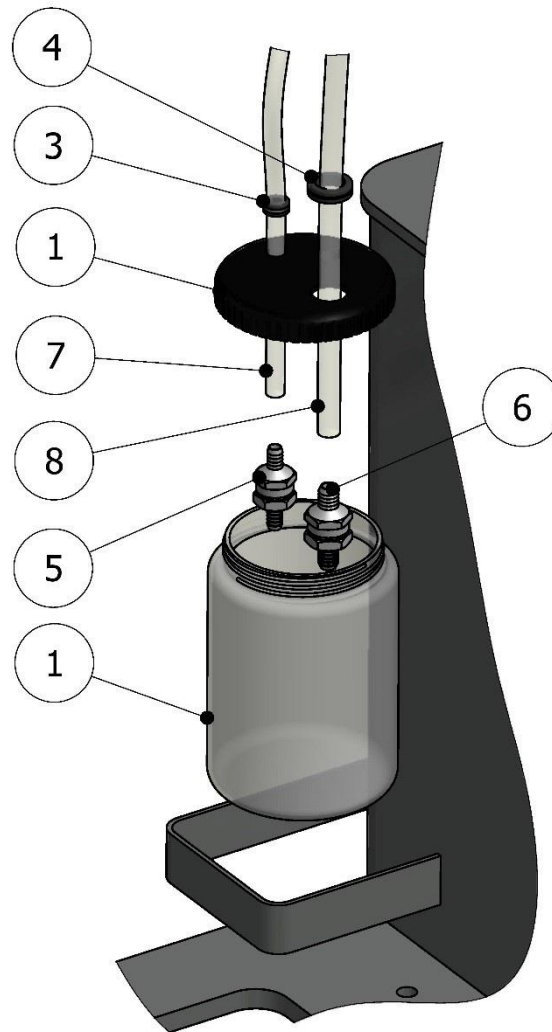


**Table 10. Reversing Switch & Pump Line Support, Parts List**

Item	Description	Part Number	Qty.
1	Reversing Switch Support	MQ-01005	1
2	AET Washer	TN-00048	2
3	Socket Head Cap Screw	TN-00026	2
4	Pump Reversing Switch (with 2 nuts)	EL-00020	2
5	Reversing Switch Cover	MQ-01006	1
6	AET Washer	TN-00017	2
7	ULS Screw	TN-00159	2
8	Pump Line Support	MQ-03000-00	1
9	Hex Head Cap Screw	TN-00146	4+4
10	Lock Washer	TN-00028	4+4
11	Washer	TN-00119	4+4



## LUBE RESERVOIR HOSE ASSEMBLY



*Figure 7. Lube Reservoir Hose Assembly, Exploded View*

**Table 11. Lube Reservoir Hose Assembly, Parts List**

Item	Description	Part Number	Qty.
1	Lube Reservoir Bottle with Drilled Cap	MQ-01009-01	1
2			
3	Rubber Grommet	EL-00095-01	1
4	Rubber Grommet	EL-00095-03	1
5	Lube Reservoir Check Valve for Pipe 10x1	RA-00283	1
6	Lube Reservoir Check Valve for Pipe 12x1	RA-00068	1
7	Return Line	MA-00024	1
8	Supply Line	MA-00025	1



## PUMP LINE ASSEMBLY

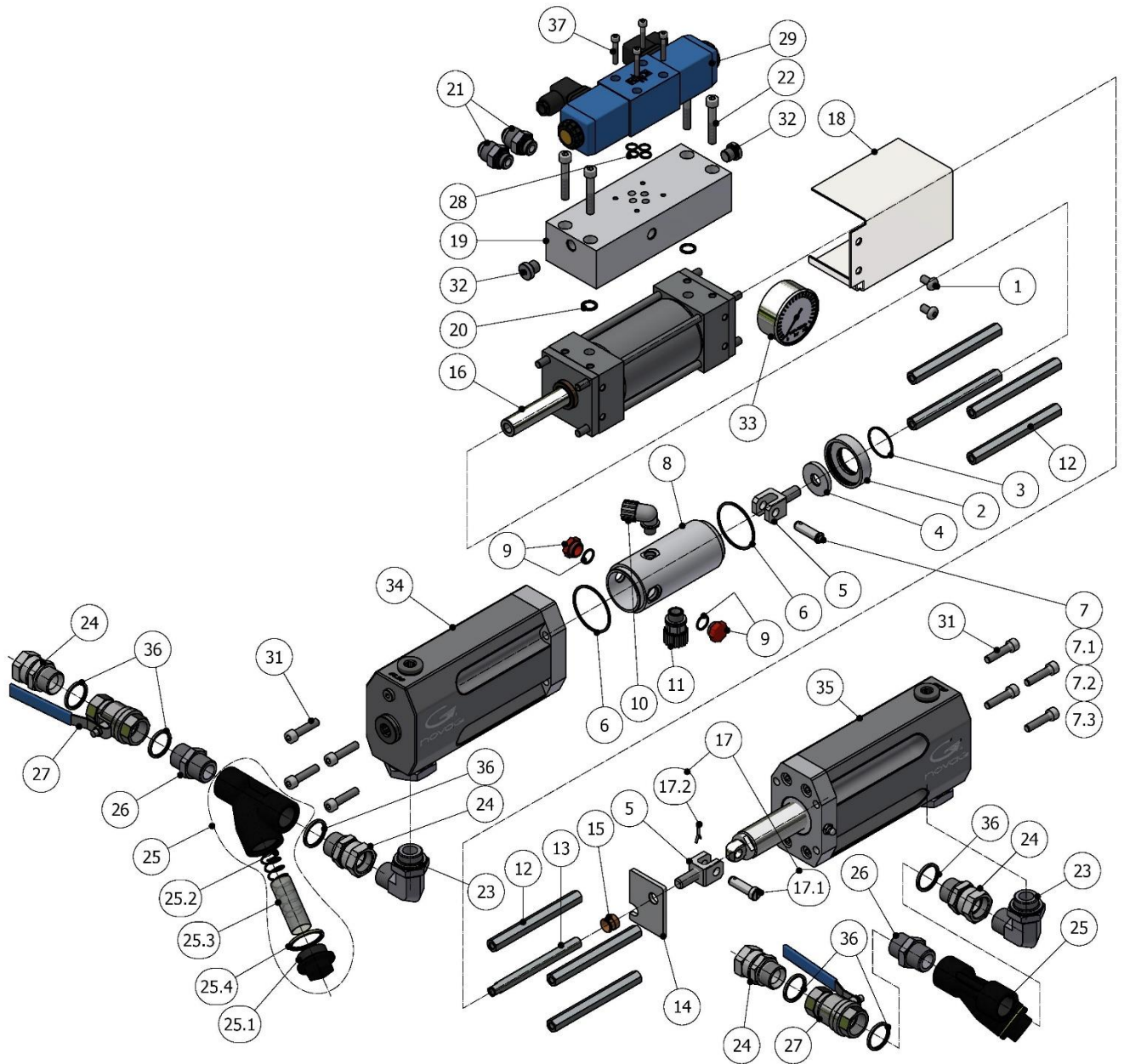


Figure 8. Pump Line Assembly, Exploded View



**Table 12. Pump Line Assembly, Parts List**

Item	Description	Part Number	Qty.
1	"ULS" Screw	TN-00135	2
2	Lube Cylinder Adapter Plate	PU-01021	1
3	O-Ring	OR-00021	1
4	Baffle	PU-01019	1
5	Hydraulic Cylinder Clevis	PU-01043	2
6	Lube Cylinder O-Ring	OR-00020	2
7	"A" Clevis Pin Assembly (Include item 7.1, 7.2 & 7.3)	PU-01044-00	1
7.1	Clevis Pin (included in item 7)	PU-01044-01M	1
7.2	Clevis Pin Clip (included in item 7)	TN-00136	1
7.3	Washer (included in item 7)	TN-00024	1
8	Lube Cylinder	PU-01018	1
9	Polyethylene Pipe Plug with O-Ring	RA-00116	2
	O-Ring (included in Item 9)	OR-00025	1
10	Lube Cylinder Elbow	RA-00066	1
11	Lube Cylinder fitting	RA-00067	1
12	Proportioning Pump Spacer	PU-01025	7
13	Reversing Switch Pump Spacer	PU-01026	1
14	Reversing Switch Activate Plate	PU-01023	1
15	Bronze Bushing	PU-01022	1
16	Hydraulic Cylinder With Spacers	NHI-00101	1
17	"R" Clevis Pin Assembly (includes item 17.1 & 17.2)	PU-01045-00	1
17.1	"R" Clevis Pin	PU-01045-01	1
17.2	Pin	TN-00077	1
18	Activator Plate Cover	PU-01027	1
19	Hydraulic Manifold	MQ-01007	1
20	O-Ring	OR-00019	2
21	Hex nipple	RA-00062	2
22	Socket Head Cap Screw	TN-00090	4
23	Elbow	RA-00072	2
24	Swivel Union	RA-00073	4



Item	Description	Part Number	Qty.
25	Y-Strainer	RA-00074-00	2
25.1	Filter Plug	RA-00074-01	2
25.2	Filter Spring	SP-00017	2
25.3	Filter	RA-00074-03-30	2
25.4	Filter Gasket	OR-00061	2
26	Hex Nipple	RA-00143	2
27	Ball Valve	RA-00078	2
28	O-Ring	OR-00035	4
29	Directional valve	HI-00054	1
30			
31	Socket Head Cap Screw	TN-00245	8
32	Plug	RA-00013	2
33	Hydraulic Gauge	NHI-00078	1
34	"A" Proportioning Pump Assembly	See Table 13	1
35	"R" Proportioning Pump Assembly	See Table 13	1
36	Gasket	OR-00082	6
37	Screw	TN-00148	4

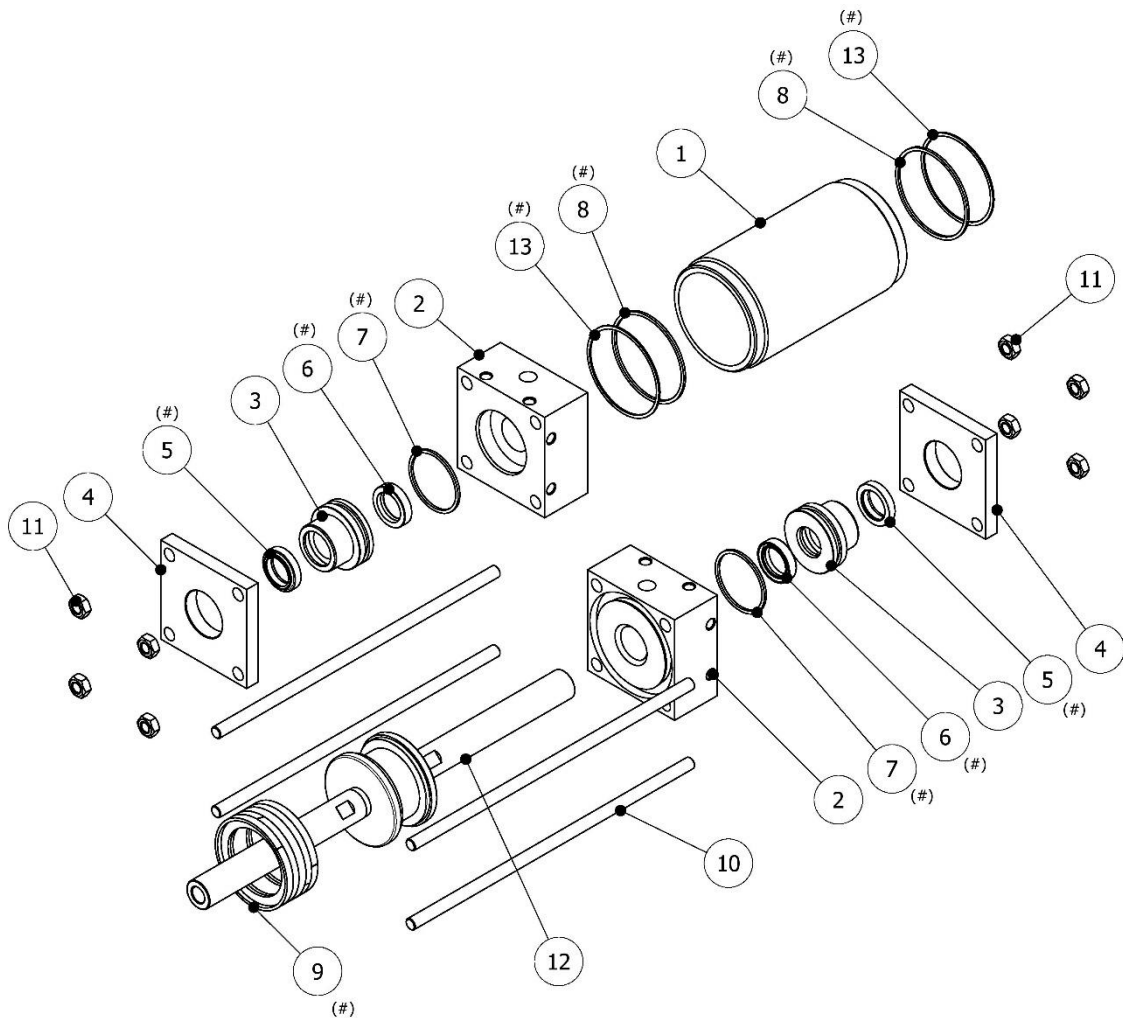
**Table 13. Proportioning Pump Size, Parts**

SIZE	Proportioning Pump Size	
	item 34 (ISO Pump)	item 35 (POL Pump)
1.20 (standard)	NPU-06101-012G	NPU-06102-012G
0.80 (optional)	NPU-06101-008G	NPU-06102-008G

**Note: (\*) The standard proportioning pump size is #1.20. Different sizes are available under order. For delivery time, please consult with marketing department.**



## HYDRAULIC CYLINDER WITH SPACERS



**Figure 9. Hydraulic Cylinder with Spacers, Exploded View**

**N.B.: The indicated parts (#) are included in the repair seal kit KT-00010-01.**

**Table 14. Hydraulic Cylinder with Spacers, Parts List**

Item	Description	Part Number	Qty.
1	Cylinder Body	NHI-00025-05	1
2	Port Block	NHI-00101-04	2
3	Rod Bushing	HI-00101-03	2
4	Front Plate	NHI-00025-02	2
5	Rod Wiper	OR-00095	2 (#)
6	Shaft Seal	OR-00096	2 (#)
7	O-Ring	OR-00039	2 (#)
8	O-Ring	OR-00040	2 (#)
9	Piston O-ring	OR-00041-00	1 (#)
10	Hydraulic Cylinder Tie Rod	NHI-00025-06	4
11	Nut (*)	TN-00029	8
12	Piston	HI-00101-01	1
13	O-Ring Anti Extrusion	OR-00063	2 (#)

*(\*) Only when the cylinder is supplied as a spare part. Not included in the Pump Line fitted in the machine.*

*The indicated parts (#) are included in the repair seal kit KT-00010-01*



## “A” PROPORTIONING PUMP ASSEMBLY

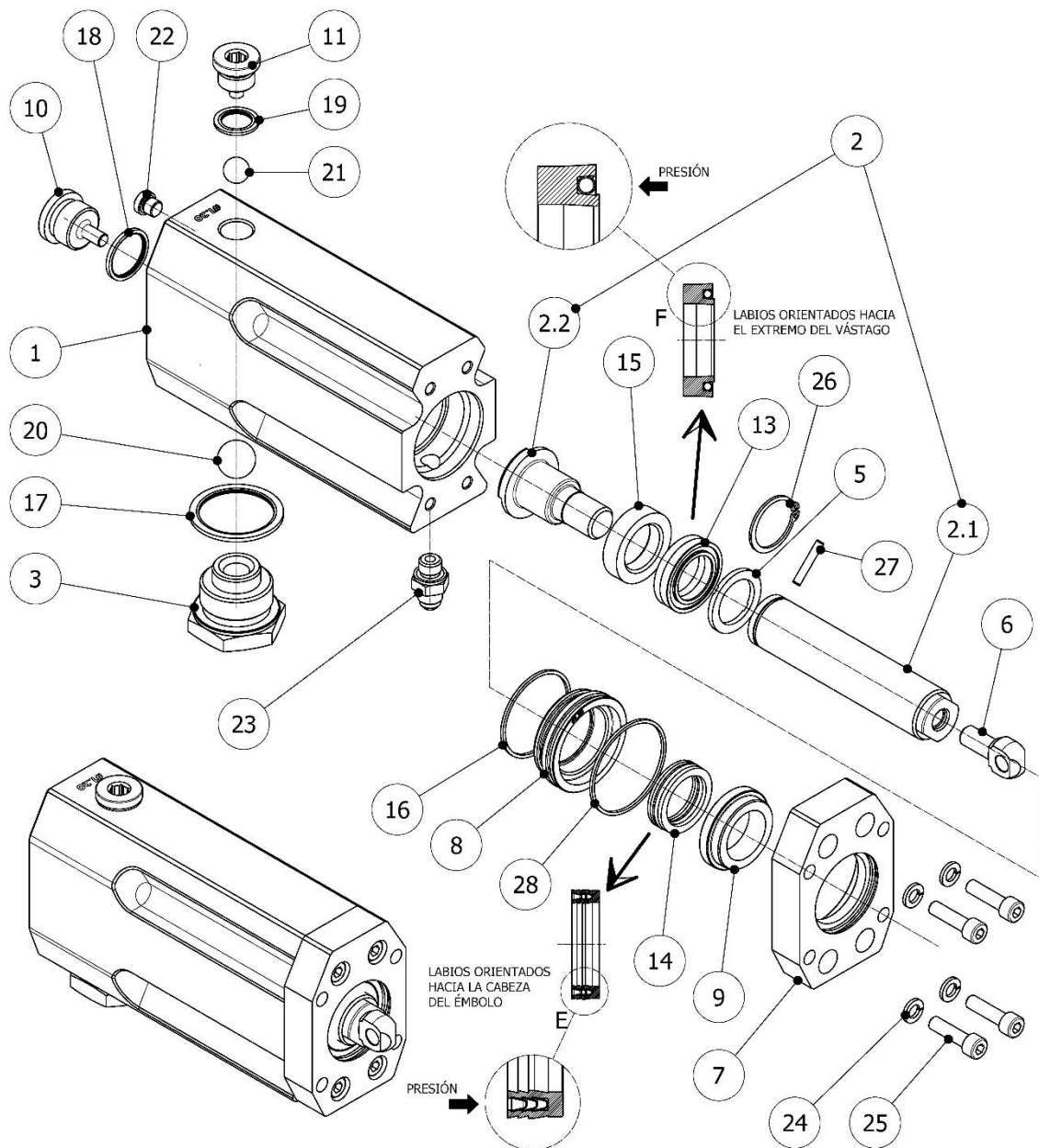


Figure 10. “A” Proportioning Pump Assembly, Exploded View



**Table 15. "A" Proportioning Pump Assembly, Parts List**

Item	Description	Part Number	Qty.
1	Body Pump with Check Valve Seat	See Table 16	1
2	Piston Rod Assembly (Only item. 2.1 y 2.2)	See Table 16	1
2.1	Piston Rod (Included in item 2)	See Table 16	1 (#)
2.2	Piston Head (Included in item 2)	See Table 16	1 (#)
3	Inlet Ball Seat Assembly	PU-01003-0J	1
4			
5	Piston Seal	See Table 16	1
6	Pump Clevis	PU-01042	1
7	Monobloc Flange Pump – ISO	NPU-06004	1
8	Seat Seal – ISO	See Table 16	1
9	Bearing ISO	See Table 17	1 (*)
10	Plug Side Pump	PU-01003-0E	1
11	Upper Plug Pump	PU-01003-0F	1
12			
13	Piston Seal	See Table 17	1 (*)
14	Cylinder Seal	See Table 17	1 (*)
15	Piston Guide	See Table 17	1 (*)
16	O-Ring	See Table 17	1 (*)
17	Metallic Ring	OR-00088	1
18	Metallic Ring	OR-00082	1
19	Metallic Ring	OR-00023	1
20	Lower Ball	TN-00013	1
21	Upper Ball	TN-00012	1
22	Plug	RA-00211	1
23	Output Elbow	RA-00145	1
24	Washer	TN-00028	4
25	Allen Screw	TN-00062	4
26	Seeger Ring	See Table 16	1
27	Pin	See Table 16	1
28	O-Ring	See Table 17	1 (*)

**N.B.:** The parts marked with (\*), are included in the repair seal kit of "A" pump (see Table 18).

The parts marked with (#), are not supplied separately.



