



Parts Manual

Proportioning Unit

novaG V PLUS

Issue 2.4 - 18/08/2023
Ref. NR-00009-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.

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.

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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.

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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):



Directive 2006/42/EC on machinery (UK Supply of Machinery (Safety) Regulations 2008)

UNE EN 12100:2012 (BS EN ISO 12100:2010)

Directive 2014/30/EU on electromagnetic compatibility (UK Electromagnetic Compatibility Regulations 2016) (*)

UNE EN 55011 (BS UNE EN 55011)

UNE EN 55016-2-1 (BS UNE EN 55016-2-1); UNE EN 55016-2-3 (BS UNE EN 55016-2-3); UNE EN 55032 (BS UNE EN 55032)

UNE EN 61000-3-2 (BS UNE EN 61000-3-2); UNE EN 61000-3-3 (BS UNE EN 61000-3-3); UNE EN 61000-4-2 (BS UNE EN 61000-4-2); UNE EN 61000-4-3 (BS UNE EN 61000-4-3); UNE EN 61000-4-4 (BS UNE EN 61000-4-4); UNE EN 61000-4-5 (BS UNE EN 61000-4-5); UNE EN 61000-4-6 (BS UNE EN 61000-4-6); UNE EN 61000-4-8 (BS UNE EN 61000-4-8); UNE EN 61000-4-11 (BS UNE EN 61000-4-11)

() The Unit may experience a degradation of its immunity in the presence of radiated electromagnetic disturbances (IEC 61000-4-3) in the frequency range between 80MHz and 700MHz under an electric field level of 10 V / m, resulting in a temporary loss of function, self-recoverable, according to performance criterion C of the Standard.*

Directive 2014/68/EU on pressure equipment (UK Pressure Equipment (Safety) Regulations 2016)

UNE EN 809:1999 +A1 (BS EN 809:1998 +A1:2009)

Directive 2014/35/EU on electrical safety (UK Electrical Equipment (Safety) Regulations 2016)

UNE EN 60204-1:2019 (BS EN 60204-1:2018)

Directive 2003/10/EC on noise level (UK The Control of Noise at Work Regulations 2005)

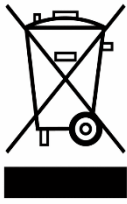
UNE EN ISO 3740 (BS EN ISO 3740:2019)

UNE EN ISO 3746 (BS EN ISO 3746:2010)



Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment with amendment 2015/863/EU (UK The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012)

Directive 2012/19/EU on waste electrical and electronic equipment (UK The Waste Electrical and Electronic Equipment Regulations 2013)



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°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.