**Table 16. "A" Proportioning Pump Assembly, Parts List**

Pump	Item 1	Item 2 (2.1 + 2.2)	Item 2.1	Item 2.2
1.20 (#)	NPU-06001-012	PU-01006-012	PU-01007-012	PU-01008-012
0.80	NPU-06001-008	PU-01006-008	PU-01007-008	PU-01008-008

Pump	Item 5	Item 8	Item 26	Item 27
1.20 (#)	PU-01010-012	PU-06009-012G	TN-00070	TN-00086
0.80	PU-01010-008	PU-06009-008G	TN-00067	TN-00085

**Table 17. Seals Monobloc "A" Pump**

item	1.20 (#)	0.80
9	PU-06007-012	PU-06007-008
13	PU-01016-012A	PU-01016-008A
14	PU-01017-012G	PU-01017-008G
15	PU-01014-012A	PU-01014-008A
16	OR-00009	OR-00009
28	OR-00115	OR-00115

**Table 18. Repair Seal Kit "A" Pump**

Pump	Item
1.20 (#)	KT-00157
0.80	KT-00159

**N.B :**

**(#) The standard proportioning pump sizes is #1.20. Different sizes are available under order. For delivery time, please consult with marketing department.**

**The Repair seal kit include the parts indicated (\*) in the Table 15.**



## “R” PROPORTIONING PUMP ASSEMBLY

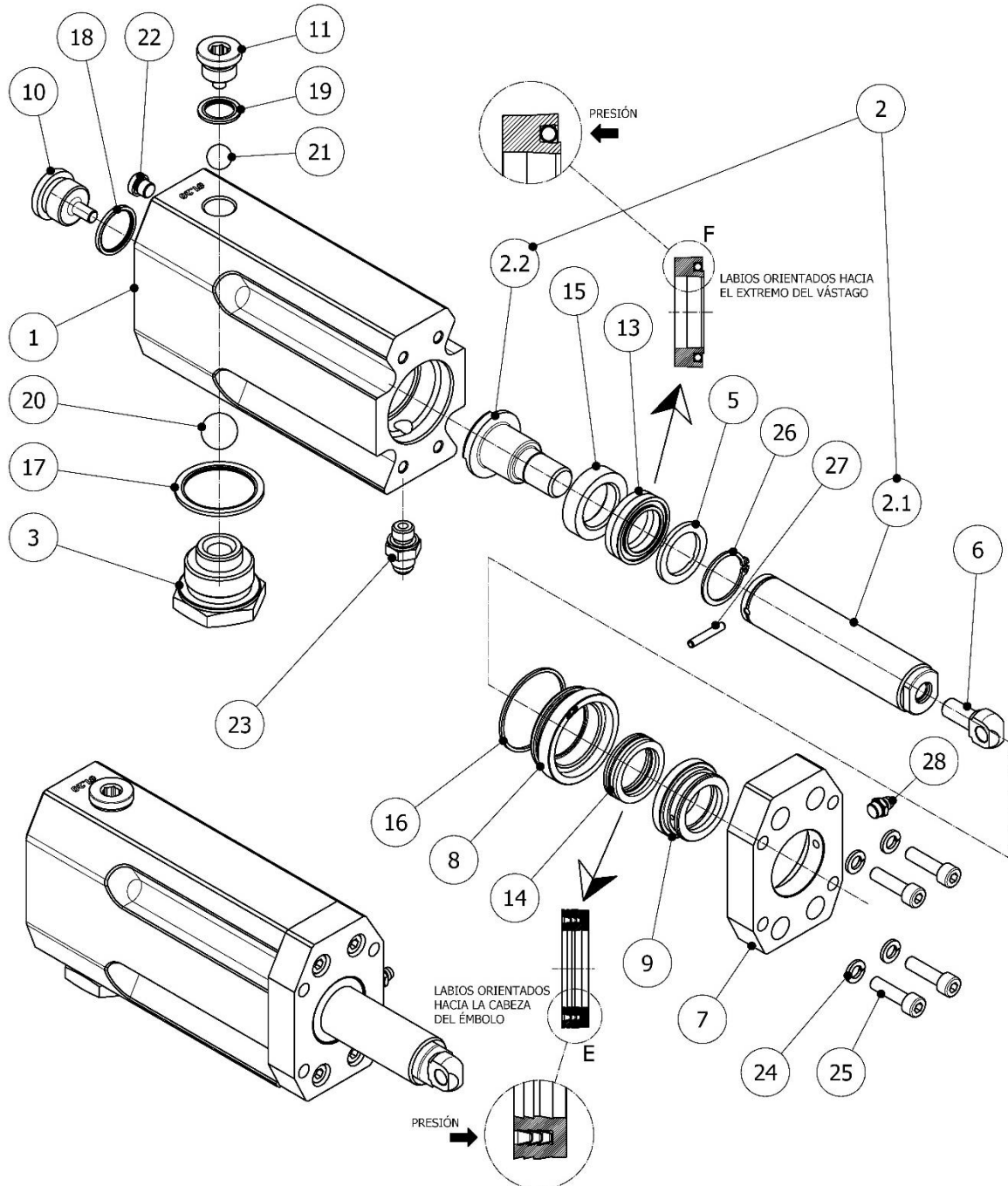


Figure 11. “R” Proportioning Pump Assembly, Exploded View

**Table 19. "R" Proportioning Pump Assembly, Parts List**

Item	Description	Part Number	Qty.
1	Body Pump with Check Valve Seat	See Table 20	1
2	Piston Rod Assembly (Only item. 2.1 y 2.2)	See Table 20	1
2.1	Piston Rod (Included in item 2)	See Table 20	1 (#)
2.2	Piston Head (Included in item 2)	See Table 20	1 (#)
3	Inlet Ball Seat Assembly	PU-01003-0J	1
4			
5	Piston Seal	See Table 20	1
6	Pump Clevis	PU-01042	1
7	Monobloc Flange Pump – POL	NPU-06005	1
8	Seat Seal – POL	See Table 20	1
9	Bearing ISO	See Table 21	1 (*)
10	Plug Side Pump	PU-01003-0E	1
11	Upper Plug Pump	PU-01003-0F	1
12			
13	Piston Seal	See Table 21	1 (*)
14	Cylinder Seal	See Table 21	1 (*)
15	Piston Guide	See Table 21	1 (*)
16	O-Ring	See Table 21	1 (*)
17	Metallic Ring	OR-00088	1
18	Metallic Ring	OR-00082	1
19	Metallic Ring	OR-00023	1
20	Lower Ball	TN-00013	1
21	Upper Ball	TN-00012	1
22	Plug	RA-00211	1
23	Exit Elbow	RA-00145	1
24	Washer	TN-00028	4
25	Allen Screw	TN-00062	4
26	Seeger Ring	See Table 20	1
27	Pin	See Table 20	1
28	Grease Fiting	TN-00073	1

**N.B.:** The parts marked with (\*), are included in the repair seal kit of "R" pump (see Table 22).

The parts marked with (#), are not supplied separately.



**Table 20. "R" Proportioning Pump Assembly, Parts List**

Pump	Item 1	Item 2 (2.1 + 2.2)	Item 2.1	Item 2.2
1.20 (#)	NPU-06001-012	PU-01006-012	PU-01007-012	PU-01008-012
0.80	NPU-06001-008	PU-01006-008	PU-01007-008	PU-01008-008

Pump	Item 5	Item 8	Item 26	Item 27
1.20 (#)	PU-01010-012	PU-06006-012G	TN-00070	TN-00086
0.80	PU-01010-008	PU-06006-008G	TN-00067	TN-00085

**Table 21. Seals Monobloc "R" Pump**

Ítem	1.20 (#)	0.80
9	PU-06008-012	PU-06008-008
13	PU-01016-012A	PU-01016-008A
14	PU-01017-012G	PU-01017-008G
15	PU-01014-012A	PU-01014-008A
16	OR-00009	OR-00009

**Table 22. Repair Seal Kit "R" Pump**

Pump	Item
1.20 (#)	KT-00158
0.80	KT-00160

**N.B :**

**(#) The standard proportioning pump size is #1.20. Different sizes are available under order. For delivery time, please consult with marketing department.**

**The Repair seal kit include the parts indicated (\*) in the Table 19.**



## “A” STANDARD PRIMARY HEATER

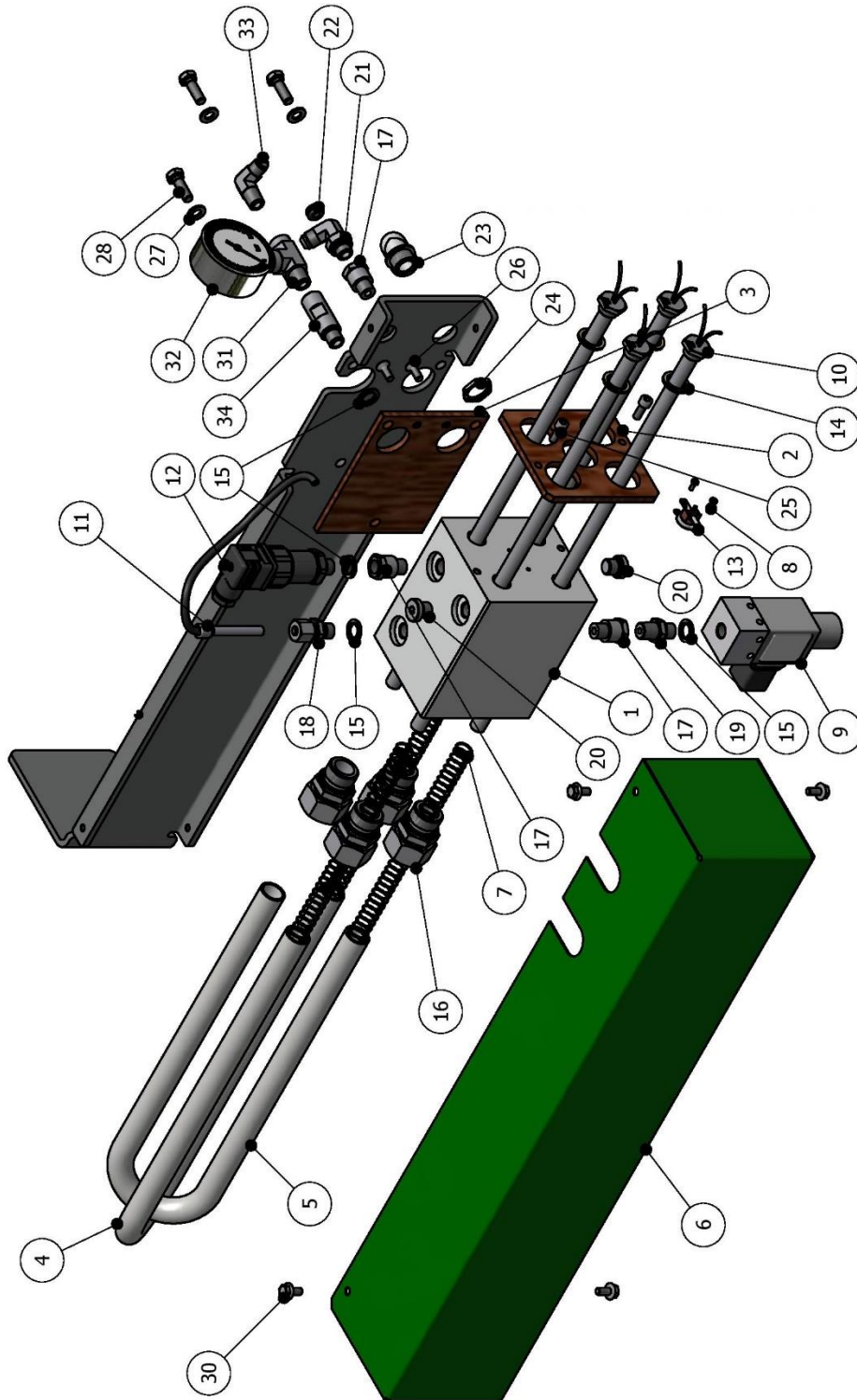


Figure 12. “A” Standard Primary Heater, Exploded View



**Table 23. "A" Standard Primary Heater, Parts List**

Item	Description	Part Number	Qty.
1	Heater Block	NCL-03001-02A	1
2	Front Insulate Plate	NCL-03001-03A	1
3	Side Insulate Plate	NCL-03001-04	1
4	Long Pipe	NCL-03001-05	1
5	Short Pipe	NCL-03001-06	1
6	Heater Cover	NCL-03001-07	1
7	Spring	SP-00030	3
8	Screw	TN-00128	2
9	Pressure Switch	HI-00021	1
10	Heat Resistance	See Table 24	4
11	Thermocouple	EL-00156-01	1
12	Transducer	HI-00033	(*)
13	Thermal Limit Switch	EL-00006	1
14	Metal O-Ring	OR-00018	4
15	Metal O-Ring	OR-00054	(*)
16	Male Connector	RA-00468	4
17	Extension Nipple	RA-00077	(*)
18	Male Connector for Thermocouple	RA-00231	1
19	Union	RA-00138	1
20	Plug	RA-00013	(*)
21	Elbow 90°	RA-00050	1
22	Grommet	EL-00095-00	1
23	Plastic Elbow	EL-00087-01	1
24	Nut	EL-00090-01	1
25	Screw	TN-00061	2
26	Screw	TN-00322	2
27	Washer	TN-00119	3
28	Hex. Cap Screw	TN-00146	3

(\*) See Table 25.



Item	Description	Part Number	Qty.
29			
30	Hex. Flange Bolt	TN-00491	4
31	"T" Adapter	RA-00018	1
32	Pressure Gauge	See Table 26	1
33	Elbow 90°	RA-00254	1
34	Extension Nipple	RA-00100	1

**Table 24. "A" Heat Resistance & Press. Gauge Reference List**

Item	Description	Part Number	Qty.
10	Heat Resistance 400v 1500w	EL-00179	4
	Heat Resistance 400v 1250w	EL-00197	4
	Heat Resistance 230v 1500w	EL-00035	4

*The heater assembly references in Table 3 include all references except Pos. 6, 22, 23, 24, 27, 28 and 30 in Table 23 (which are not part of the pre-assembled assembly)*

**Table 25. "A" Component quantities according to assembly, Reference List**

	Item 12	Item 15	Item 17	Item 20
With Pressure Transducer	1	4	3	2
Without Pressure Transducers	0	3	2	3

**Table 26. "A" Pressure Gauge Part number, Reference List**

	For heaters up to 250 bar	For heaters up to 350 bar
Pressure Gauge	HI-00019	HI-00039



## “R” STANDARD PRIMARY HEATER

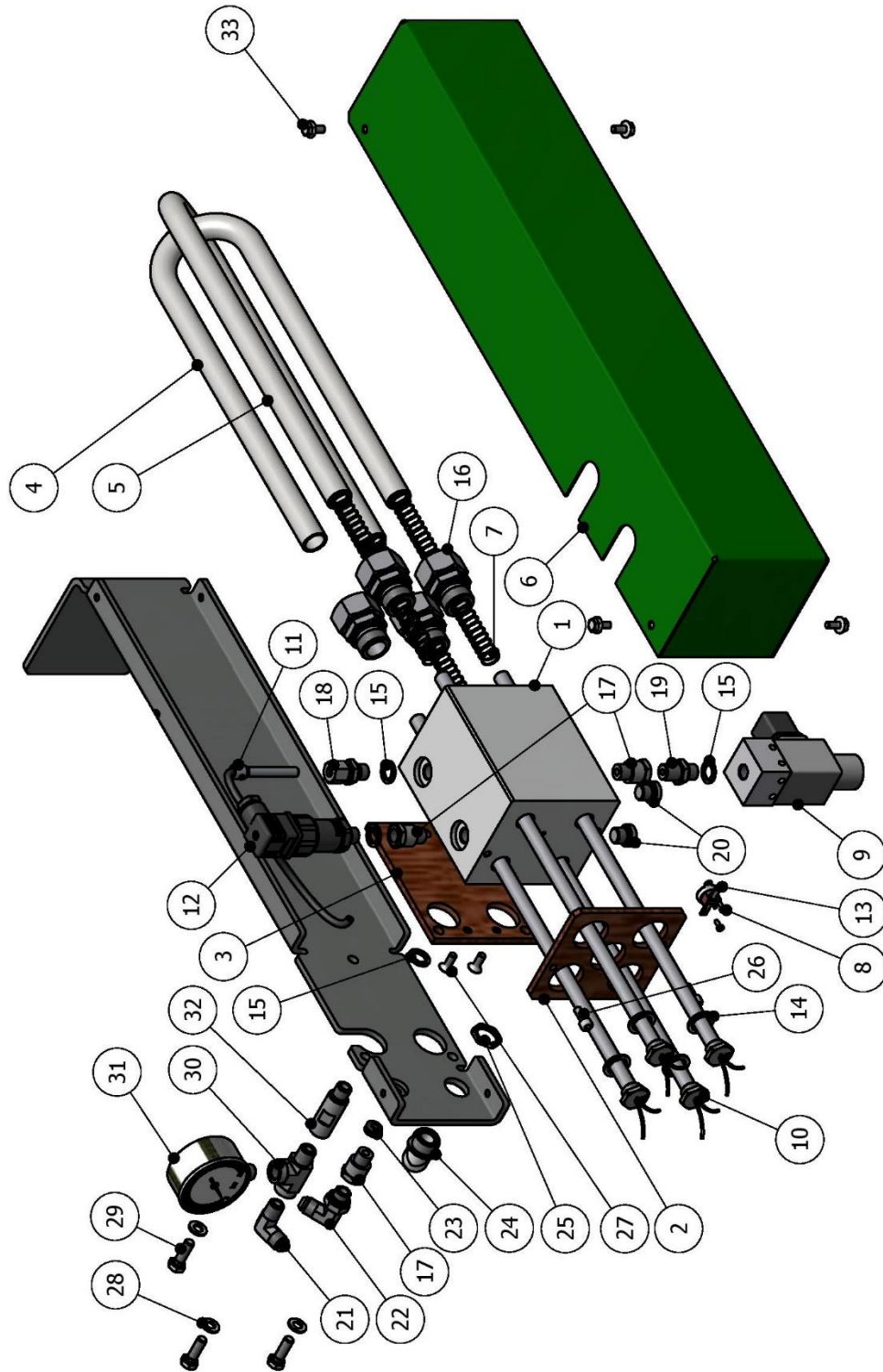


Figure 13. “R” Standard Primary Heater, Exploded View

**Table 27. "R" Standard Primary Heater, Parts List**

Item	Description	Part Number	Qty.
1	Heater Block	NCL-03001-02A	1
2	Front Insulate Plate	NCL-03001-03A	1
3	Side Insulate Plate	NCL-03001-04	1
4	Short Pipe	NCL-03001-06	1
5	Long Pipe	NCL-03001-05	1
6	Heater Cover	NCL-03002-07	1
7	Spring	SP-00030	3
8	Screw	TN-00128	2
9	Pressure Switch	HI-00021	1
10	Heat Resistance	See Table 28	4
11	Thermocouple	EL-00156-01	1
12	Transducer	HI-00033	(*)
13	Thermal Limit Switch	EL-00006	1
14	Metal O-Ring	OR-00018	4
15	Metal O-Ring	OR-00054	(*)
16	Male Connector	RA-00468	4
17	Extension Nipple	RA-00077	(*)
18	Male Connector for Thermocouple	RA-00231	1
19	Union	RA-00138	1
20	Plug	RA-00013	(*)
21	Elbow 90°	RA-00044	1
22	Elbow 90°	RA-00050	1
23	Grommet	EL-00095-00	1
24	Plastic Elbow	EL-00087-01	1
25	Nut	EL-00090-01	1
26	Screw	TN-00061	2
27	Screw	TN-00322	2
28	Washer	TN-00119	3
29	Hex. Cap Screw	TN-00146	3

(\*) See Table 29.



Item	Description	Part Number	Qty.
30	"T" Adapter	RA-00018	1
31	Pressure Gauge	See Table 30	1
32	Extension Nipple	RA-00100	1
33	Hex. Flange Bolt	TN-00491	4
34			

**Table 28. "R" Heat Resistance & Press. Gauge Reference List**

Item	Description	Part Number	Qty.
10	Heat Resistance 400v 1500w	EL-00179	4
	Heat Resistance 400v 1250w	EL-00197	4
	Heat Resistance 230v 1500w	EL-00035	4

*The heater assembly references in Table 5 include all references except Pos. 6, 23, 24, 25, 28, 29 and 33 in Table 27 (which are not part of the pre-assembled assembly).*

**Table 29. "R" Component quantities according to assembly, Reference List**

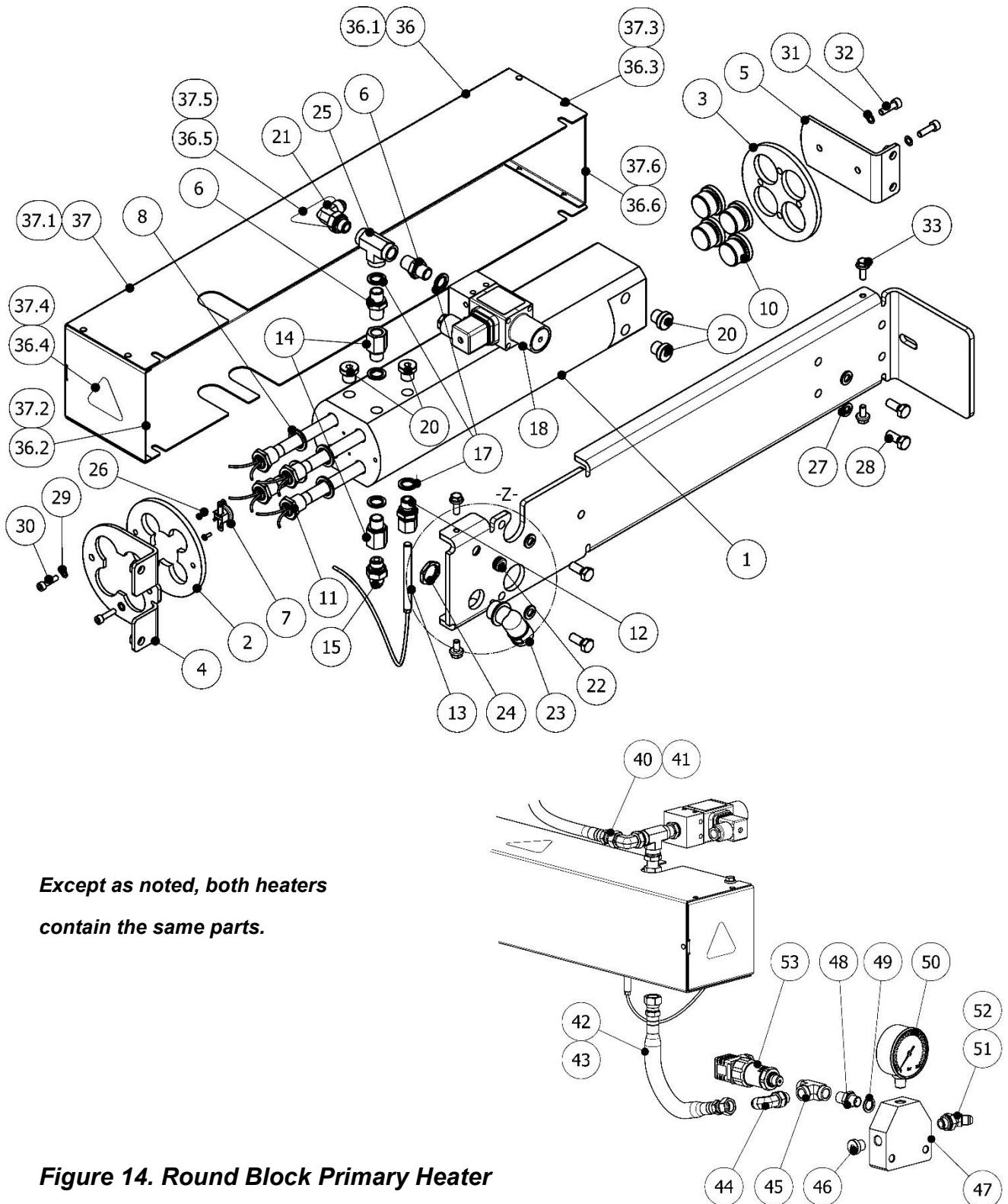
	Item 12	Item 15	Item 17	Item 20
With Pressure Transducer	1	4	3	2
Without Pressure Transducers	0	3	2	3

**Table 30. "R" Pressure Gauge Part number, Reference List**

	For heaters up to 250 bar	For heaters up to 350 bar
Pressure Gauge	HI-00019	HI-00039



## ROUND BLOCK PRIMARY HEATER



*Except as noted, both heaters contain the same parts.*

**Figure 14. Round Block Primary Heater**



**Table 31. Round Block Primary Heater Reference List**

Item.	Description	Part Number	Qty.
1	Block Heater	CLH-02001-01A	1
2	Front Insulate Plate	CL-02001-04	1
3	Rear Insulate Plate	CL-02001-03	1
4	Front Support Assy	CL-21005-02	1
5	Rear Support Assy	CL-21005-03	1
6	Nipple	RA-00102	2
7	Thermostat	EL-00006	1
8	Bi-material Seal	OR-00018	4
9			
10	Plug	RA-00012	4
11	Resistance	See Table 32	4
12	Straight Fitting	RA-00231	1
13	Temperature Probe	EL-00156-01	1
14	Male-Female Lengthen	RA-00077	2
15	Nipple	RA-00145	1
16			
17	Bi-material Seal	OR-00054	5
18	Pressure Switch	HI-00021	1
19			
20	Plug	RA-00013	4
21	Elbow Fitting	RA-00050	1
22	Grommet	EL-00095-00	1
23	Plastic Elbow	EL-00087-01	1
24	Nut	EL-00090-01	1
25	"T" Adapter	RA-00053	1
26	Screw	TN-00128	2
27	Washer	TN-00028	4
28	Screw	TN-00187	4
29	Washer	TN-00017	2
30	Screw	TN-00234	2

*Unit quantities per heater.*



Item.	Description	Part Number	Qty.
31	Washer	TN-00048	2
32	Screw	TN-00026	2
33	Screw	TN-00491	4
36	"A" ISO Round Block Heater Cover Assy	NCL-23003-07	1
36.1	"A" ISO Body Cover	CL-21009-01A	1
36.2	Front Cover	CL-21009-01C	1
36.3	Rivet	TN-00240	10
36.4	Tension Danger Sticker	EM-00016	1
36.5	Burn Danger Sticker	EM-00018	1
36.6	Rear Cover	CL-21009-01D	1
37	"R" POL Round Block Heater Cover Assy	NCL-23004-07	1
37.1	"R" POL Body Cover	CL-21010-01A	1
37.2	Front Cover	CL-21009-01C	1
37.3	Rivet	TN-00240	10
37.4	Tension Danger Sticker	EM-00016	1
37.5	Burn Danger Sticker	EM-00018	1
37.6	Rear Cover	CL-21009-01D	1
40	Pump-Heater ISO Hose	MA-	1
41	Pump Heater POL Hose	MA-	1
42	ISO Output Heater Hose	MA-	1
43	POL Output Heater Hose	MA-	1
44.1	90° Elbow Fitting	RA-00050	(#)
44.2	Nipple	RA-00145	(#)
45	"T" Adapter	RA-00053	(#)
46	Plug	RA-00013	2
47	Manifold	MQ-21012-01	1
48	Nipple	RA-00102	(#)
49	Bi-material Seal	OR-00054	(#)
50	Pressure Gauche	HI-00035	1
51	45° Elbow Fitting (ISO side)	RA-00589	1
52	45° Elbow Fitting (POL side)	RA-00590	1
53	Pressure Transducer	HI-00033	(#)

*Unit quantities per heater. (#) See Table 33*

**Table 32. Round Block Heater Resistance Reference List**

Item.	Description	Part Number	Qty.
11	Resistance 400v 1500w	EL-00189	4
	Resistance 400v 1250w	EL-00226	4
	Resistance 230v 1500w	EL-00082	4
	Resistance 230v 1750w	EL-00339	4

*Unit quantities per heater.*

*The heater assembly references in Table 4 and Table 6 include references from Pos. 1 to Pos. 33, the rest of the parts in Table 31 are not included in the pre-assembled assembly.*

**Table 33. Component quantities according to assembly, Reference List**

	Item 44.1	Item 44.2	Item 45	Item 48	Item 49	Item 53
With Pressure Transducer	1	0	1	1	1	1
Without Pressure Transducer	0	1	0	0	0	0

*Unit quantities per heater.*



## RECIRCULATION KIT P#: KT-00038

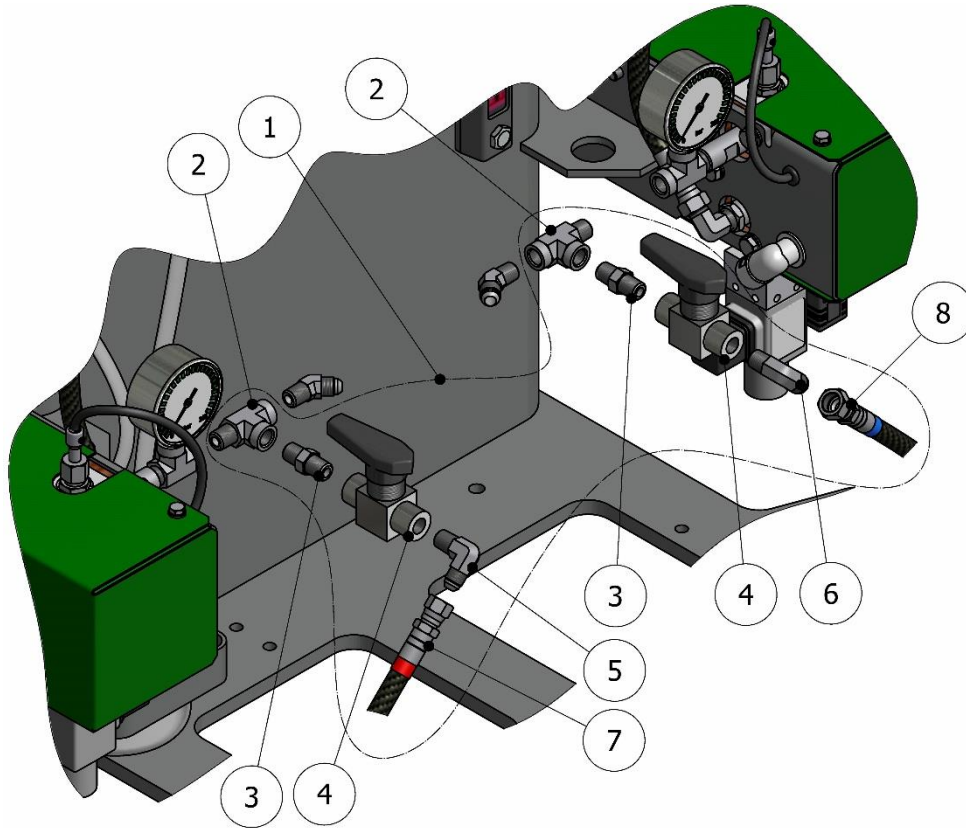


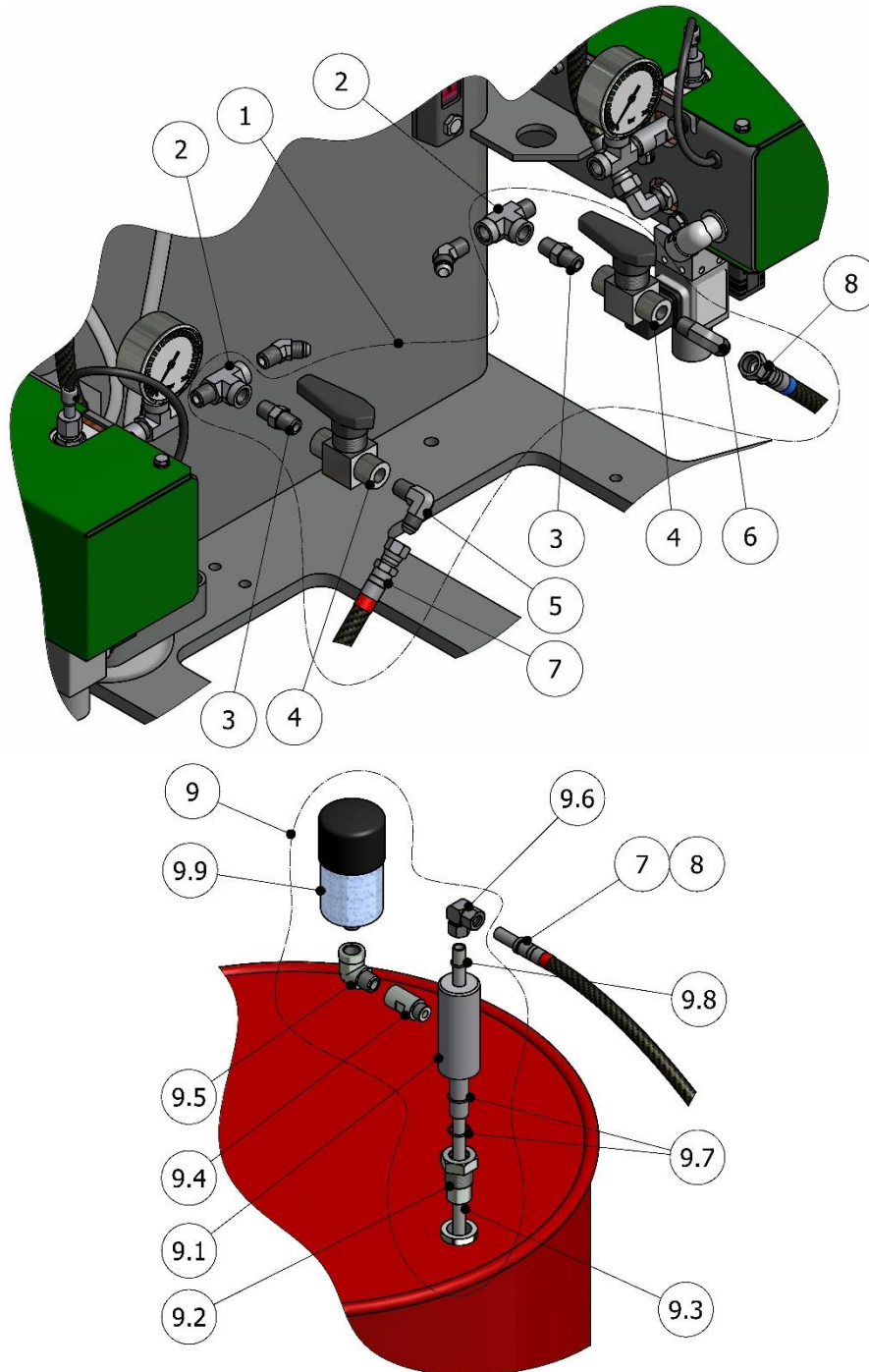
Figure 15. Recirculation Kit P#: KT-00038, Exploded View

Table 34. Standard Recirculation Kit, Parts List

Item	Description	Part Number	Qty.
1	Recirculation Kit	KT-00038	1
2	"T" Union	RA-00018	2
3	Male Union	RA-00188	2
4	Ball Valve	RA-00217	2
5	Elbow 90° ISO Side	RA-00254	1
6	Elbow 90° POL Side	RA-00044	1
7	A-Hose	MA-00050-01	1
8	R-Hose	MA-00050-00	1



**RECIRCULATION KIT P#: KT-00038-01**



*Figure 16. Recirculation Kit P#: KT-00038-01, Exploded View*

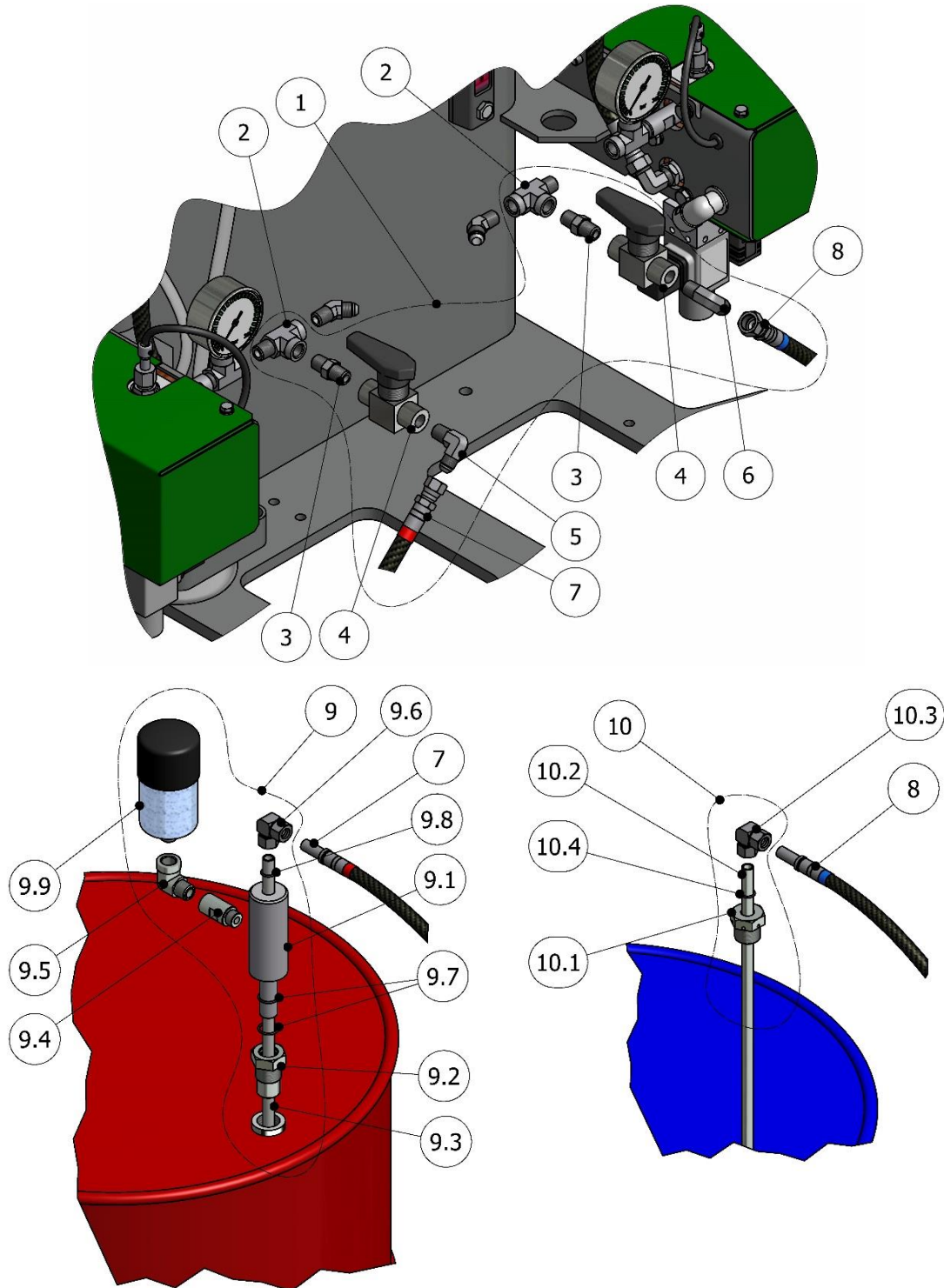
**Table 35. Recirculation Kit #KT-00038-01, Parts List**

Item	Description	Part Number	Qty.
1	Recirculation Kit	KT-00038-01	1
2	"T" Union	RA-00018	2
3	Male Union	RA-00188	2
4	Ball Valve	RA-00217	2
5	Elbow 90° ISO Side	RA-00254	1
6	Elbow 90° POL Side	RA-00044	1
7	A-Hose	MA-00050-01	1
8	R-Hose	MA-00050-00	1
9	Assy. Connection to Tank with Filter	MQ-05009-00	2
9.1	Body Connection	MQ-05010	1 (*)
9.2	Connection Tank	MQ-05009	1 (*)
9.3	Pipe	HI-00075	1 (*)
9.4	Extension	RA-00256	1 (*)
9.5	Elbow	RA-00257	1 (*)
9.6	Elbow for Pipe	RA-00200	1 (*)
9.7	O-Ring	OR-00055	2(*)
9.8	O-Ring	OR-00011	1 (*)
9.9	Dehumidifier Filter	NE-00045	1 (*)

**N.B.:****(\*) Unitary Quantities included in 1 set of item.9**



**RECIRCULATION KIT P#: KT-00038-03**



*Figure 17. Recirculation Kit P#: KT-00038-03, Exploded View*



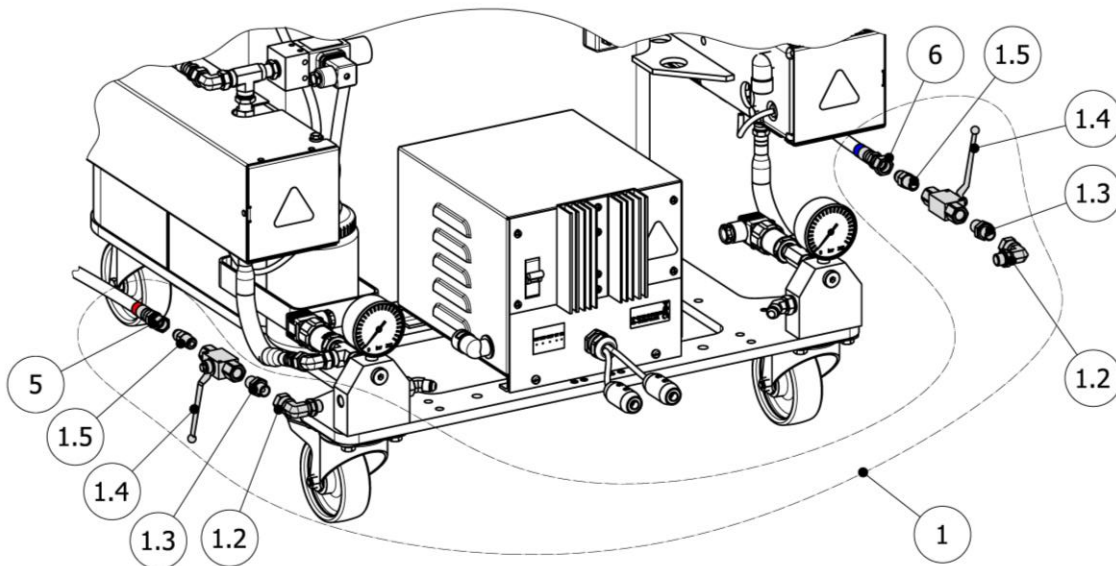
**Table 36. Recirculation Kit #KT-00038-03, Parts List**

Item	Description	Part Number	Qty.
1	Recirculation Kit	KT-00038-03	1
2	"T" Union	RA-00018	2
3	Male Union	RA-00188	2
4	Ball Valve	RA-00217	2
5	Elbow 90° ISO Side	RA-00254	1
6	Elbow 90° POL Side	RA-00044	1
7	A-Hose	MA-00050-01	1
8	R-Hose	MA-00050-00	1
9	Assy. Connection to Tank with Filter	MQ-05009-00	1
9.1	Body Connection	MQ-05010	1
9.2	Connection Tank	MQ-05009	1
9.3	Pipe	HI-00075	1
9.4	Extension	RA-00256	1
9.5	Elbow	RA-00257	1
9.6	Elbow for Pipe	RA-00200	1
9.7	O-Ring	OR-00055	2
9.8	O-Ring	OR-00011	1
9.9	Dehumidifier Filter	NE-00045	1
10	Assy. Connection to Tank w/o Filter	MQ-05010-00	1
10.1	Connection Tank	MQ-05009-A	1
10.2	Pipe	HI-00075	1
10.3	Elbow for Pipe	RA-00200	1
10.4	O-ring	OR-00011	1



## RECIRC. KIT FOR ROUND HEATERS WITHOUT FITERS

*Valid only for round heaters*



**Figure 18. Recirc. Kit for Round Heaters without Filters**

**Table 37. Recirc. Kit for Round Heaters without Filters, Parts List**

item.	Description	Part Number	Qty.
1	Recirculation Kit for Round Heaters without Filters		1
1.2	Elbow 90°	RA-00496	2
1.3	Nipple	RA-00138	2
1.4	Ball Valve	RA-00217	2
1.5	“A” ISO Nipple	RA-00146	1
1.6	“R” POL Nipple	RA-00147	1
5	ISO Recirculation Hose	MA-00050-01	1
6	POL Recirculation Hose	MA-00050-00	1