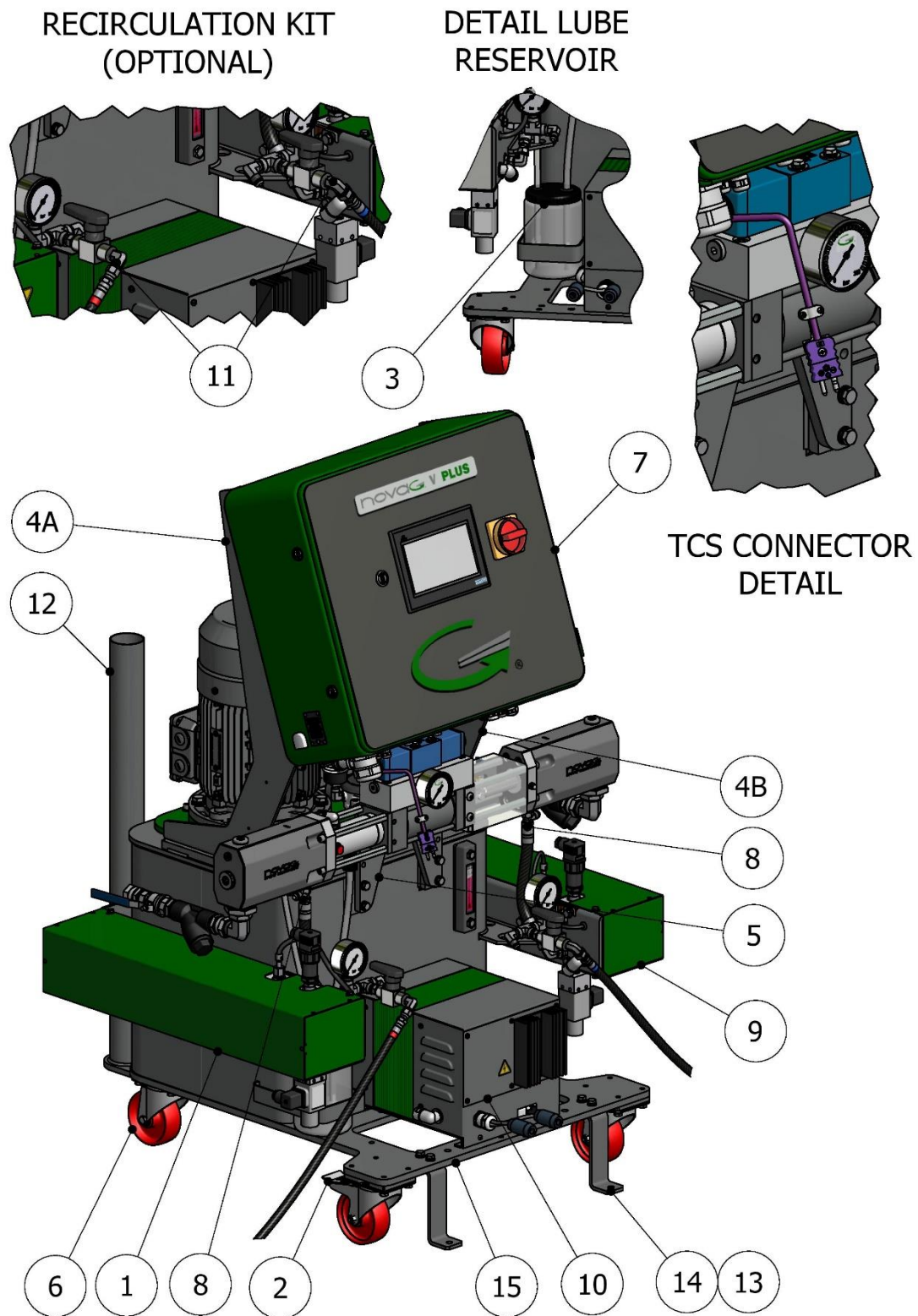


Figure 1. Proportioning Unit novaG V PLUS Model



Table 1. Proportioning Unit novaG V 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 5	1
8	Hose Pump/Heater	MA-	2
9	R Primary Heater	See Table 4	1
10	Hose Transformer	See Table 2	1
11	Recirculation KIT (optional)	KT-00038	1
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

Table 2. Hose Transformer Reference List

Part Number	Description
NEL-00127-25	Hose Transformer 3PE~400V Version



Table 3. A-Primary Heater Reference List

Part Number		Description
NCL-01101-00AT	400V	A Heater 8000 W with Transducer

Table 4. R-Primary Heater Reference List

Part Number		Description
NCL-01102-00AT	400V	R Heater 8000 W with Transducer

Table 5. Electrical Console Reference List

Part Number	Description
EL-00245-05	Electrical Console Assy. (3PE~400V, with III phases Motor & Logger)