## RECIRC. KIT FOR ROUND HEATERS WITH DOUBLE FILTER

Valid only for round heaters

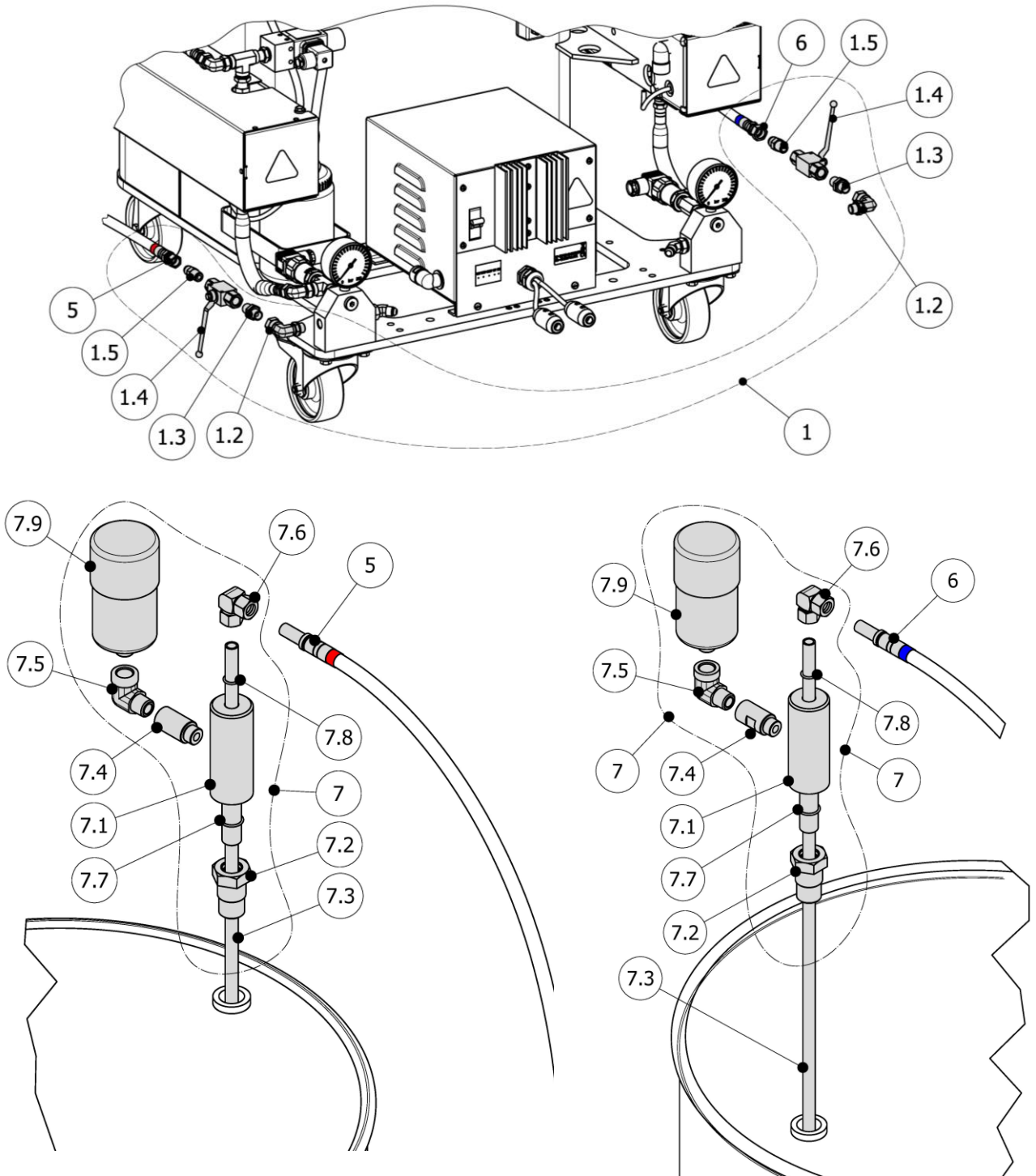


Figure 19. Recirc. Kit for Round Heaters with Double Filters

**Table 38. Recirc. Kit for Round Heaters with Double Filter, Parts List**

Item	Description	Part Number	Qty.
1	Recirc. KIT for Round Heaters with Double Filter		1
1.2	Elbow 90°	RA-00496	2
1.3	Nipple	RA-00138	2
1.4	Ball Valve	RA-00217	2
1.5	"A" ISO Nipple	RA-00146	1
1.6	"R" POL Nipple	RA-00147	1
5	ISO Recirculation Hose	MA-00050-01	1
6	POL Recirculation Hose	MA-00050-00	1
7	Tank Adaptation Assy with Filter	MQ-05009-00	2
7.1	Drum Coupling Body	MQ-05010	1 (*)
7.2	Drum Coupling	MQ-05009	1 (*)
7.3	Drum Coupling Tube	HI-00075	1 (*)
7.4	Length	RA-00256	1 (*)
7.5	Elbow 90°	RA-00257	1 (*)
7.6	Elbow 90°	RA-00200	1 (*)
7.7	O-Ring	OR-00055	2 (*)
7.8	O-Ring	OR-00011	1 (*)
7.9	Dehumidifier Filter	NE-00045	1 (*)

(\*) Unit quantities included in 1 set item 7.



## RECIRC. KIT FOR ROUND HEATERS WITH "A" ISO FITER

Valid only for round heaters

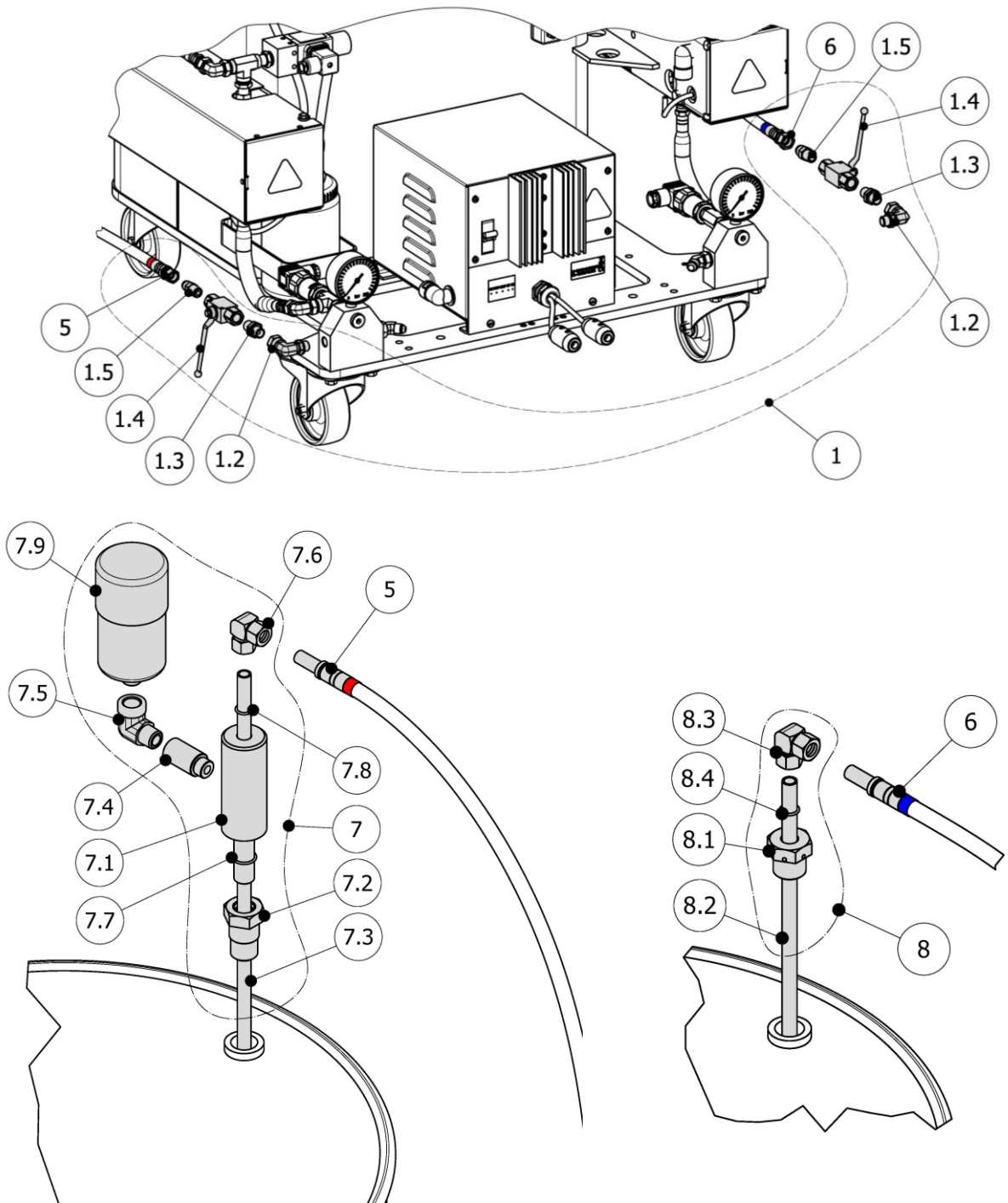


Figure 20. Recirc. Kit for Round Heaters with "A" ISO Filter



**Table 39. Recirc. Kit for Round Heaters with “A” ISO Filter, Parts List**

item	Description	Part Number	Qty.
1	Recirc. KIT for Round Heaters with “A” ISO Filter		1
1.2	Elbow 90°	RA-00496	2
1.3	Nipple	RA-00138	2
1.4	Ball Valve	RA-00217	2
1.5	“A” ISO Nipple	RA-00146	1
1.6	“R” POL Nipple	RA-00147	1
5	ISO Recirculation Hose	MA-00050-01	1
6	POL Recirculation Hose	MA-00050-00	1
7	Tank Adapter Assy with Filter	MQ-05009-00	1
7.1	Drum Coupling Body	MQ-05010	1
7.2	Drum Coupling	MQ-05009	1
7.3	Drum Coupling Tube	HI-00075	1
7.4	Length	RA-00256	1
7.5	Elbow 90°	RA-00257	1
7.6	Elbow 90°	RA-00200	1
7.7	O-Ring	OR-00055	2
7.8	O-Ring	OR-00011	1
7.9	Dehumidifier Filter	NE-00045	1
8	Tank Adapter Assy without Filter	MQ-05010-00	1
8.1	Drum Coupling	MQ-05009-A	1
8.2	Drum Coupling Tube	HI-00075	1
8.3	Elbow 90°	RA-00200	1
8.4	O-Ring	OR-00011	1



**ELECTRICAL SCHEMATIC DIAGRAM 3PE~400V 50/60Hz**

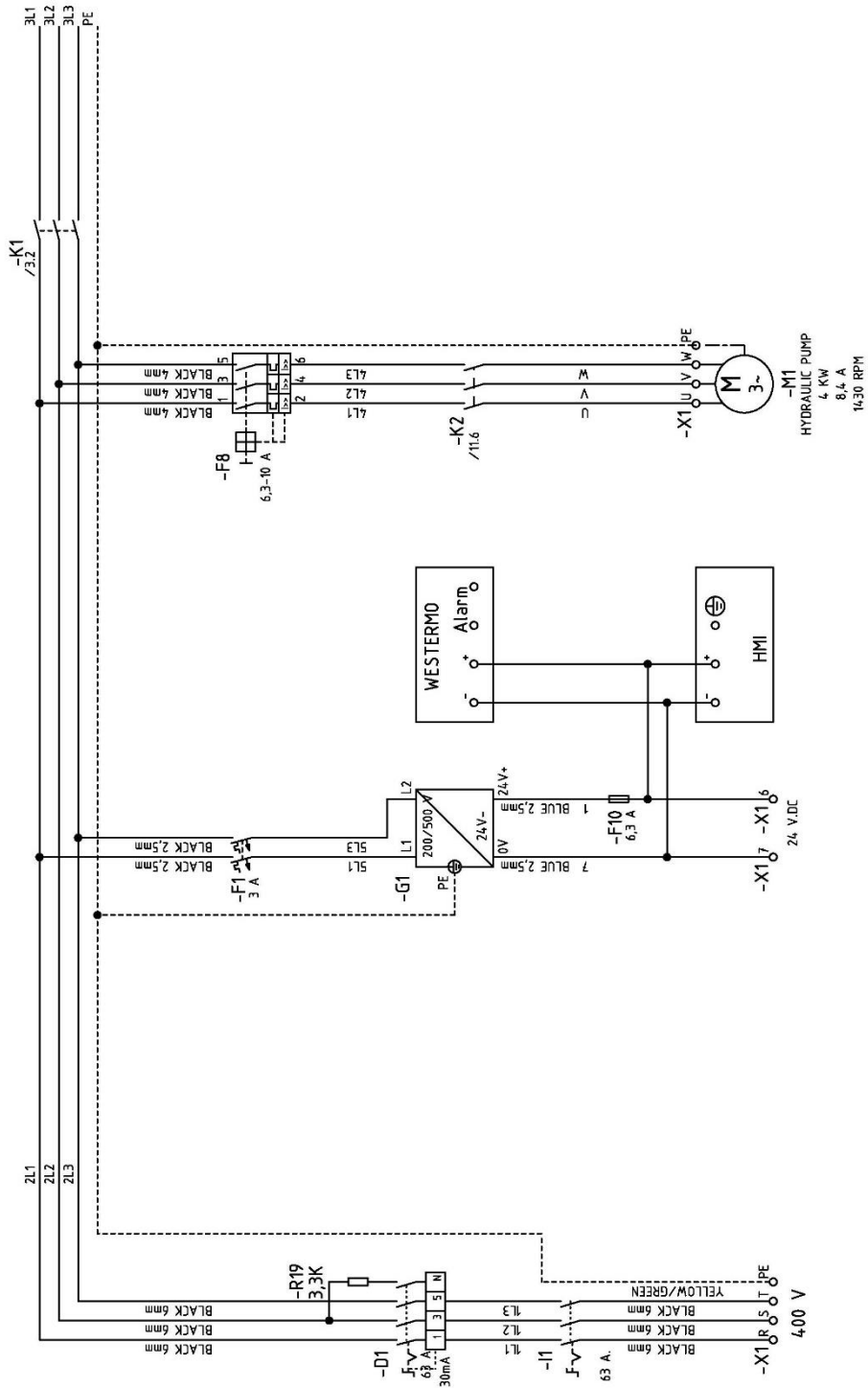


Figure 21. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 1/12)

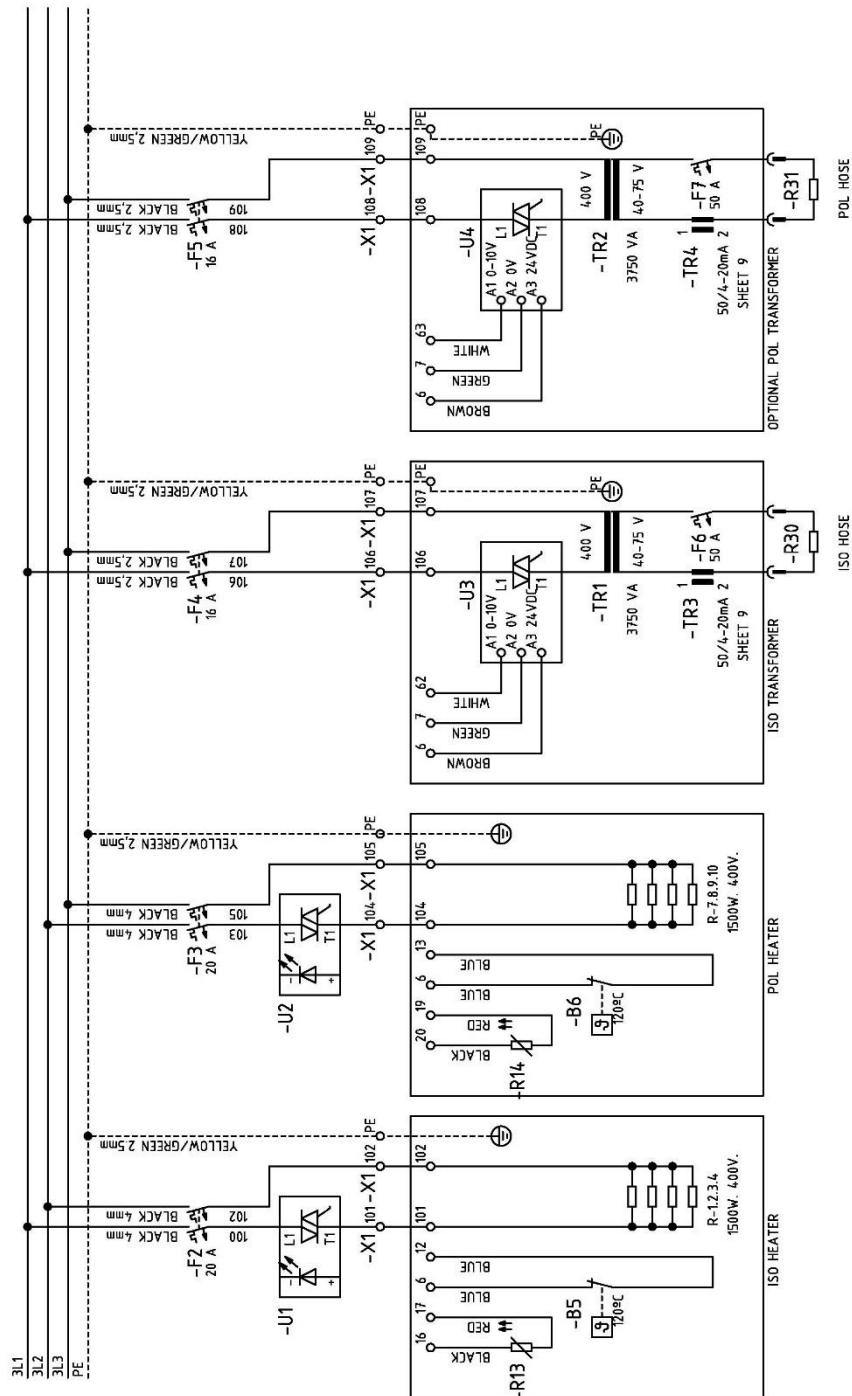


Figure 22. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 2/12)

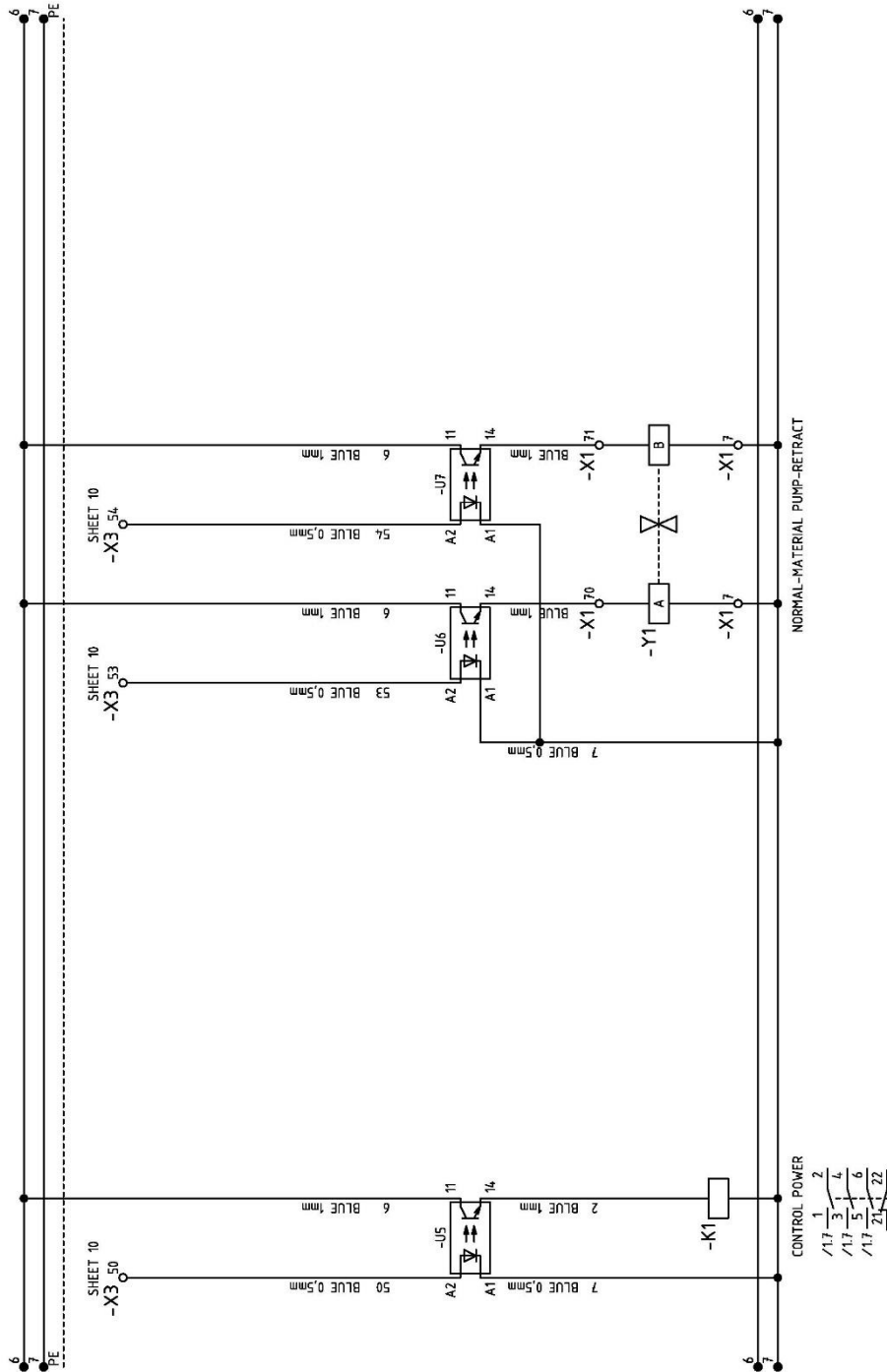


Figure 23. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 3/12)

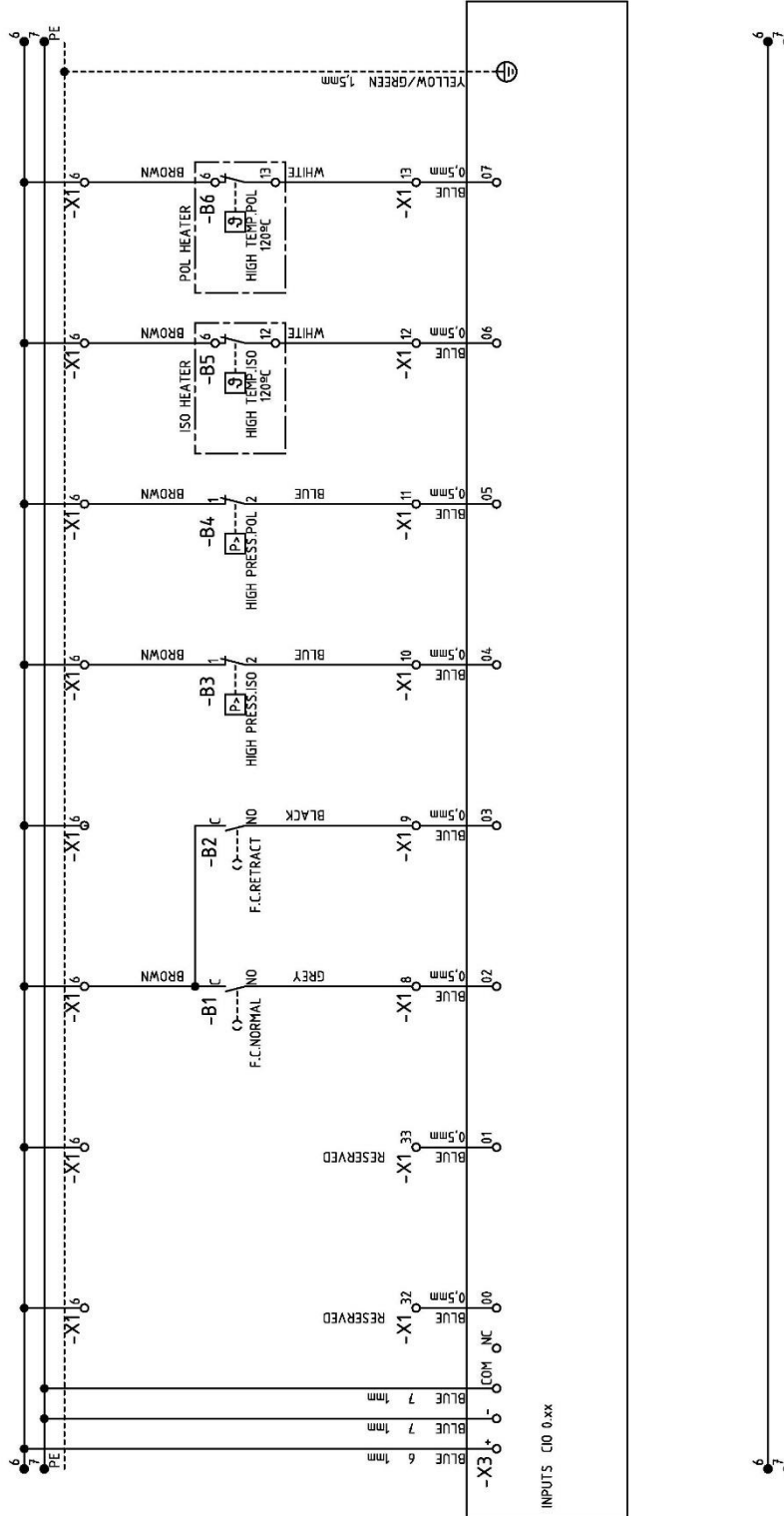


Figure 24. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 4/12)

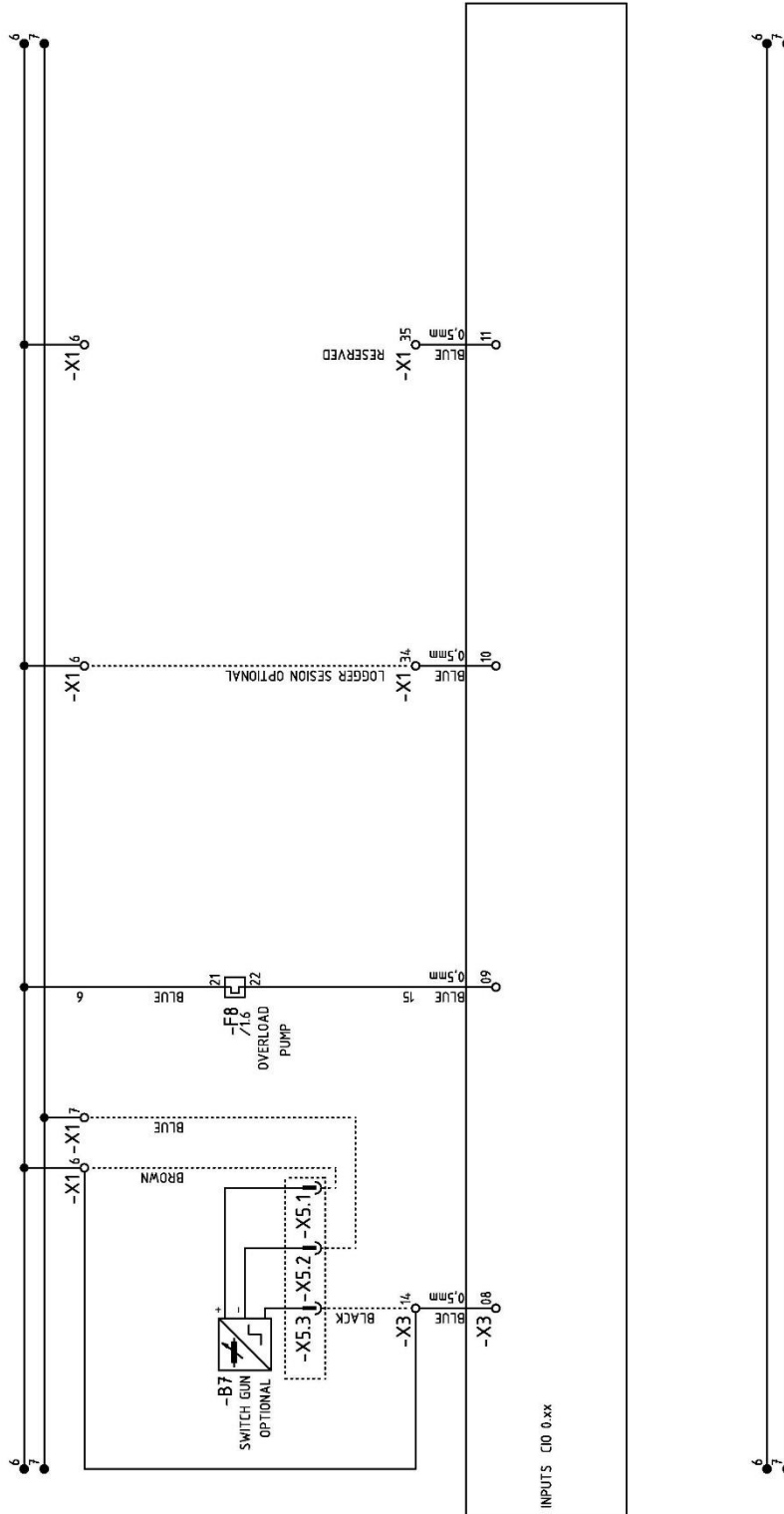


Figure 25. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 5/12)

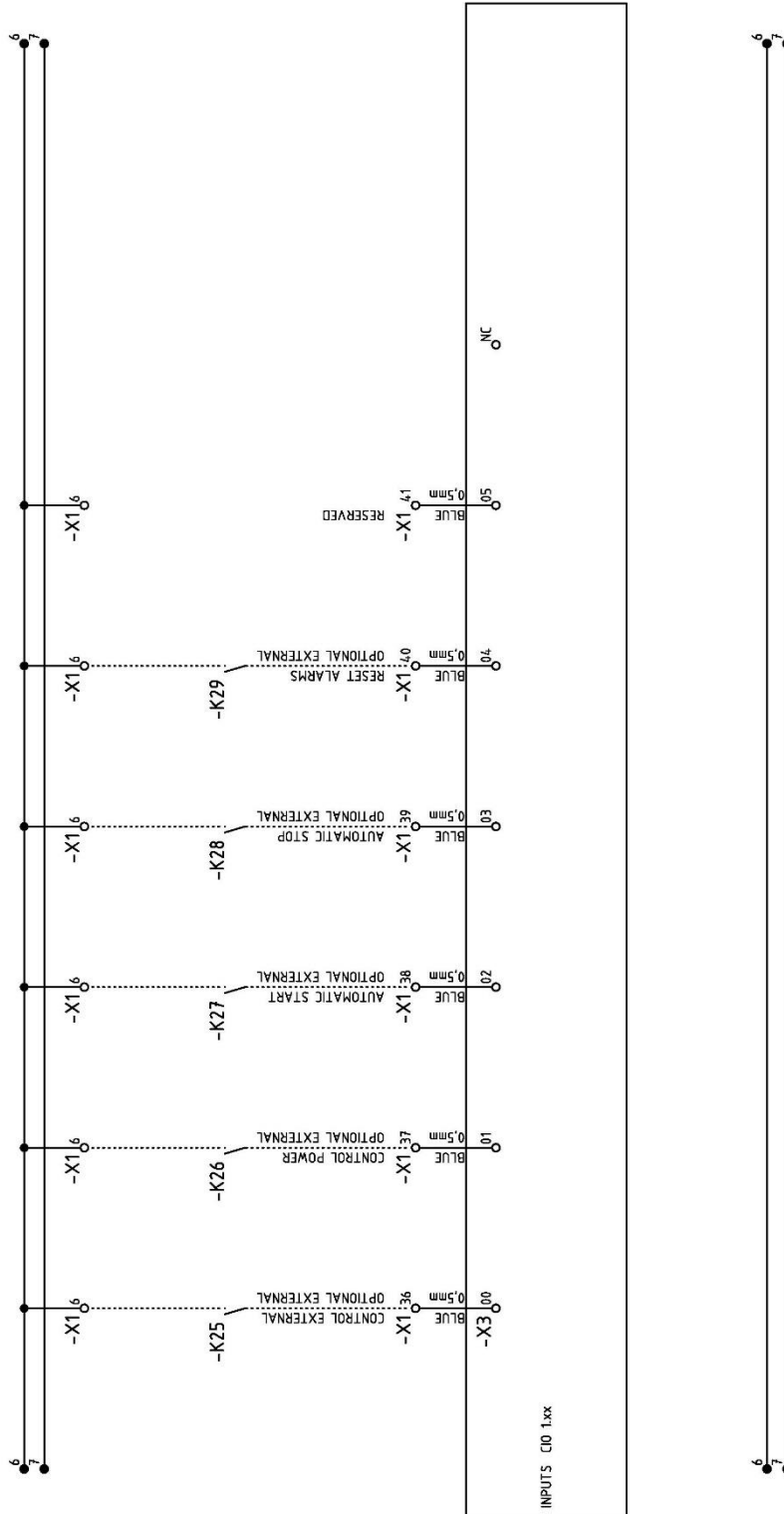


Figure 26. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 6/12)



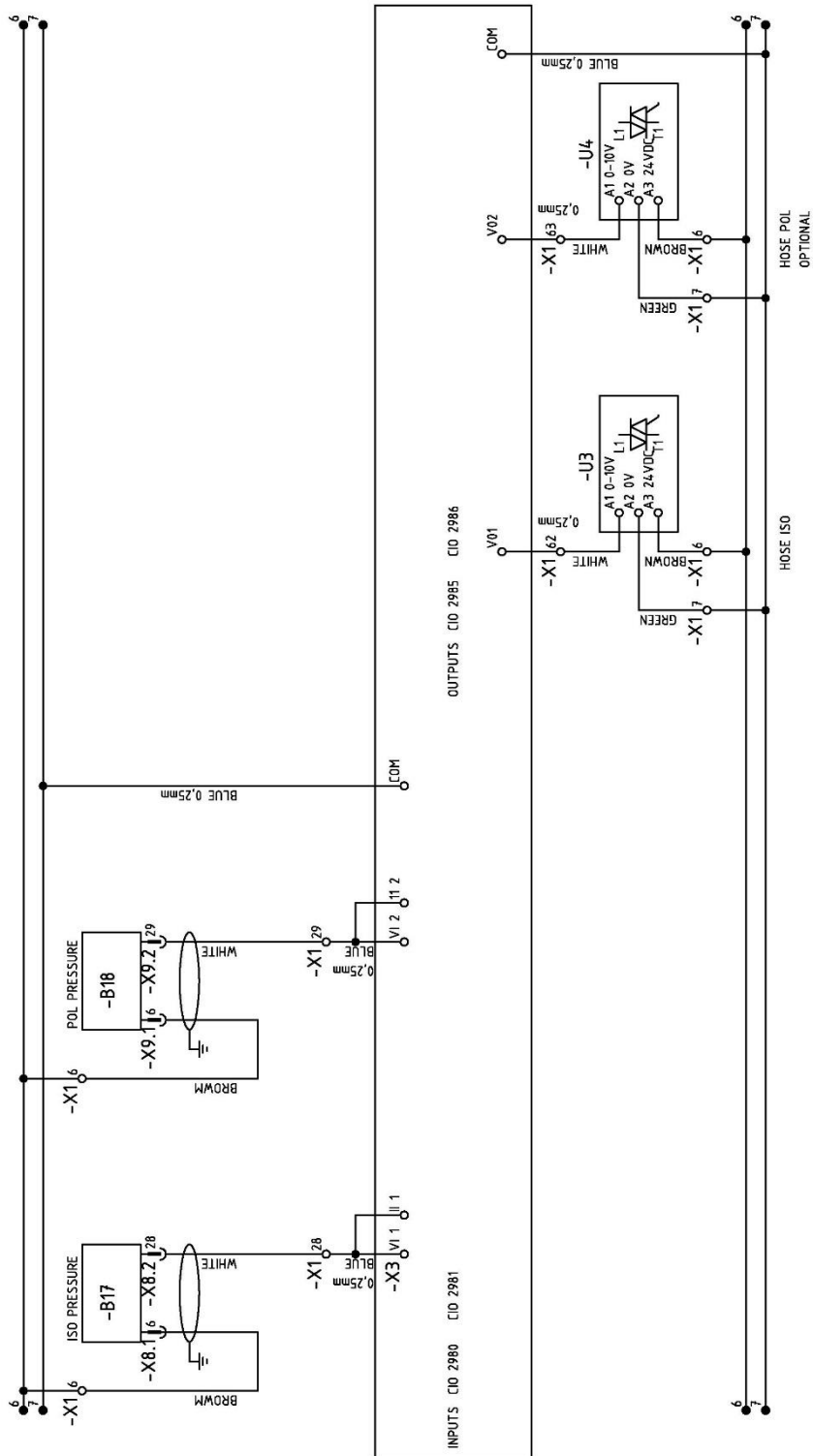


Figure 28. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 8/12)

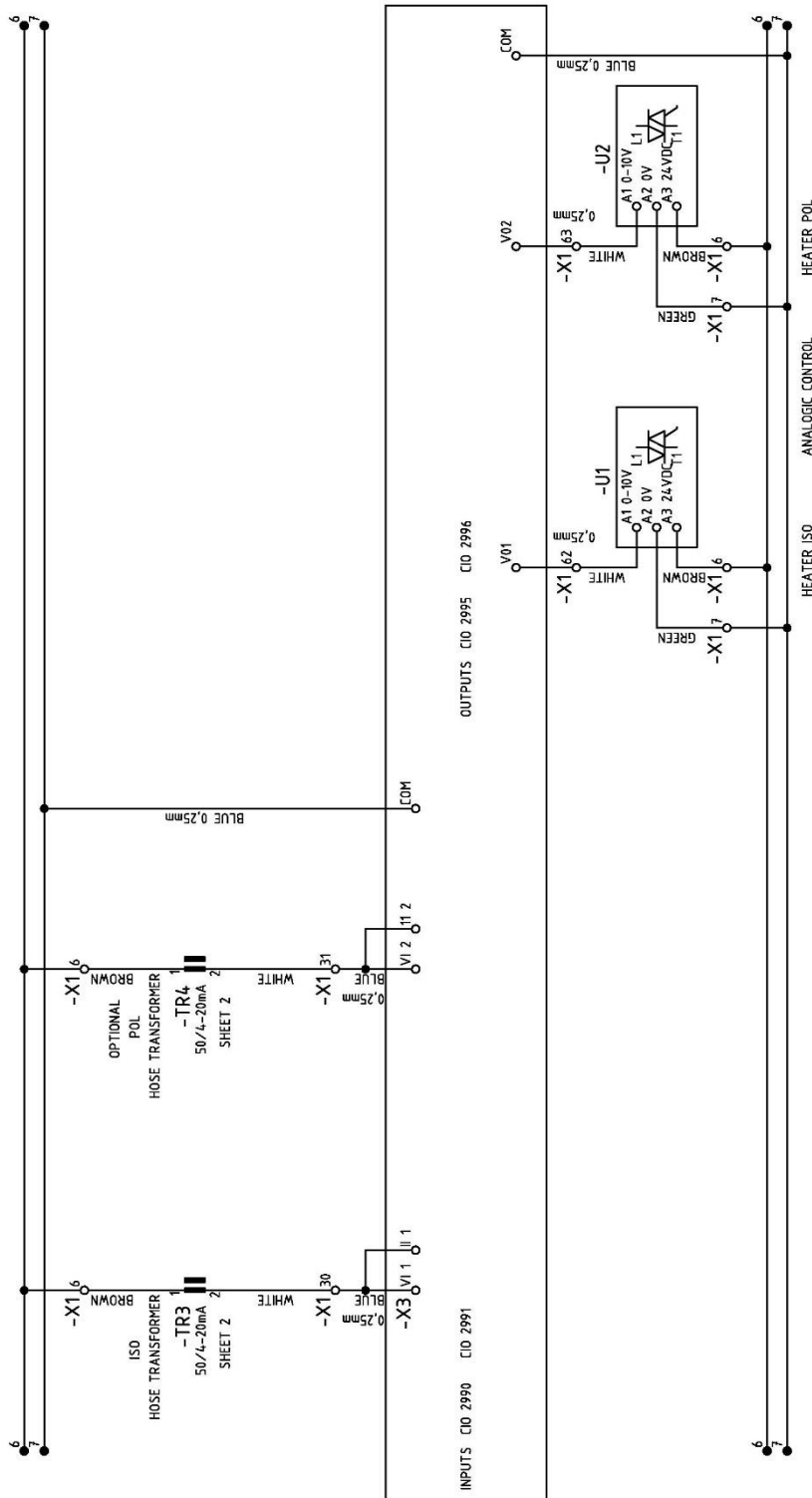


Figure 29. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 9/12)

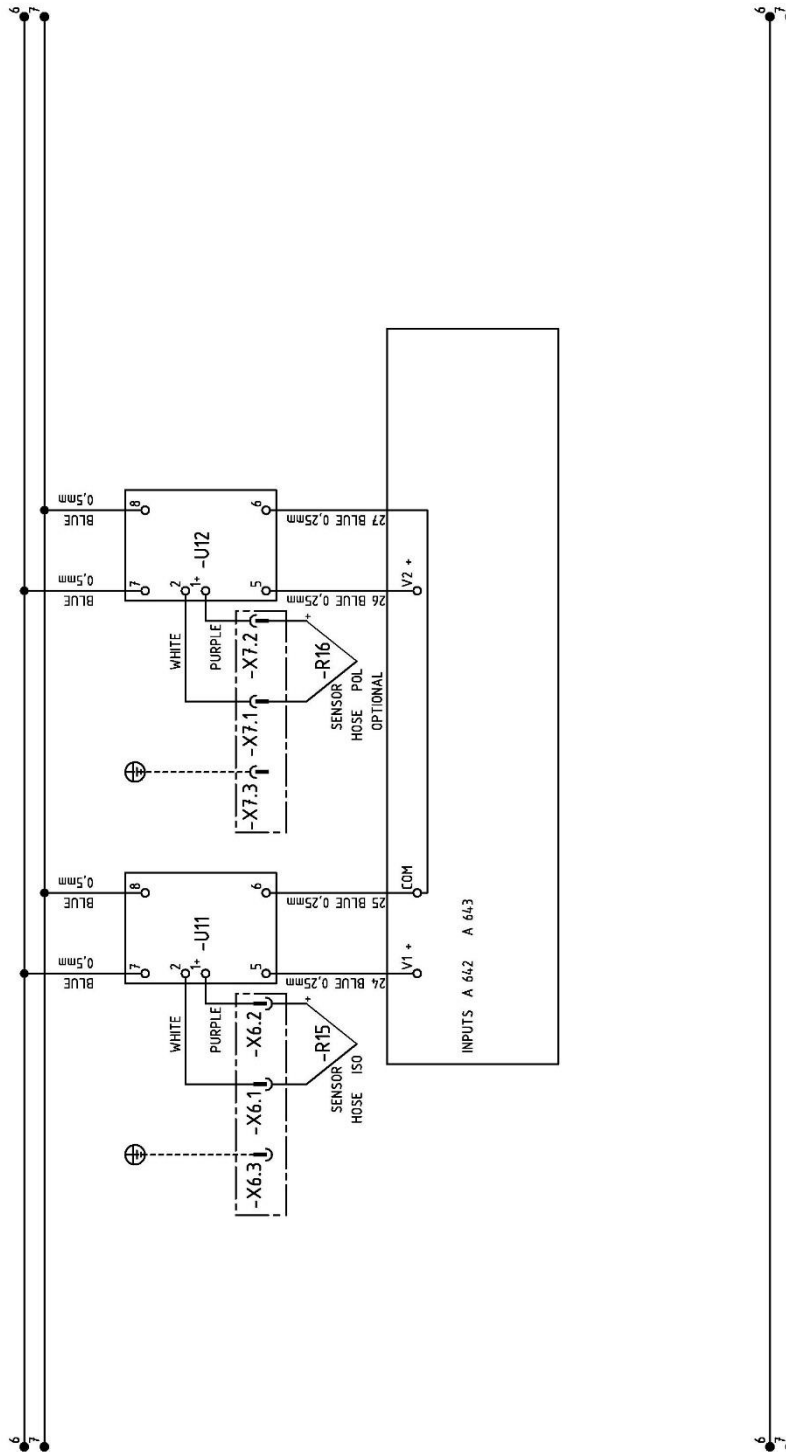


Figure 30. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 10/12)