ELECTRICAL CONSOLE

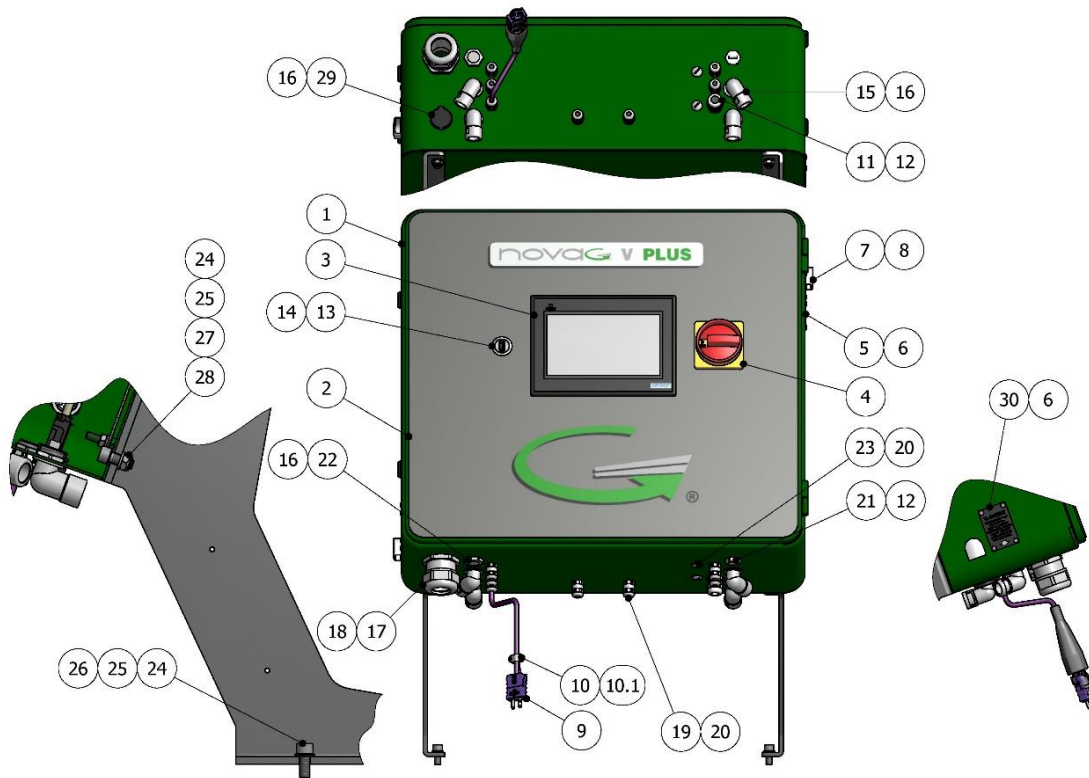


Figure 1. Electrical Console novaG V PLUS

**Table 6. Electrical Console novaG V PLUS Model, Parts List**

Item	Description	Part Number	Qty.
1	Electrical Console	EL-00246	1
2	Bezel & Circuit Assy.	EL-00250-01	1
3	Touch Screen, Included in item 2	EL-00171-02	1
4	Main Switch, Included in item 2	EL-00107-18	1
	Command Switch, Included in item 2	EL-00107-19	1
5	Specs Plate	MQ-01010	1
6	Rivet	TN-00240	8
7	Air Vent	EL-00158-05	2
8	Nut (included in item6)		
9	Male Connector	EL-00096-84	1
10	Staple	EL-00096-86	1
11	Connector	EL-00088-05	1
12	Nut	EL-00090-06	2
13	USB Port, Included in Ref. 2	EL-00178-04	1
14	Mass. Storage USB 4GB, Included in Ref. 2 (*)	NEL-00078-05	1
15	Elbow 90°	EL-00087-01	4
16	Nut	EL-00090-01	6
17	Connector	EL-00088-04	1
18	Nut	EL-00090-05	1
19	Connector	EL-00088-00	7
20	Nut	EL-00090-00	9
21	Plug	EL-00088-08	1
22	Plug	EL-00088-03	1
23	Plug	EL-00183	2
24	Allen Screw	TN-00176	8
25	AET Washer	TN-00038	8
26	Washer	TN-00119	4
27	Lock Washer	TN-00028	4
28	Lock Nut	TN-00283	4
29	Female Ethernet Connector with Cap and Cable 0.5m	EL-00078-10	1
30	Warning Label	EM-00094	1

(*) *Items not shown on drawing.*



HYDRAULIC MANIFOLD WITH MOTOR 3PE~400V/230V 50/60Hz (hyd. Pump 28 cc. compatible)

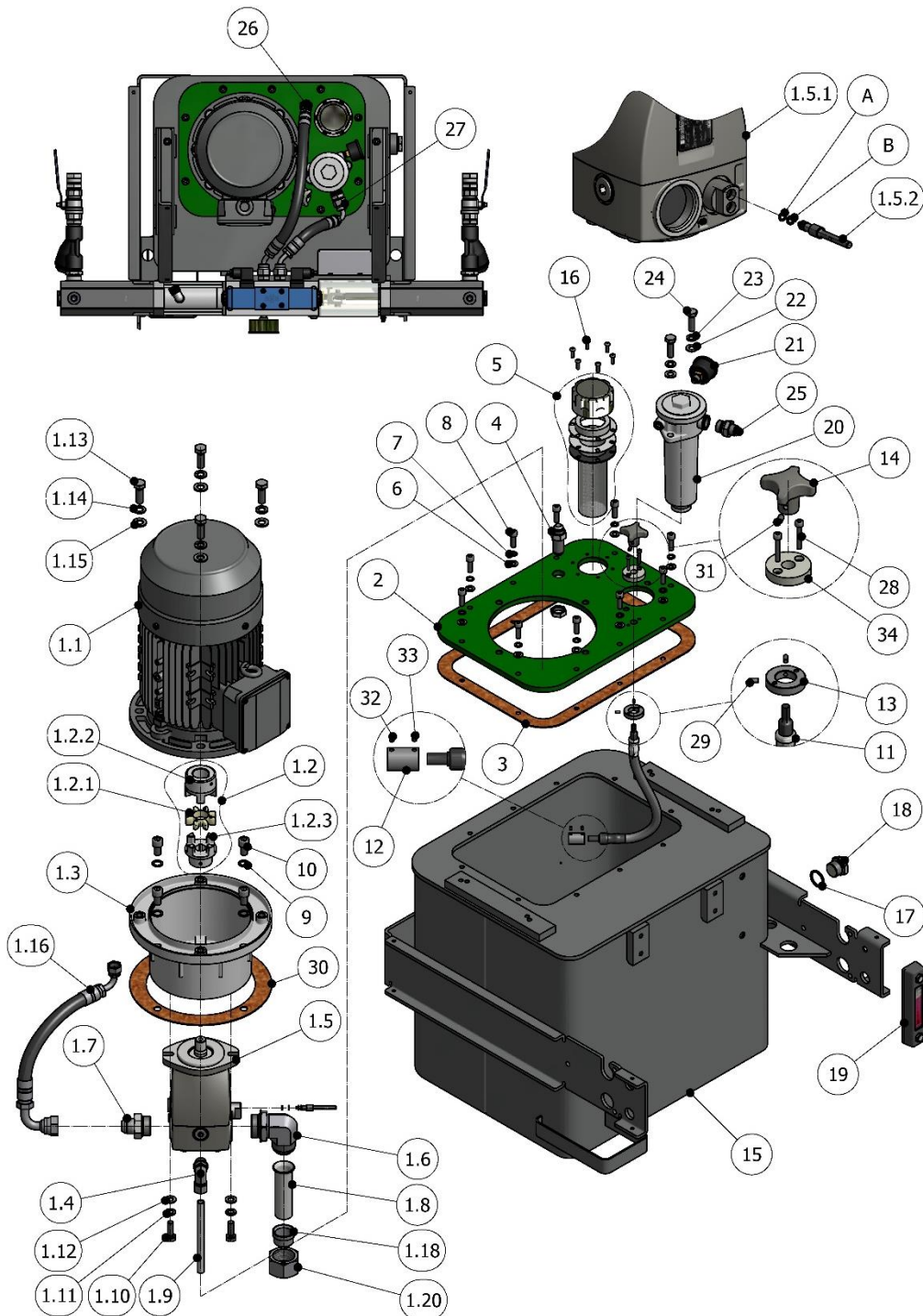


Figure 2. Hydr. Manifold 3PE~400V/230V 50/60Hz (hyd. Pump 28 cc compatible), Exploded View



Table 7. Hydr. Manifold with Motor 3PE~400V/230V 50/60Hz (28cc compatible), Parts List

Item.	Description	Part Number	Qty.
1	Motor/Pump Line Assembly	-	1
1.1	Electric Motor 5.5Kw 50/60Hz	NEL-00138-01	1
1.2	Coupler Assembly	HI-00046-00	1
1.2.1	Alignment Spider	HI-00006-01	1
1.2.2	Motor Shaft Coupling	HI-00006-02	1
1.2.3	Pump Shaft Coupling	HI-00046-01	1
1.3	Bell Housing	HI-00139-00	1
1.4	Elbow 90°	RA-00494	1
1.5	HYD Pump Assembly 28 cc. (items 1.5.1 & 1.5.2)	HI-00238-NV	1
1.5.1	HYD Pump 28 cc (included in item 1.5)	HI-00238	1
	"A" Anti Extrusion Ring	OR-	1
	"B" O-Ring	OR	1
1.5.2	18/28 cc Regulating rod (included in item 1.5)	HI-00149-03	1
1.6	Elbow 90°	RA-00027	1
	Ferrule	RA-00029	
	Nut	RA-00028	
1.7	Nipple	RA-00500	1
1.8	Suction Pipe (18/28 cc)	HI-00194	1
1.9	Drain Pump Pipe (18/28 cc)	HI-00156	1
1.10	Hex. Cap Screw	TN-00129	2
1.11	Lock Washer	TN-00087	2
1.12	Washer	TN-00162	2
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 (18/28 cc)	HI-00157	1
1.17			
1.18	Ferule	RA-00029	1
1.19			
1.20	Nut	RA-00028	1



Item.	Description	Part Number	Qty.
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
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



**HYDRAULIC MANIFOLD WITH MOTOR 3PE~400V 50/60Hz
(hyd. Pump 28 cc. discontinued)**

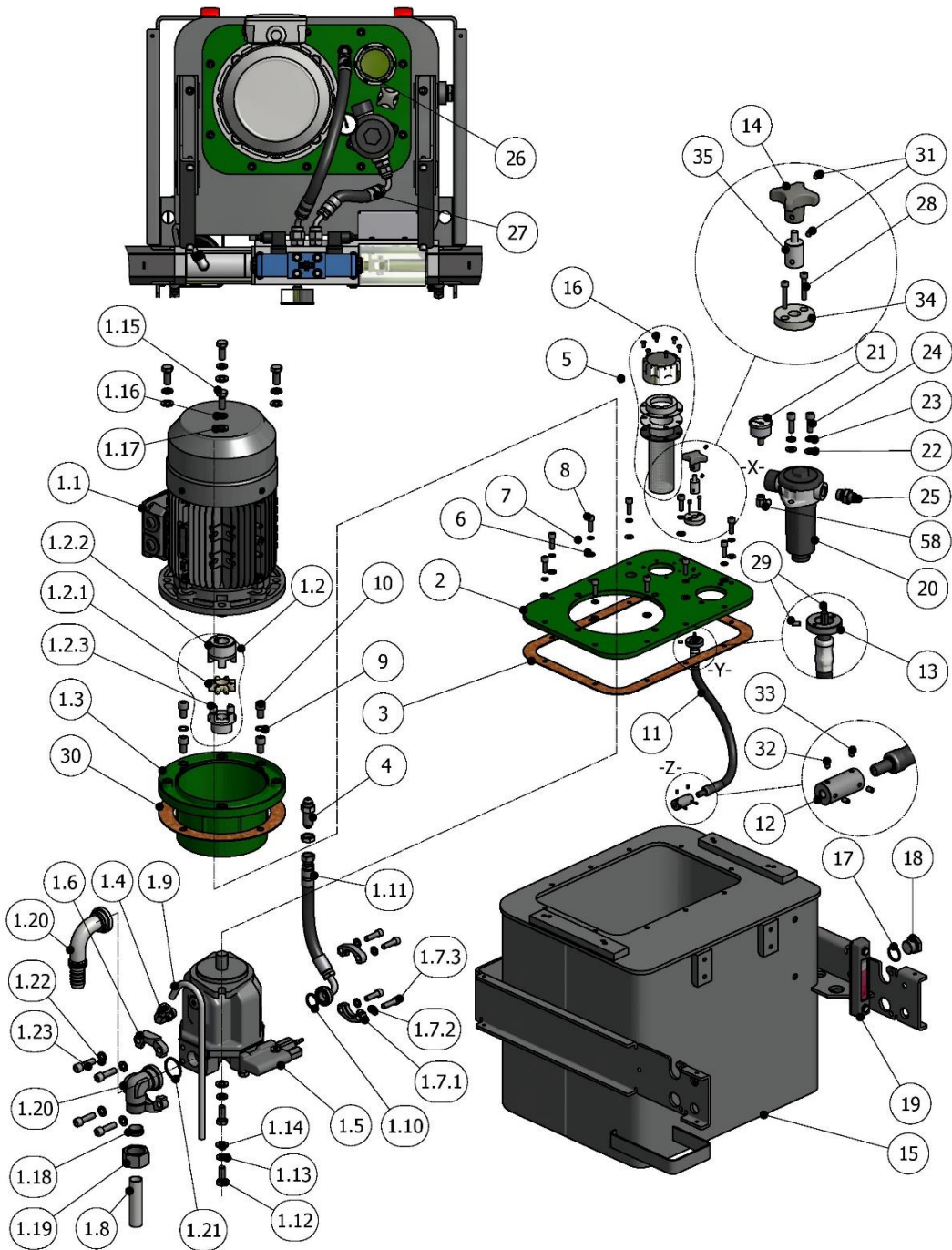


Figure 3. Hydraulic Manifold 3PE~400V 50/60Hz (hyd. Pump 28 cc discontinued), Exploded View