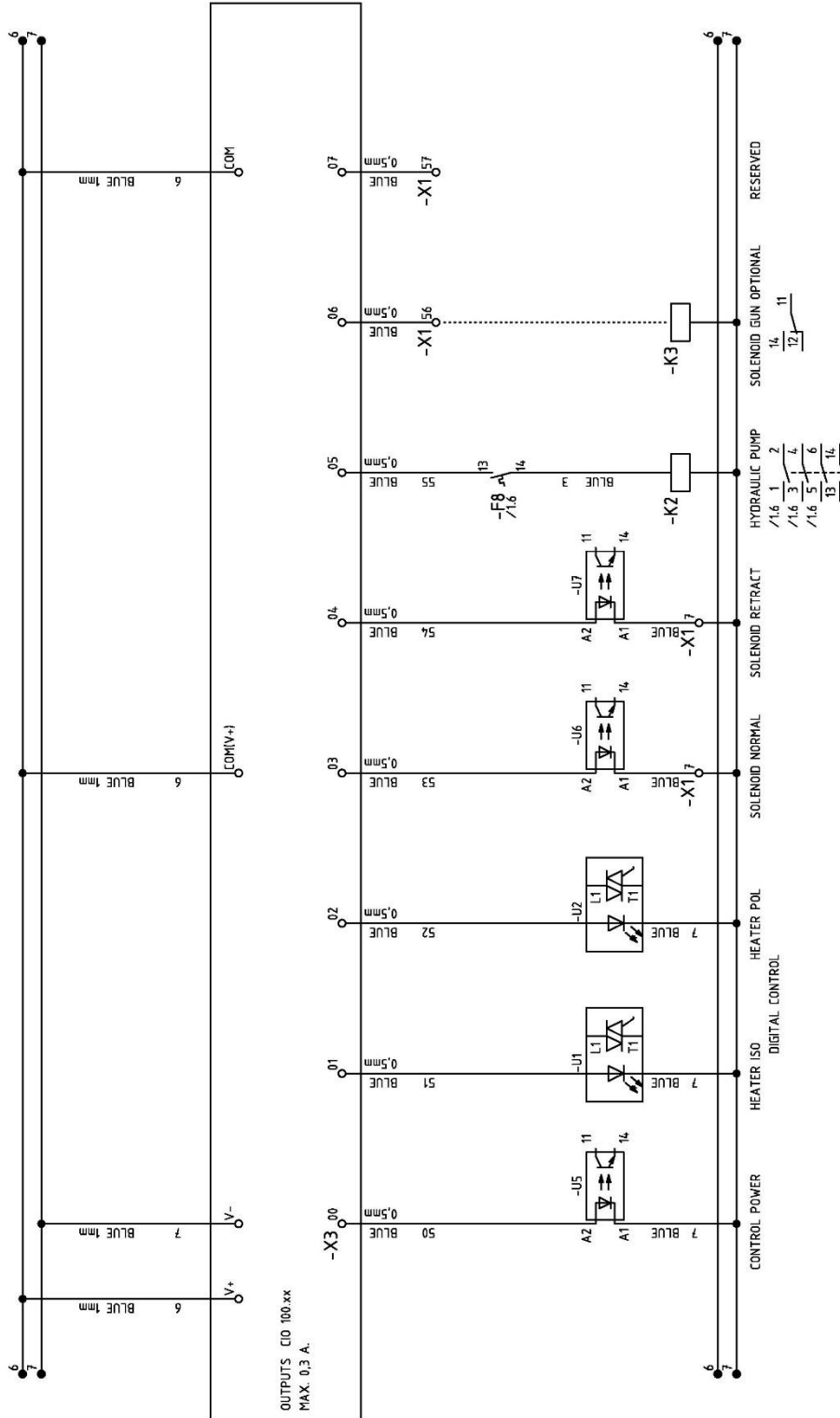


Figure 31. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 11/12)

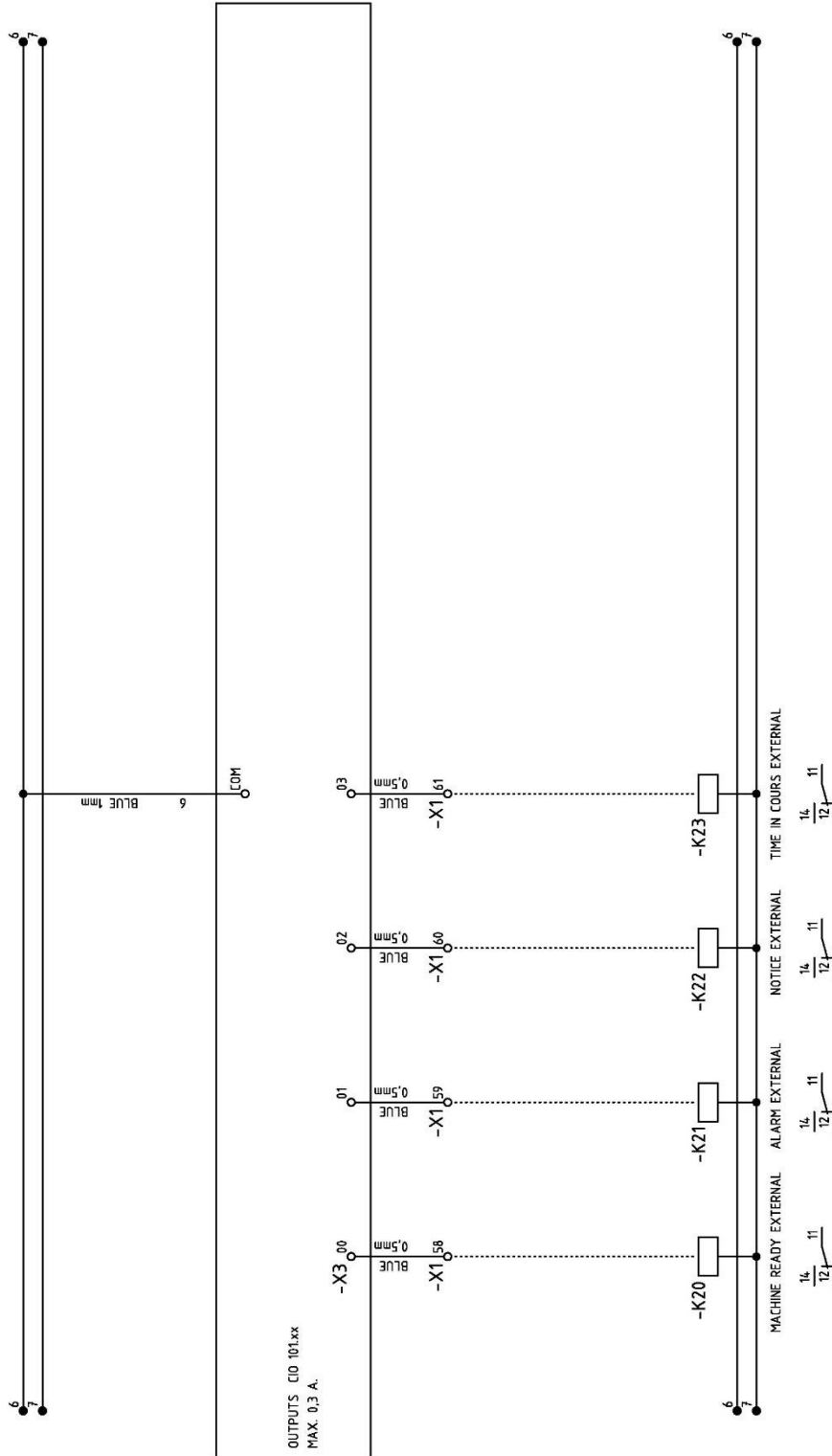


Figure 32. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 12/12)

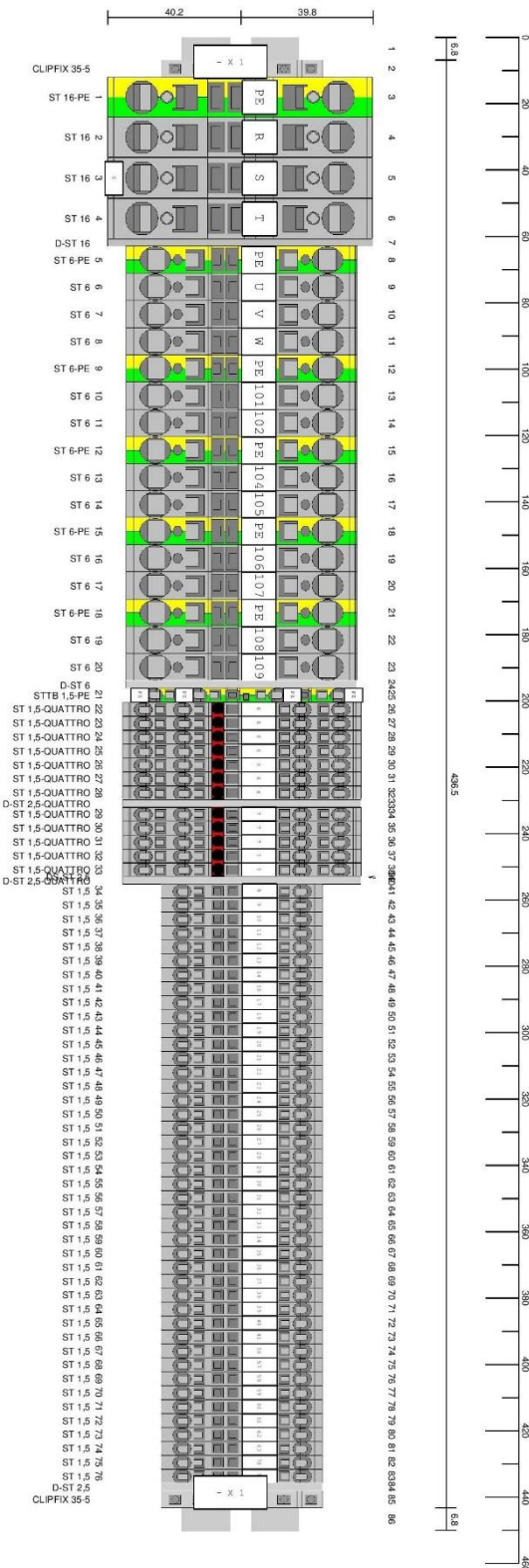
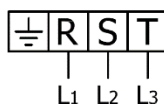


Figure 33. Distribution 3PE~400V 50/60Hz Standard Version



**Table 40. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. Parts List**

Item	Description	Reference	Qty
F 10	FUSIBLE POINT	EL-00104-13	1
F 10	FUSE	EL-00128-03	2
I 1	SWITCH 63 A	EL-00107-18	1
I 1	CONTROL RED YELLOW	EL-00107-19	1
G1	POWER SUPPLY 400/24 5A	EL-00135-03	1
D1	DIFFERENTIAL SWITCH 0,03 63 A	EL-00108-04	1
F 2,3	CIRCUIT BREAKER	EL-00113-04	2
F 4	CIRCUIT BREAKER	EL-00112-04	1
F 1	CIRCUIT BREAKER	EL-00109-04	1
F 5	CIRCUIT BREAKER 6,3-10 A	EL-00119-04	1
F 5	AUXILIARY CONTACTOR	EL-00119-03	1
T 3	INTENSITY TRANSFORMER 50A 4/20mA	EL-00127-19	1
V 1,2	STATIC RELAY	EL-00126-13	2
V 3	TRIAC	EL-00126-11	1
V 3	CONNECTION TRIAC	EL-00126-12	1
K 1	CONTACTOR 24 VDC	EL-00123-02	1
K 2	CONTACTOR 24 VDC	EL-00121-02	1
	RESISTANCE	EL-00129-01	1
X 1	TERMINAL STRIP	EL-00105-13	1
	BASE STATIC RELAY	EL-00126-07	3
	STATIC RELAY	EL-00126-06	3
	CPU	EL-00171-03	1
	ANALOGIC MODULE 2E 2S	EL-00171-05	1
	ANALOGIC MODULE 2E	EL-00171-04	1
	EXPANSION MODULE 2EPt100	EL-00171-06	1
	SWITCH 5x ETHERNET	EL-00171-07	1
	TOUCH SCREEN 7"	EL-00171-02	1
	WIRE ETHERNET 1.5 MTS	EL-00171-09	1
	WIRE ETHERNET 0.2 MTS	EL-00171-11	1
	MINI MCR-TC-UI-NC	EL-00164-02	1
	USB PORT	EL-00078-06	1
	CONSOLE 500x500	EL-	1
	VENTILATION DEVICE	EL-00158-05	1



3PE~400V 50/60Hz



**ELECTRICAL SCHEMATIC DIAGRAM 3PE~230V 60Hz**

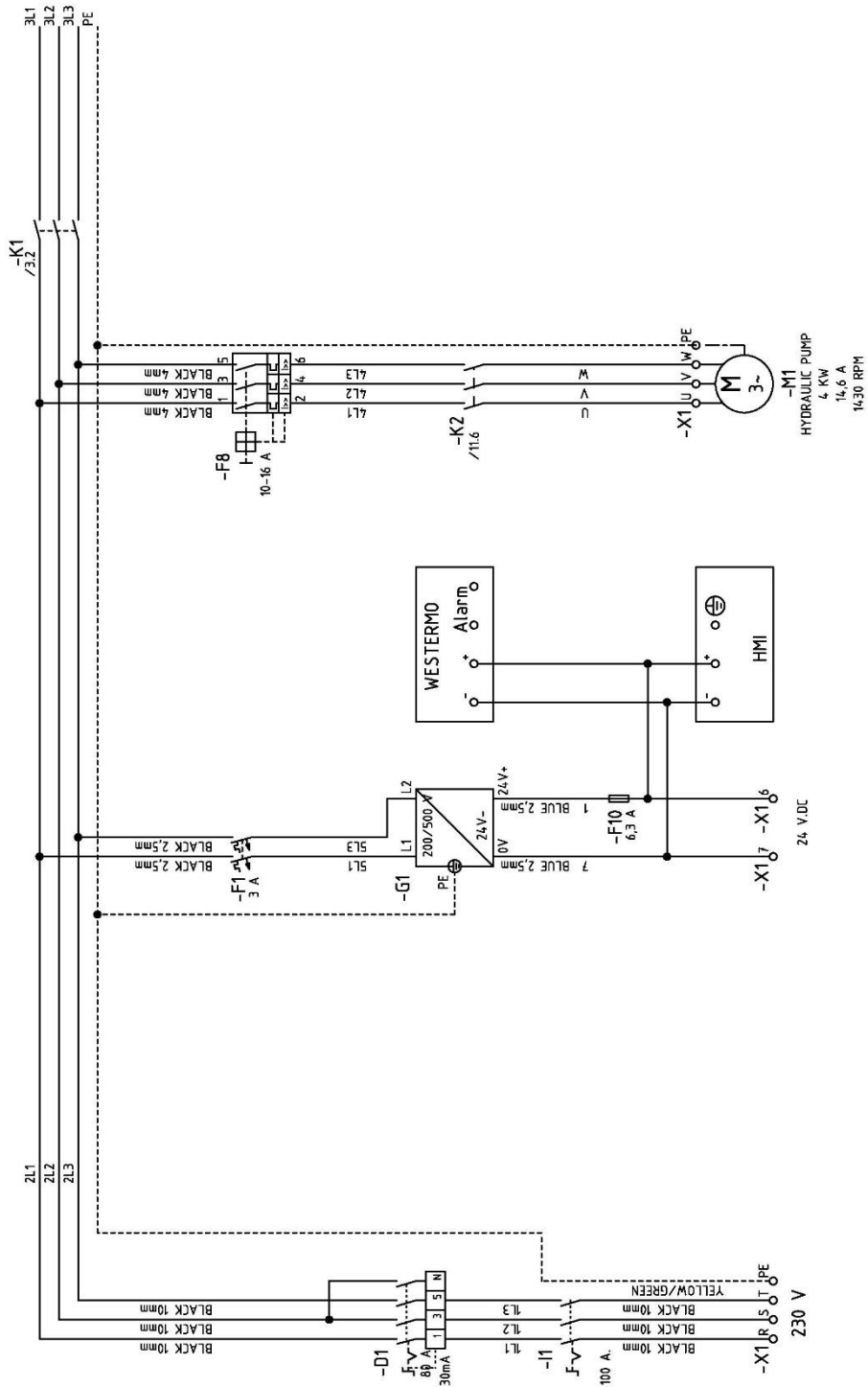


Figure 34. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 1/12)

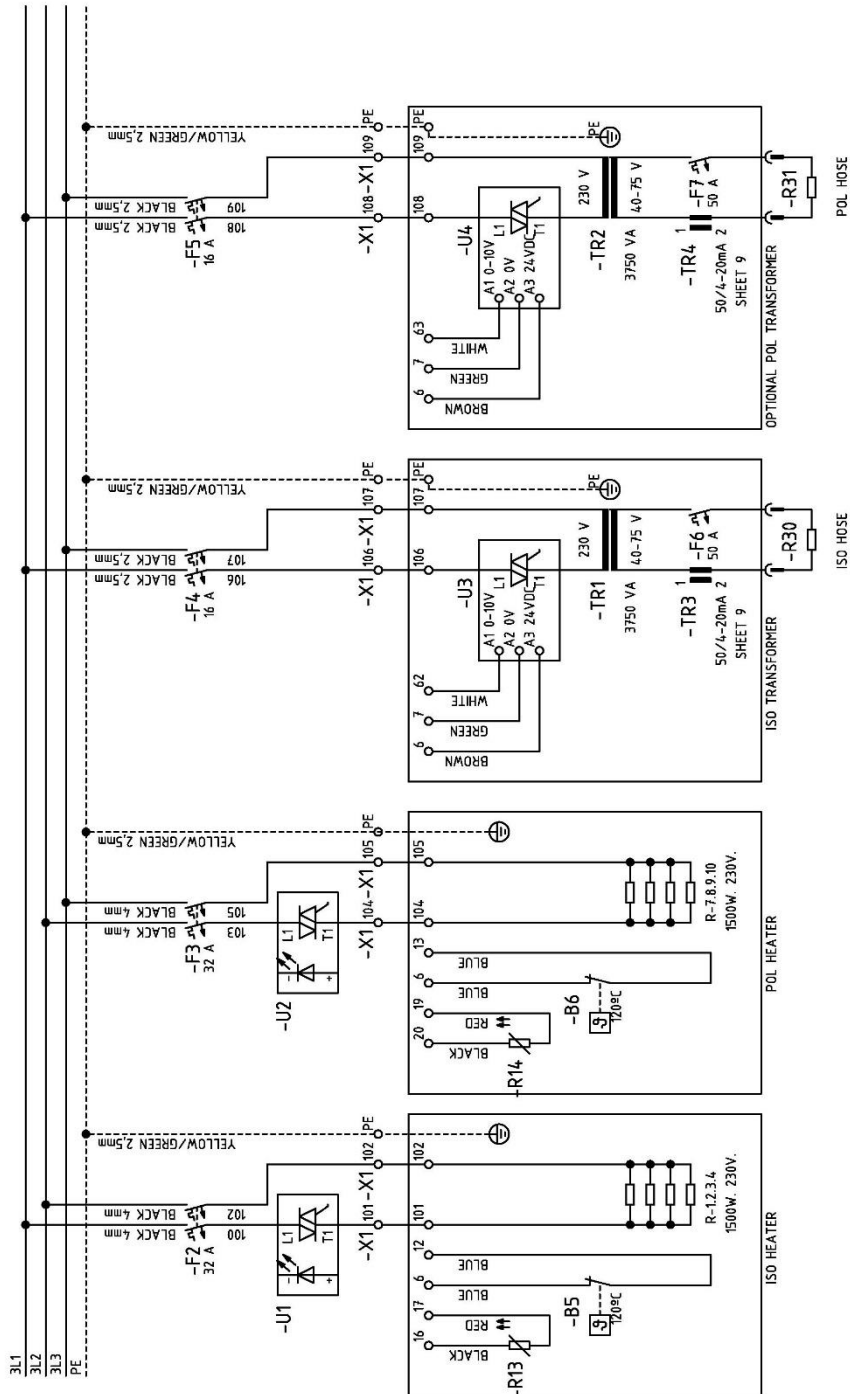


Figure 35. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 2/12)

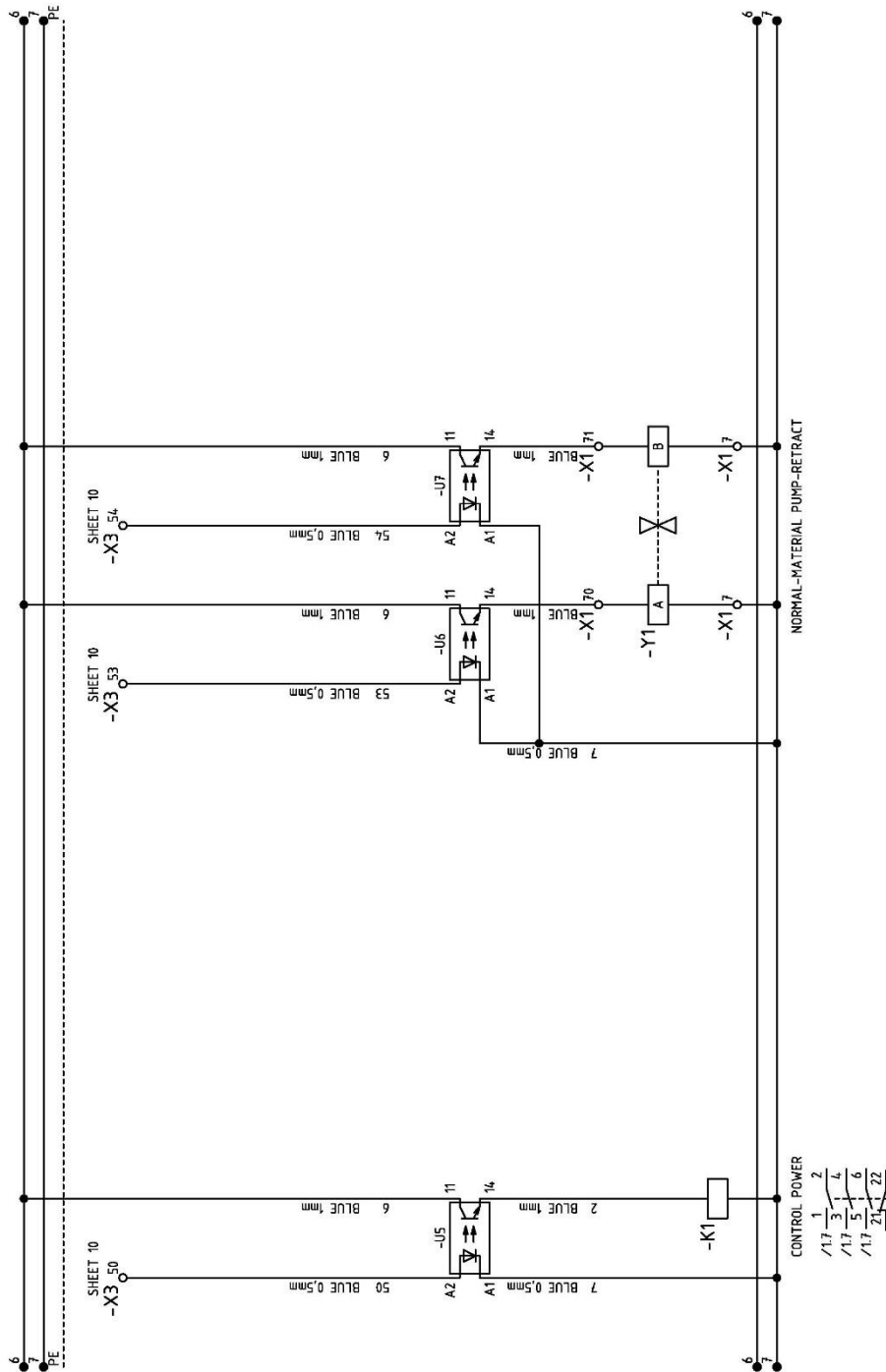


Figure 36. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 3/12)

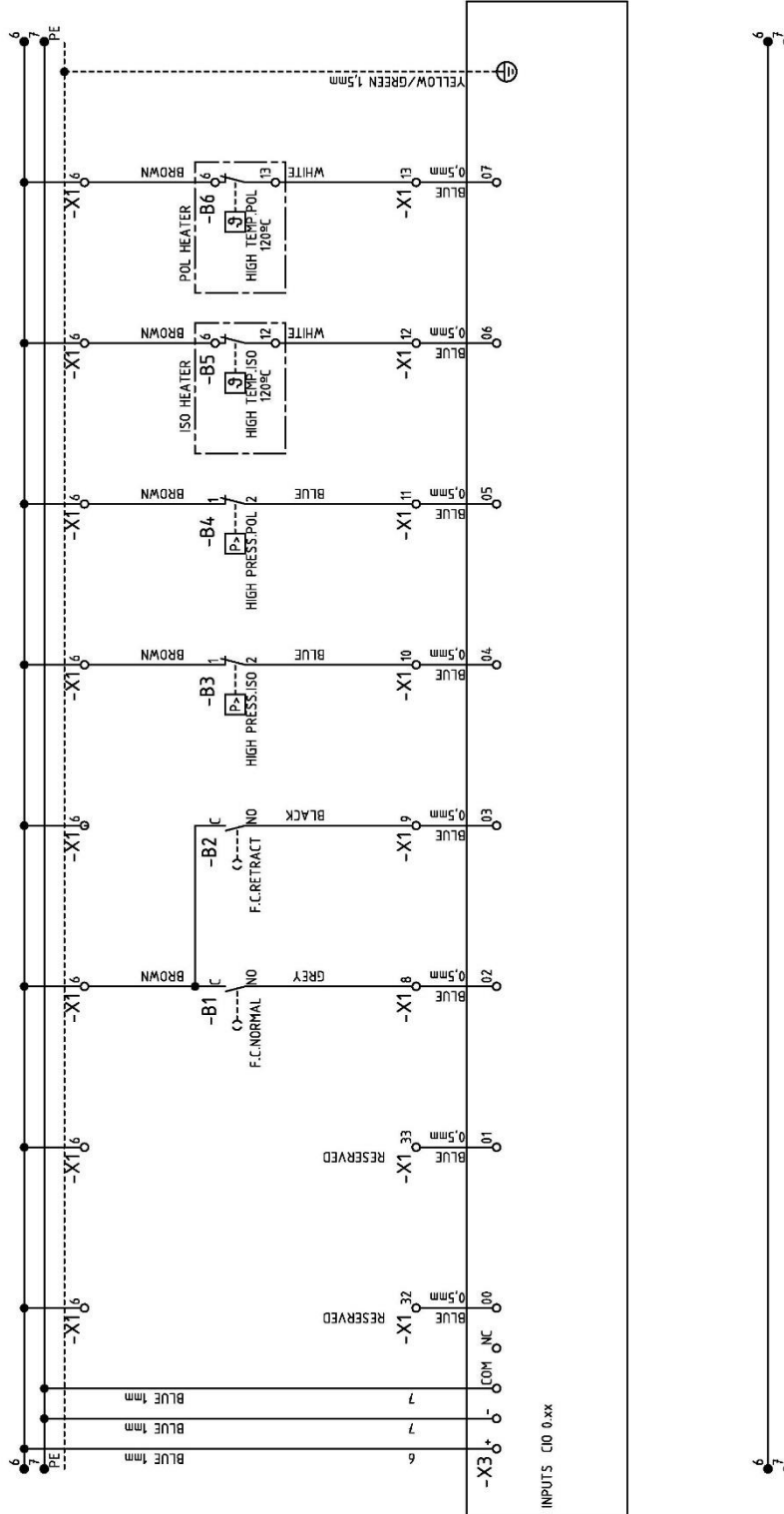


Figure 37. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 4/12)

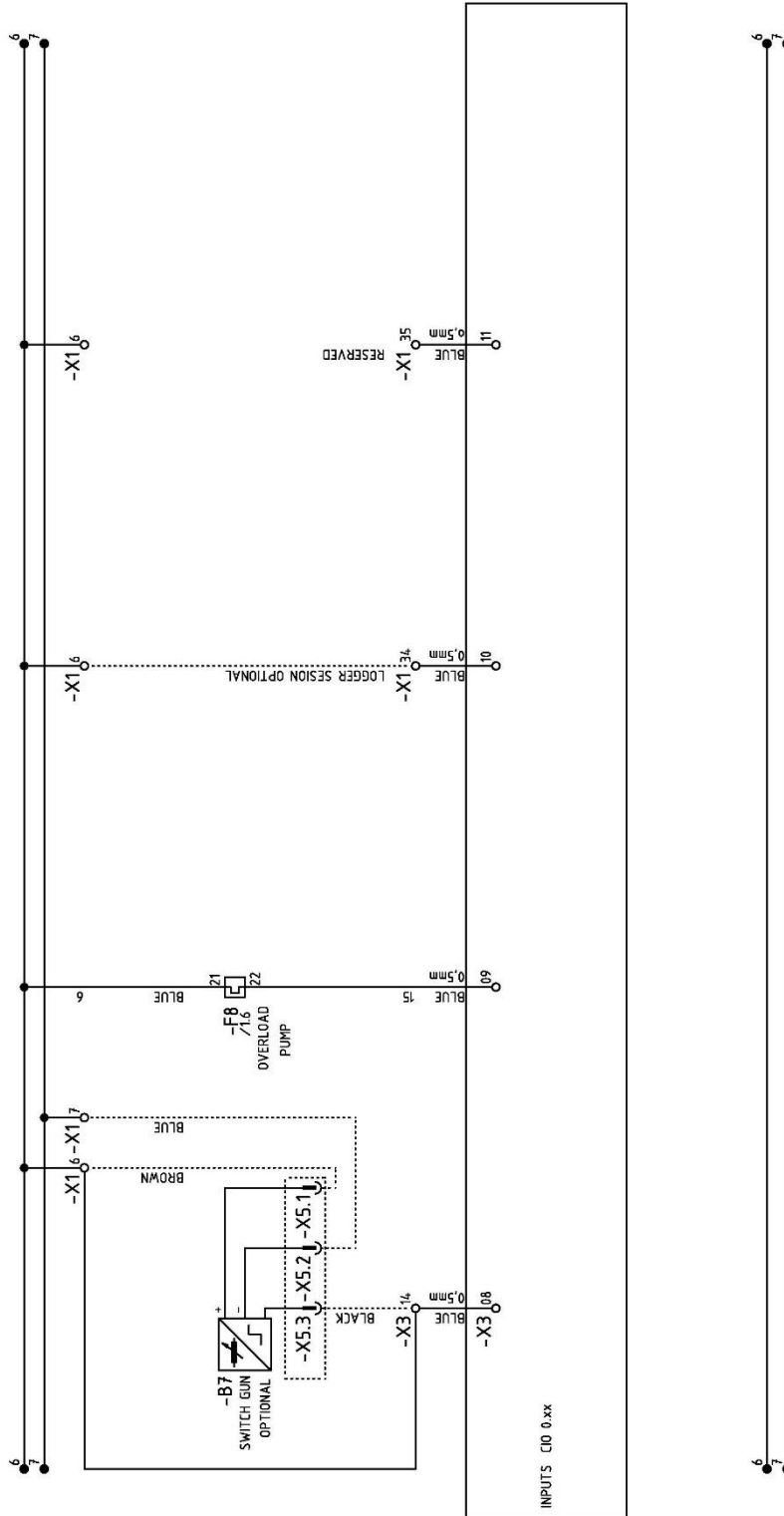


Figure 38. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 5/12)

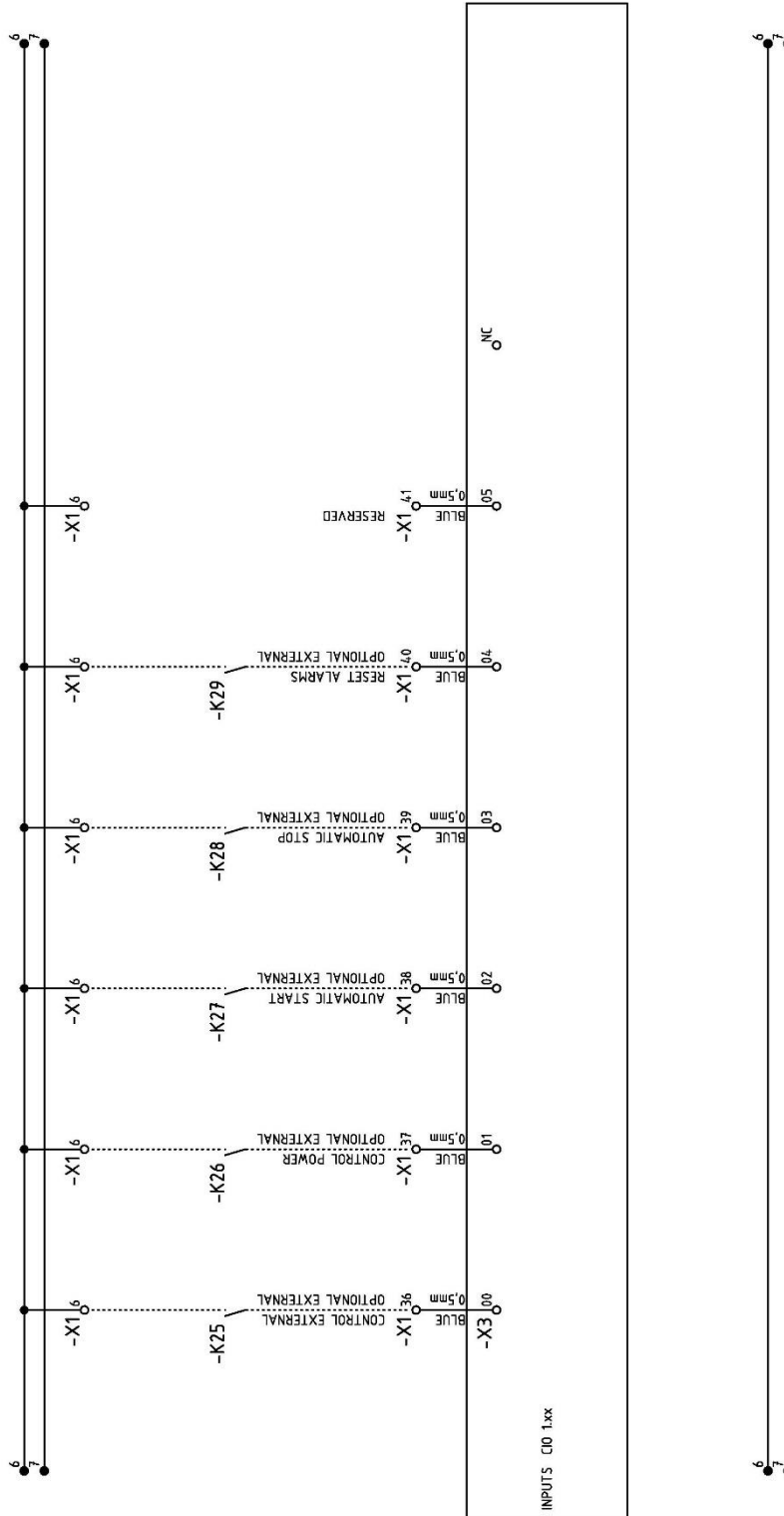


Figure 39. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 6/12)

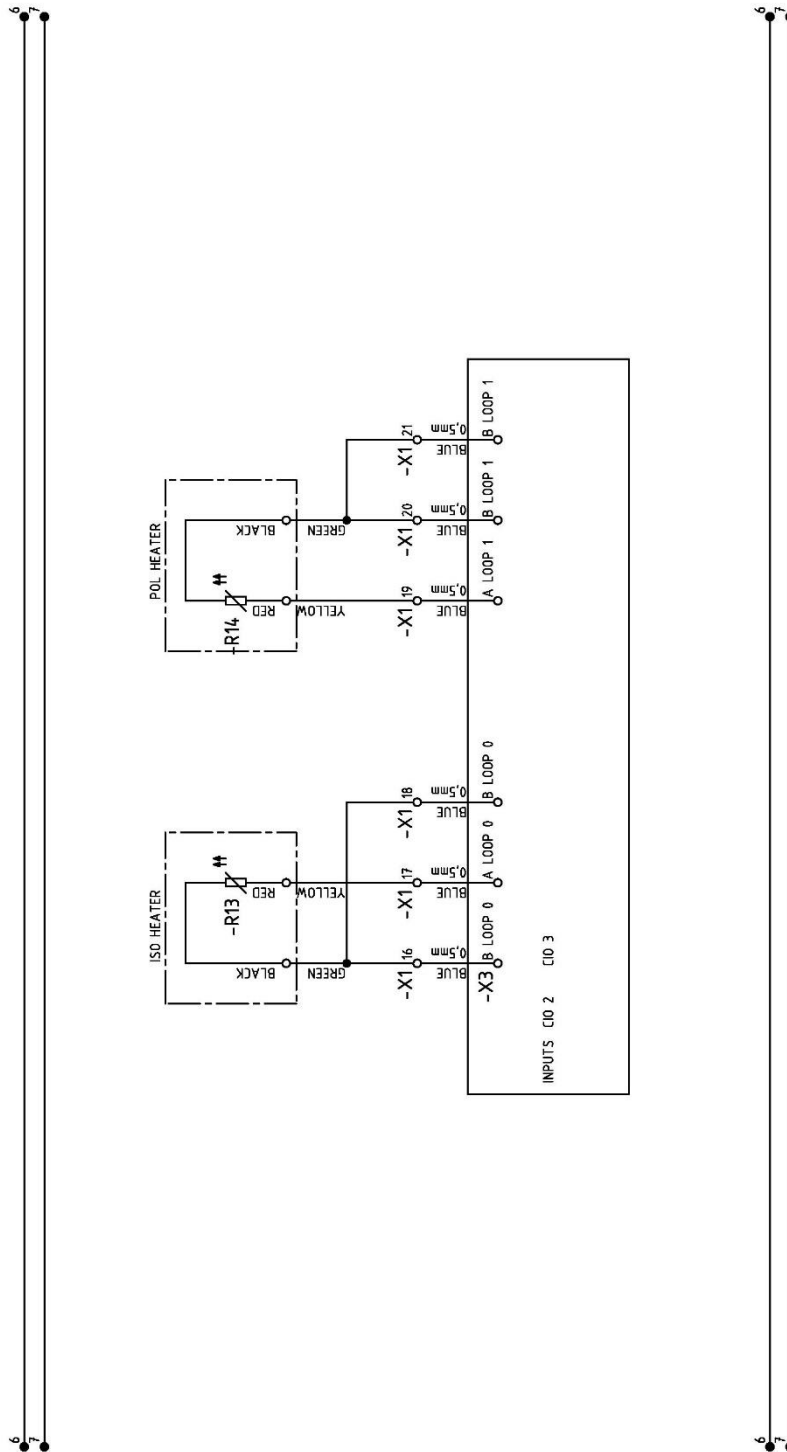


Figure 40. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 7/12)



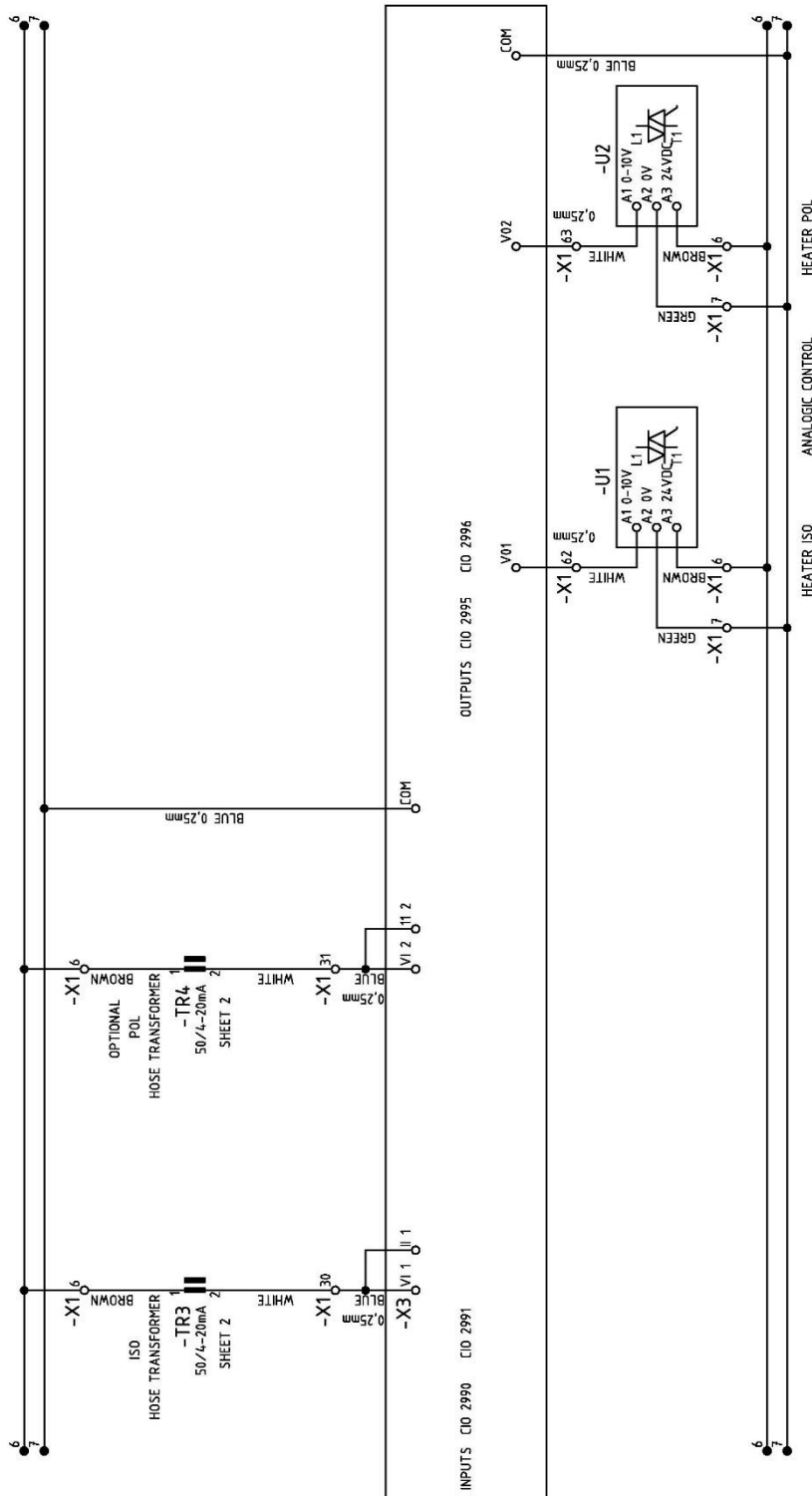


Figure 42. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 9/12)



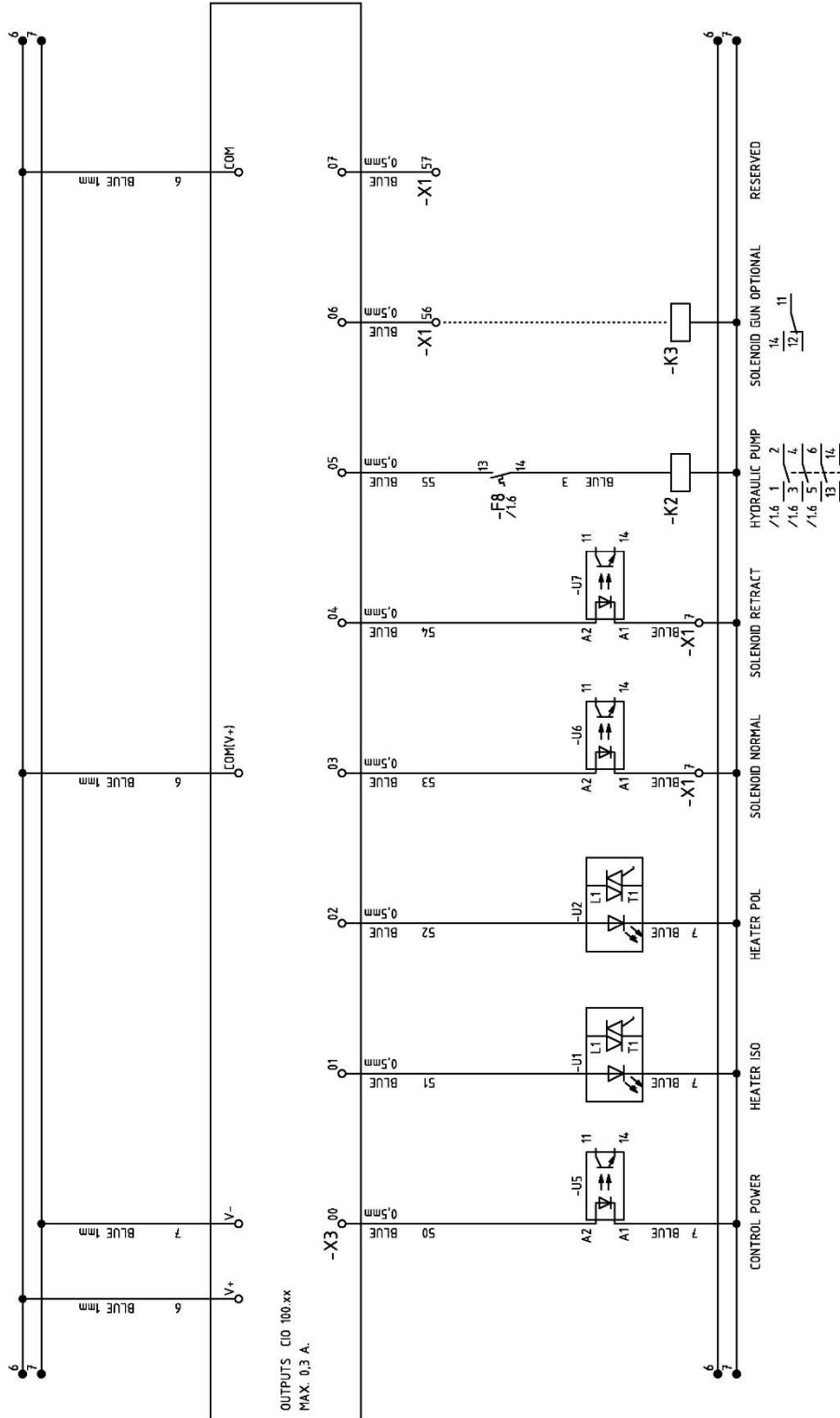


Figure 44. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 11/12)