**Table 8. Hydr. Manifold with Motor 3PE~400V 50/60Hz (28cc discontinued),
Parts List**

Item.	Description	Part Number	Qty.
1	Motor/Pump Line Assembly	-	1
1.1	Electric Motor 5.5Kw 50/60Hz	NEL-00138-01	1
1.2	Coupler Assembly	HI-00006-00	1
1.2.1	Alignment Spider	HI-00006-01	1
1.2.2	Motor Shaft Coupling	HI-00006-02	1
1.2.3	Pump Shaft Coupling	HI-00006-03	1
1.3	Bell Housing	NHI-00086	1
1.4	Elbow	RA-00494	1
1.5	HYD Pump Assembly 28 cc with Regulator	HI-00081-NV	1
1.5.A	28cc HYD Pump	HI-0008-00	1 (°)
1.5.1	Regulator Bolt (without rings and nut)	HI-00102-01	1 (°)
	Anti-Extrusion Ring (supplied with pump)	OR-	1 (@)
	O-Ring (supplied with pump)	OR-	1 (@)
1.6	SAE Pair Clamp	RA-00495-01	1
1.7	SAE Clamp Assembly		1
1.7.1	SAE Pair Clamp	RA-00266	1 (*)
1.7.2	Washer	TN-00162	4 (*)
1.7.3	Allen Screw	TN-00253	4 (*)
1.8	Suction Pipe	HI-00155-01	1
1.9	Drain Pump Pipe	HI-00155-02	1
1.10	O-Ring	OR-00083	1
1.11	Hose Pressure	HI-00172	1
1.12	Hex. Screw	TN-00060	2
1.13	Block Washer	TN-00039	2
1.14	Washer	TN-00040	2
1.15	Hex. Screw	TN-00060	4
1.16	Block Washer	TN-00039	4
1.17	Washer	TN-00040	4

(°) Parts included in item 1.5 ; (@) Parts included in item 1.5.A

(*) Quantities included in sub-assembly.



Item.	Description	Part Number	Qty.
1.18	Press. Ring	RA-00495-02	1
1.19	Hex. Nut	RA-00495-03	1
1.20	Elbow for SAE Clamp	RA-00495-04	1
1.21	O-Ring	OR-00029	1
1.22	Washer	TN-00039	4
1.23	Allen Screw	TN-00454	4
2	Reservoir Cover Plate	HI-00163-01	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-00474-01	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
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



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Item.	Description	Part Number	Qty.
28	Allen Screw	TN-00117	2
29	Screw	TN-00436	2
30	Bell Gasket	HI-00160	1
31	Screw	TN-00437	2
32	Screw	TN-00099	2
33	Screw	TN-00246	2
34	Extension Guide	RA-00475-01	1
35	Remote Control Extension	HI-00044-02	1
36	Elbow 90°	RA-00416	1