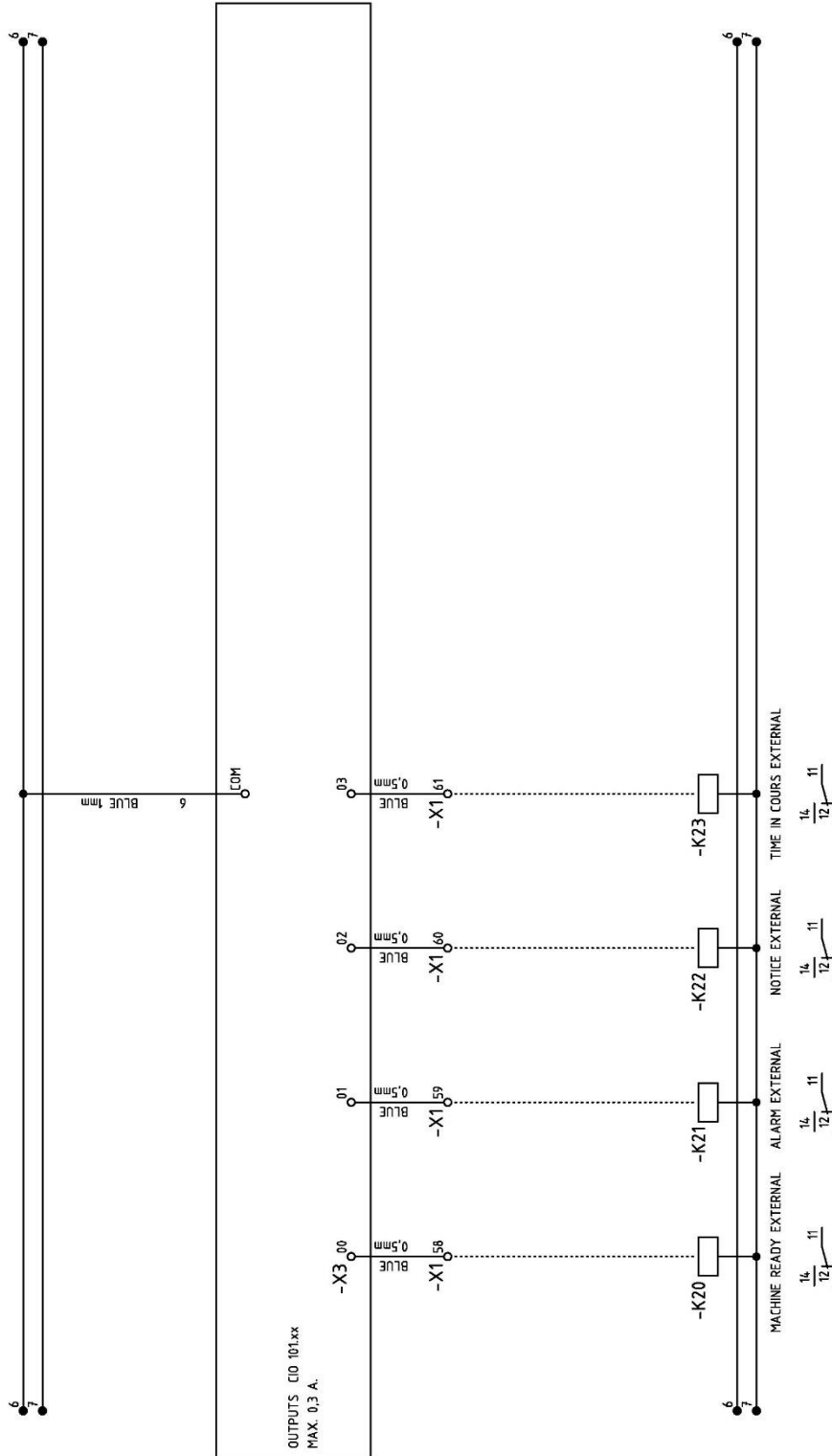


Figure 45. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 12/12)

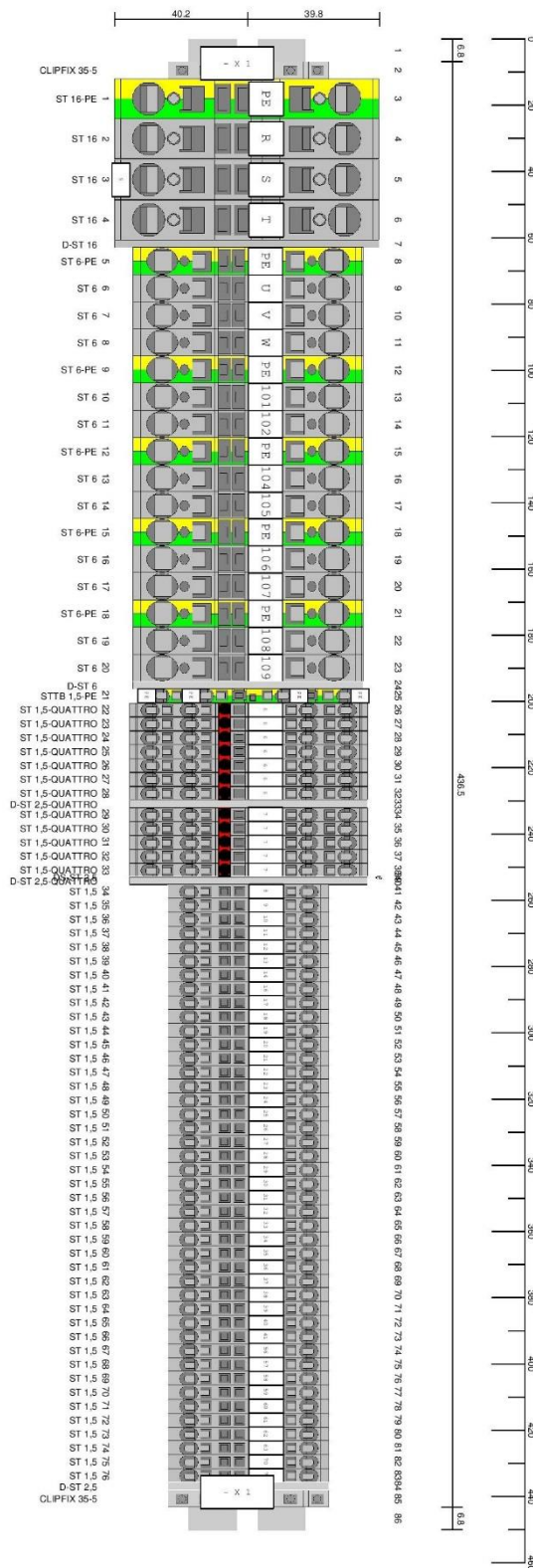


Figure 46. Distribution 3PE~230V 60Hz Standard Version



**Table 41. Elec. Schem. 3PE~230V 60Hz Standard Version, Parts List**

Item	Description	Reference	Qty
F 10	FUSIBLE POINT	EL-00104-13	1
F 10	FUSE	EL-00128-03	2
I 1	SWITCH 100 A	EL-00107-23	1
I 1	CONTROL RED YELLOW	EL-00107-19	1
G1	POWER SUPPLY 400/24 5 A	EL-00135-03	1
D1	DIFFERENTIAL SWITCH 0,03 80 A	EL-00108-05	1
F 2,3	CIRCUIT BREAKER	EL-00113-03	2
F 4	CIRCUIT BREAKER	EL-00112-12	1
F 1	CIRCUIT BREAKER	EL-00109-04	1
F 5	CIRCUIT BREAKER 10-16A	EL-00119-05	1
F 5	AUXILIARY CONTACTOR	EL-00119-03	1
T 3	INTENSITY TRANSFORMER 50A 4/20mA	EL-00127-19	1
V 1,2	STATIC RELAY	EL-00126-13	2
V 3	TRIAC	EL-00126-11	1
V 3	CONNECTION TRIAC	EL-00126-12	1
K 1	CONTACTOR 24 VDC	EL-00123-02	1
K 2	CONTACTOR 24 VDC	EL-00121-02	1
X 1	TERMINAL STRIP	EL-00105-13	1
	BASE STATIC RELAY	EL-00126-07	3
	STATIC RELAY	EL-00126-06	3
	CPU	EL-00171-03	1
	ANALOGIC MODULE 2E 2S	EL-00171-05	1
	ANALOGIC MODULE 2E	EL-00171-04	1
	EXPANSION MODULE 2EPt100	EL-00171-06	1
	SWITCH 5x ETHERNET	EL-00171-07	1
	TOUCH SCREEN 7"	EL-00171-02	1
	WIRE ETHERNET	EL-00171-09	1
	WIRE ETHERNET	EL-00171-11	1
	MINI MCR-TC-UI-NC	EL-00164-02	1
	USB PORT	EL-00078-06	1
	CONSOLE 500x500	EL-	1
	VENTILATION DEVICE	EL-00158-05	1



3PE~230V 60Hz



## PNEUMATIC SCHEMATIC DIAGRAM

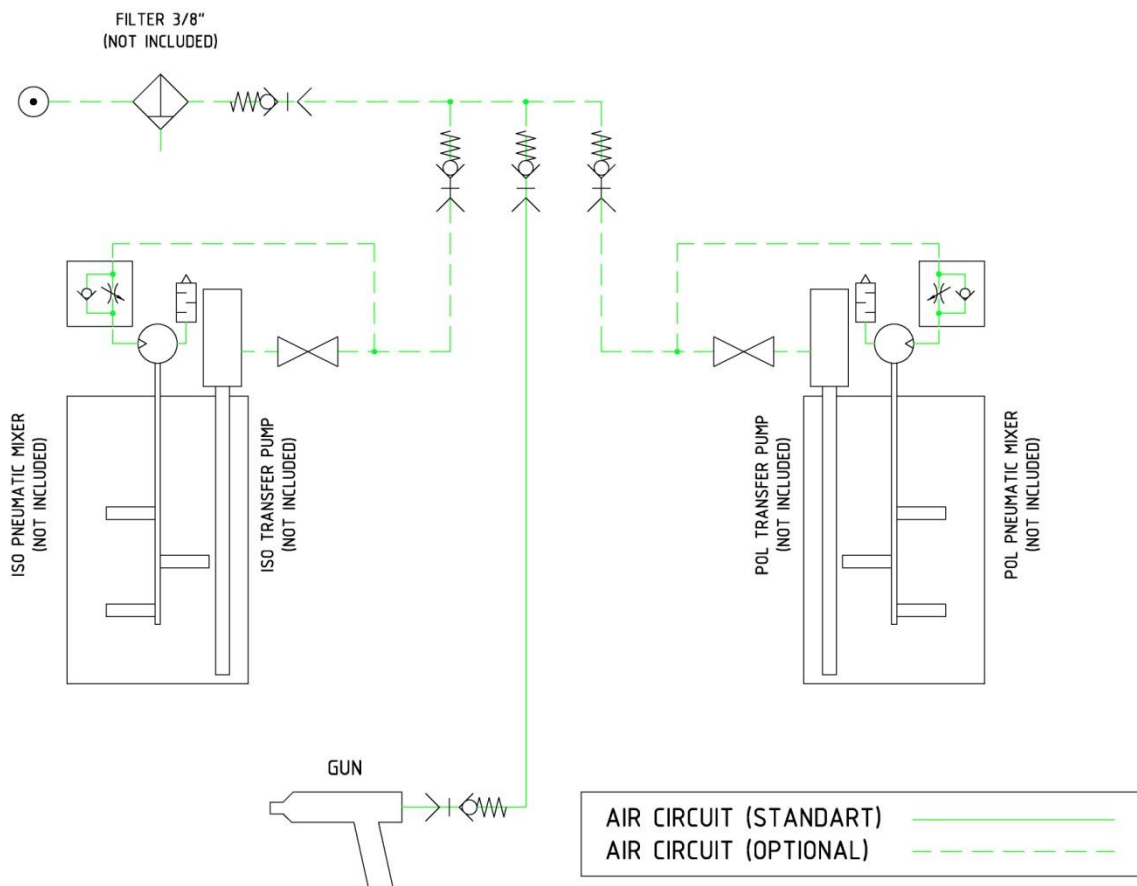


Figure 47. Pneumatic Schematic Diagram



## HYDRAULIC SCHEMATIC DIAGRAM

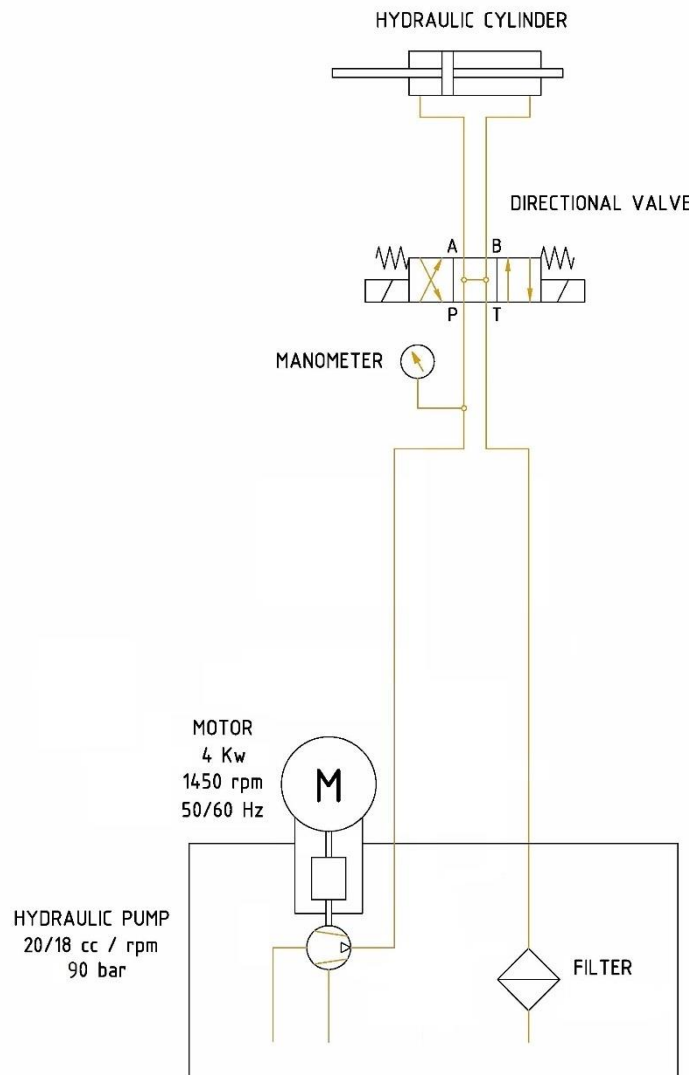


Figure 48. Hydraulic Schematic Diagram





## TABLE OF CONTENTS

Warranty	2
Safety and Handling	3
Proportioning Unit novaG III PLUS Model	4
Electrical Console	9
Hydraulic Manifold with Motor 3PE~400V/230V 50/60hz (hyd. Pump 18 cc.)	11
Hydraulic Manifold with Motor 3PE~400V/230V 50/60hz (hyd. Pump 20 cc.)	12
Reversing Switch & Pump Line Support	16
Lube Reservoir Hose Assembly	18
Pump Line Assembly	20
Hydraulic Cylinder with Spacers	23
“A” Proportioning Pump Assembly	25
“R” Proportioning Pump Assembly	28
“A” Standard Primary Heater	31
“R” Standard Primary Heater	34
Round Block Primary Heater	37
Recirculation Kit P#: KT-00038	41
Recirculation Kit P#: KT-00038-01	42
Recirculation Kit P#: KT-00038-03	44
Recirc. KIT for Round Heaters without Filters	46
Recirc. KIT for Round Heaters with Double Filter	47
Recirc. KIT for Round Heaters with “A” ISO Filter	49
Electrical Schematic Diagram 3PE~400V 50/60hz	51
Electrical Schematic Diagram 3PE~230V 60hz	65
Pneumatic Schematic Diagram	79
Hydraulic Schematic Diagram	80
Functioning Schematic Diagram	81
Table of Contents	82
List of Tables	83
List of Illustrations	85



## LIST OF TABLES

Table 1. Proportioning Unit novaG III PLUS Model, Parts List	5
Table 2. Hose Transformer Reference List	6
Table 3. A-Primary Tube Heater Reference List	7
Table 4. A-Round Primary Heater Reference List	7
Table 5. R-Primary Heater Reference List	8
Table 6. R-Round Primary Heater Reference List	8
Table 7. Electrical Console Reference List	8
Table 8. Electrical Console novaG III PLUS Model, Parts List	10
Table 9. Hydraulic Manifold with Motor 3PE~400V/230V 50/60Hz, Parts List	13
Table 10. Reversing Switch & Pump Line Support, Parts List	17
Table 11. Lube Reservoir Hose Assembly, Parts List	19
Table 12. Pump Line Assembly, Parts List	21
Table 13. Proportioning Pump Size, Parts	22
Table 14. Hydraulic Cylinder with Spacers, Parts List	24
Table 15. "A" Proportioning Pump Assembly, Parts List	26
Table 16. "A" Proportioning Pump Assembly, Parts List	27
Table 17. Seals Monobloc "A" Pump	27
Table 18. Repair Seal Kit "A" Pump	27
Table 19. "R" Proportioning Pump Assembly, Parts List	29
Table 20. "R" Proportioning Pump Assembly, Parts List	30
Table 21. Seals Monobloc "R" Pump	30
Table 22. Repair Seal Kit "R" Pump	30
Table 23. "A" Standard Primary Heater, Parts List	32
Table 24. "A" Heat Resistance & Press. Gauge Reference List	33
Table 25. "A" Component quantities according to assembly, Reference List	33
Table 26. "A" Pressure Gauge Part number, Reference List	33
Table 27. "R" Standard Primary Heater, Parts List	35
Table 28. "R" Heat Resistance & Press. Gauge Reference List	36
Table 29. "R" Component quantities according to assembly, Reference List	36
Table 30. "R" Pressure Gauge Part number, Reference List	36
Table 31. Round Block Primary Heater Reference List	38
Table 32. Round Block Heater Resistance Reference List	40
Table 33. Component quantities according to assembly, Reference List	40
Table 34. Standard Recirculation Kit, Parts List	41



<b>Table 35. Recirculation Kit #KT-00038-01, Parts List</b>	<b>_____ 43</b>
<b>Table 36. Recirculation Kit #KT-00038-03, Parts List</b>	<b>_____ 45</b>
<b>Table 37. Recirc. Kit for Round Heaters without Filters, Parts List</b>	<b>_____ 46</b>
<b>Table 38. Recirc. Kit for Round Heaters with Double Filter, Parts List</b>	<b>_____ 48</b>
<b>Table 39. Recirc. Kit for Round Heaters with "A" ISO Filter, Parts List</b>	<b>_____ 50</b>
<b>Table 40. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. Parts List</b>	<b>_____ 64</b>
<b>Table 41. Elec. Schem. 3PE~230V 60Hz Standard Version, Parts List</b>	<b>_____ 78</b>



## LIST OF ILLUSTRATIONS

Figure 1. Proportioning Unit novaG III PLUS Model _____	4
Figure 2. Generic Fixings Detail, Unit novaG – III PLUS Model _____	5
Figure 3. Electrical Console novaG III PLUS _____	9
Figure 4. Hydraulic Manifold 3PE~400V/230V 50/60Hz (hyd. Pump 18 cc), Exploded View _____	11
Figure 5. Hydraulic Manifold 3PE~400V/230V 50/60Hz (hyd. Pump 20 cc), Exploded View _____	12
Figure 6. Reversing Switch & Pump Line Support, Exploded View _____	16
Figure 7. Lube Reservoir Hose Assembly, Exploded View _____	18
Figure 8. Pump Line Assembly, Exploded View _____	20
Figure 9. Hydraulic Cylinder with Spacers, Exploded View _____	23
Figure 10. “A” Proportioning Pump Assembly, Exploded View _____	25
Figure 11. “R” Proportioning Pump Assembly, Exploded View _____	28
Figure 12. “A” Standard Primary Heater, Exploded View _____	31
Figure 13. “R” Standard Primary Heater, Exploded View _____	34
Figure 14. Round Block Primary Heater _____	37
Figure 15. Recirculation Kit P#: KT-00038, Exploded View _____	41
Figure 16. Recirculation Kit P#: KT-00038-01, Exploded View _____	42
Figure 17. Recirculation Kit P#: KT-00038-03, Exploded View _____	44
Figure 18. Recirc. Kit for Round Heaters without Filters _____	46
Figure 19. Recirc. Kit for Round Heaters with Double Filters _____	47
Figure 20. Recirc. Kit for Round Heaters with “A” ISO Filter _____	49
Figure 21. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 1/12) _____	51
Figure 22. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 2/12) _____	52
Figure 23. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 3/12) _____	53
Figure 24. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 4/12) _____	54
Figure 25. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 5/12) _____	55
Figure 26. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 6/12) _____	56
Figure 27. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 7/12) _____	57
Figure 28. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 8/12) _____	58
Figure 29. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 9/12) _____	59
Figure 30. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 10/12) _____	60
Figure 31. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 11/12) _____	61
Figure 32. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 12/12) _____	62



Figure 33. Distribution 3PE~400V 50/60Hz Standard Version	63
Figure 34. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 1/12)	65
Figure 35. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 2/12)	66
Figure 36. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 3/12)	67
Figure 37. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 4/12)	68
Figure 38. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 5/12)	69
Figure 39. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 6/12)	70
Figure 40. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 7/12)	71
Figure 41. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 8/12)	72
Figure 42. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 9/12)	73
Figure 43. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 10/12)	74
Figure 44. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 11/12)	75
Figure 45. Elec. Schem. 3PE~230V 60Hz Standard Vers. (Sheet 12/12)	76
Figure 46. Distribution 3PE~230V 60Hz Standard Version	77
Figure 47. Pneumatic Schematic Diagram	79
Figure 48. Hydraulic Schematic Diagram	80
Figure 49. Functioning Schematic Diagram	81