REVERSING SWITCH & PUMP LINE SUPPORT

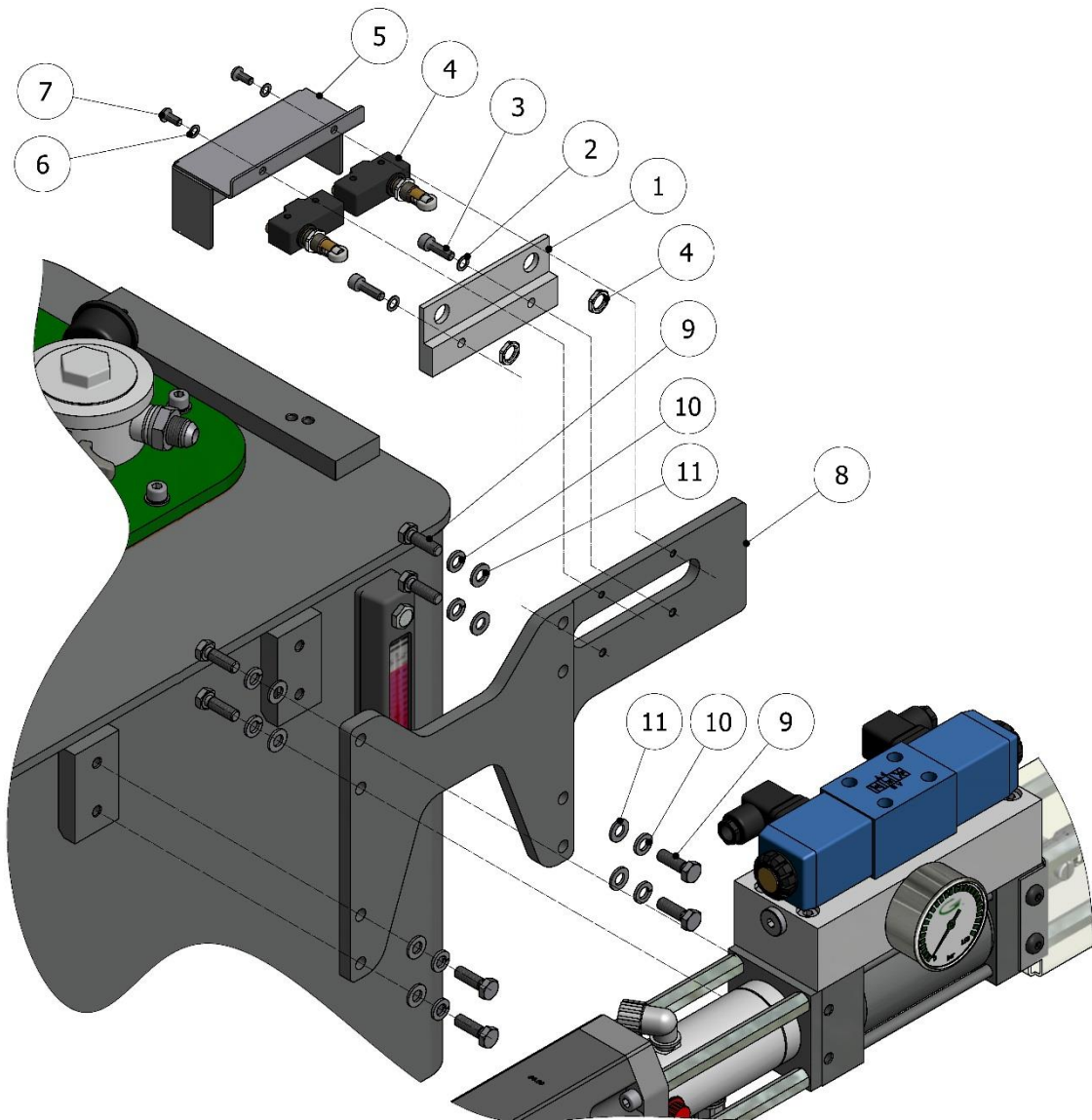


Figure 4. Reversing Switch & Pump Line Support, Exploded View



Table 9. 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

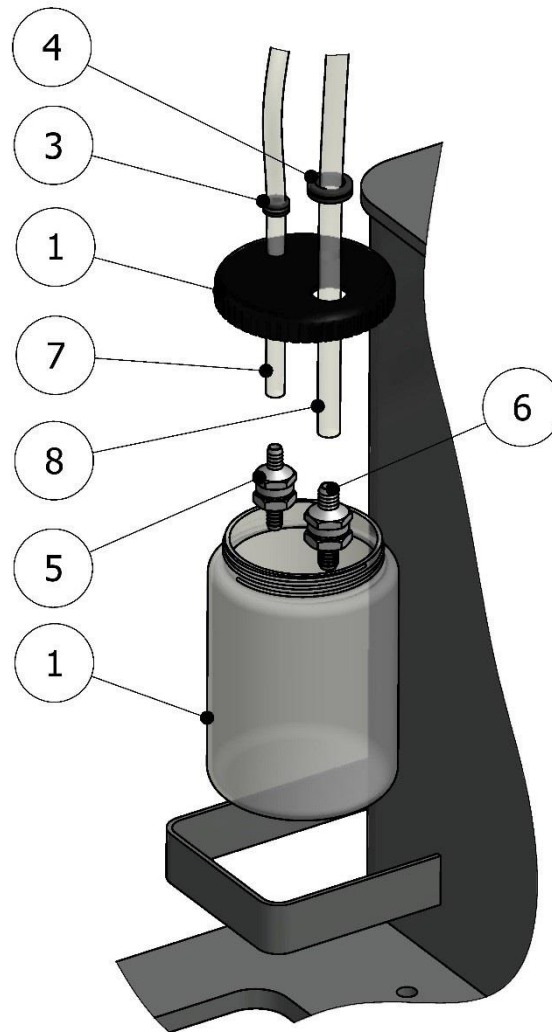


Figure 5. Lube Reservoir Hose Assembly, Exploded View



Table 10. 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

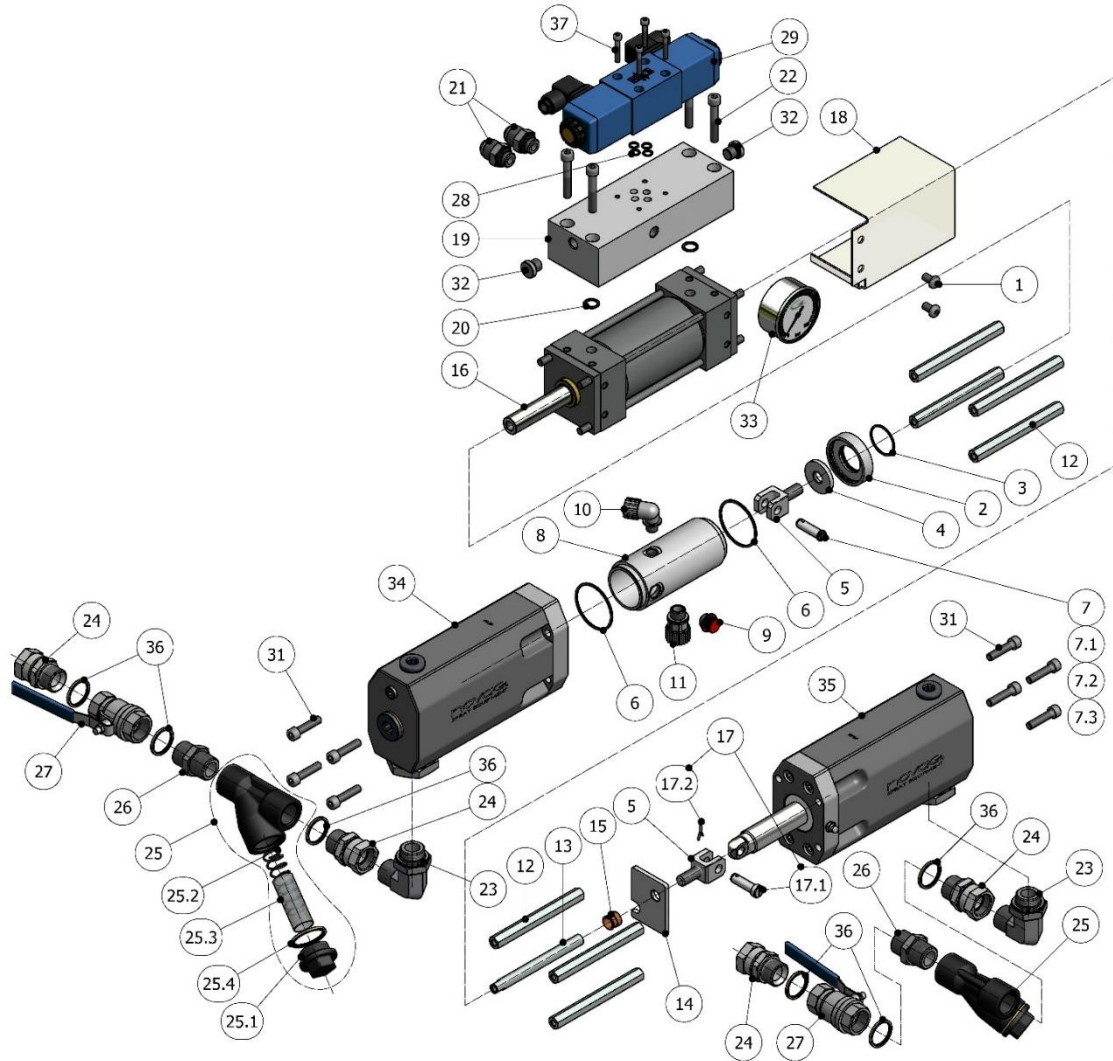


Figure 6. Pump Line Assembly, Exploded View



Table 11. 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	RA-00116	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 12	1
35	"R" Proportioning Pump Assembly	See Table 12	1
36	Gasket	OR-00082	6
37	Screw	TN-00148	4

Table 12. Proportioning Pump Size, Parts

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

Note: (*) The standard proportioning pump sizes are #1.20 & #0.80. Different sizes are available under order. For delivery time, please consult with marketing department.



HYDRAULIC CYLINDER WITH SPACERS

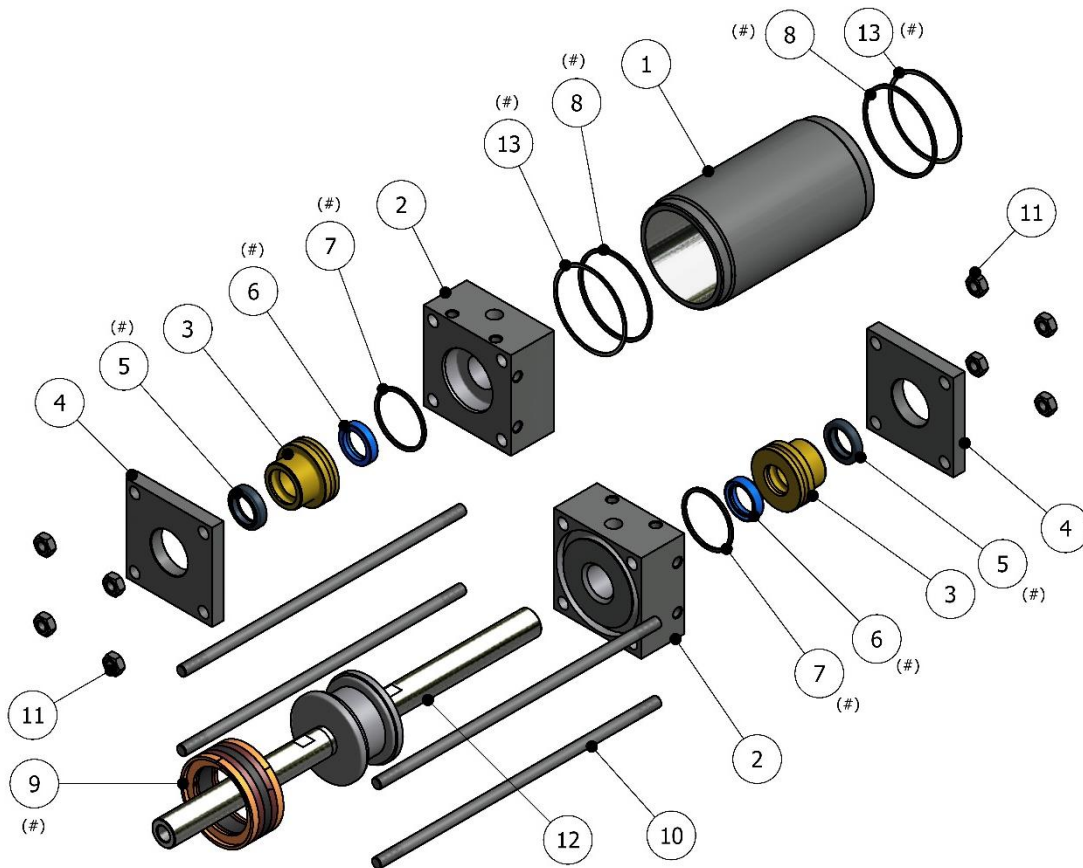


Figure 7. Hydraulic Cylinder with Spacers, Exploded View

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



Table 13. 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

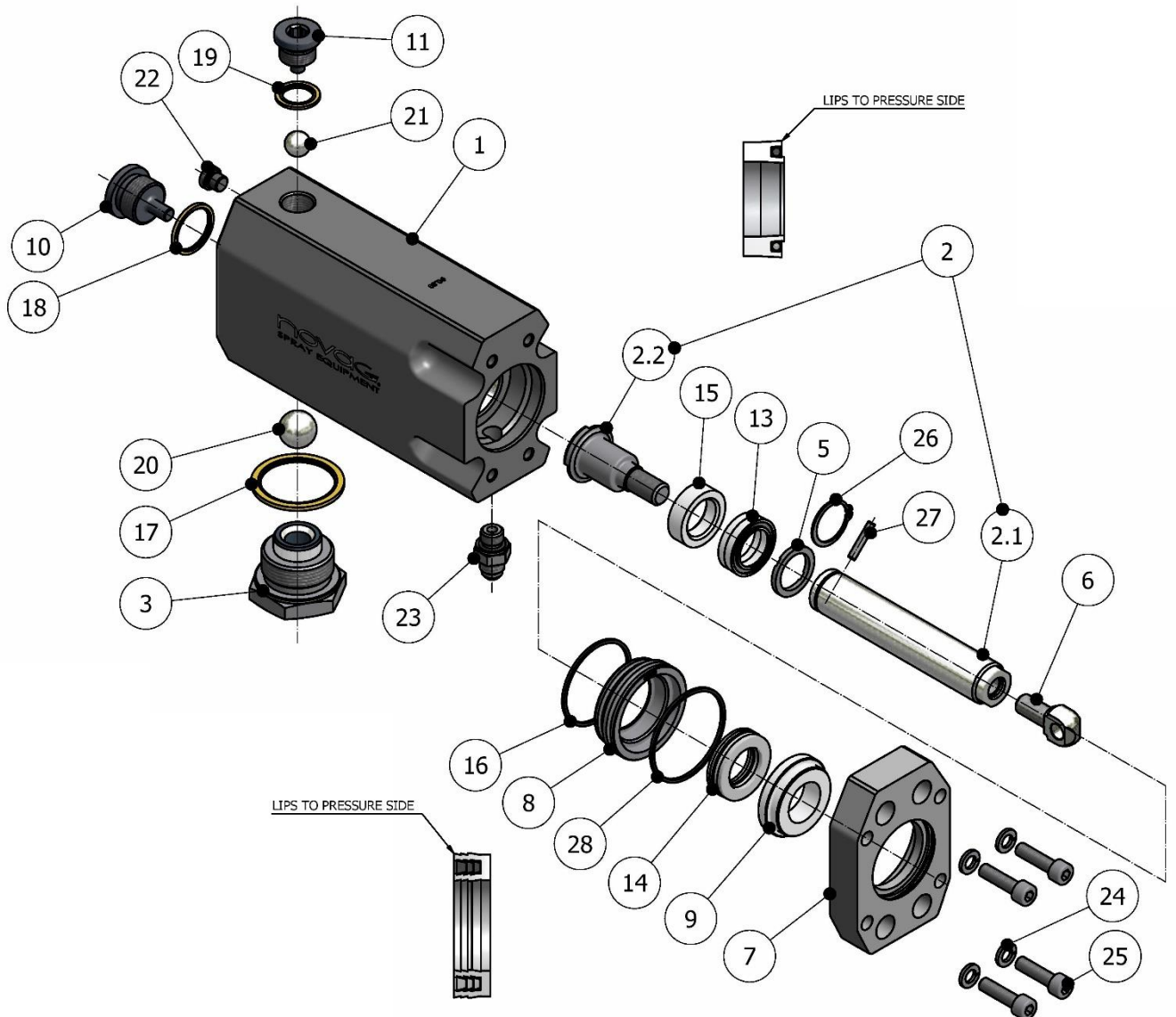


Figure 8. “A” Proportioning Pump Assembly, Exploded View

**Table 14. "A" Proportioning Pump Assembly, Parts List**

Item	Description	Part Number	Qty.
1	Body Pump with Check Valve Seat	See Table 15	1
2	Piston Rod Assembly (Only item. 2.1 y 2.2)	See Table 15	1
2.1	Piston Rod (Included in item 2)	See Table 15	1 (#)
2.2	Piston Head (Included in item 2)	See Table 15	1 (#)
3	Inlet Ball Seat Assembly	PU-01003-0J	1
4			
5	Piston Seal	See Table 15	1
6	Pump Clevis	PU-01042	1
7	Monobloc Flange Pump – ISO	NPU-06004	1
8	Seat Seal – ISO	See Table 15	1
9	Bearing ISO	See Table 16	1 (*)
10	Plug Side Pump	PU-01003-0E	1
11	Upper Plug Pump	PU-01003-0F	1
12			
13	Piston Seal	See Table 16	1 (*)
14	Cylinder Seal	See Table 16	1 (*)
15	Piston Guide	See Table 16	1 (*)
16	O-Ring	See Table 16	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 15	1
27	Pin	See Table 15	1
28	O-Ring	See Table 16	1 (*)

N.B.: The parts marked with (*), are included in the repair seal kit of "A" pump (see Table 17).

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



Table 15. "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 16. 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 17. Repair Seal Kit "A" Pump

Pump	Item
1.20	KT-00157
0.80	KT-00159

N.B :

The standard proportioning pumps sizes are #1.20 & #0.80. 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 14.*



“R” PROPORTIONING PUMP ASSEMBLY

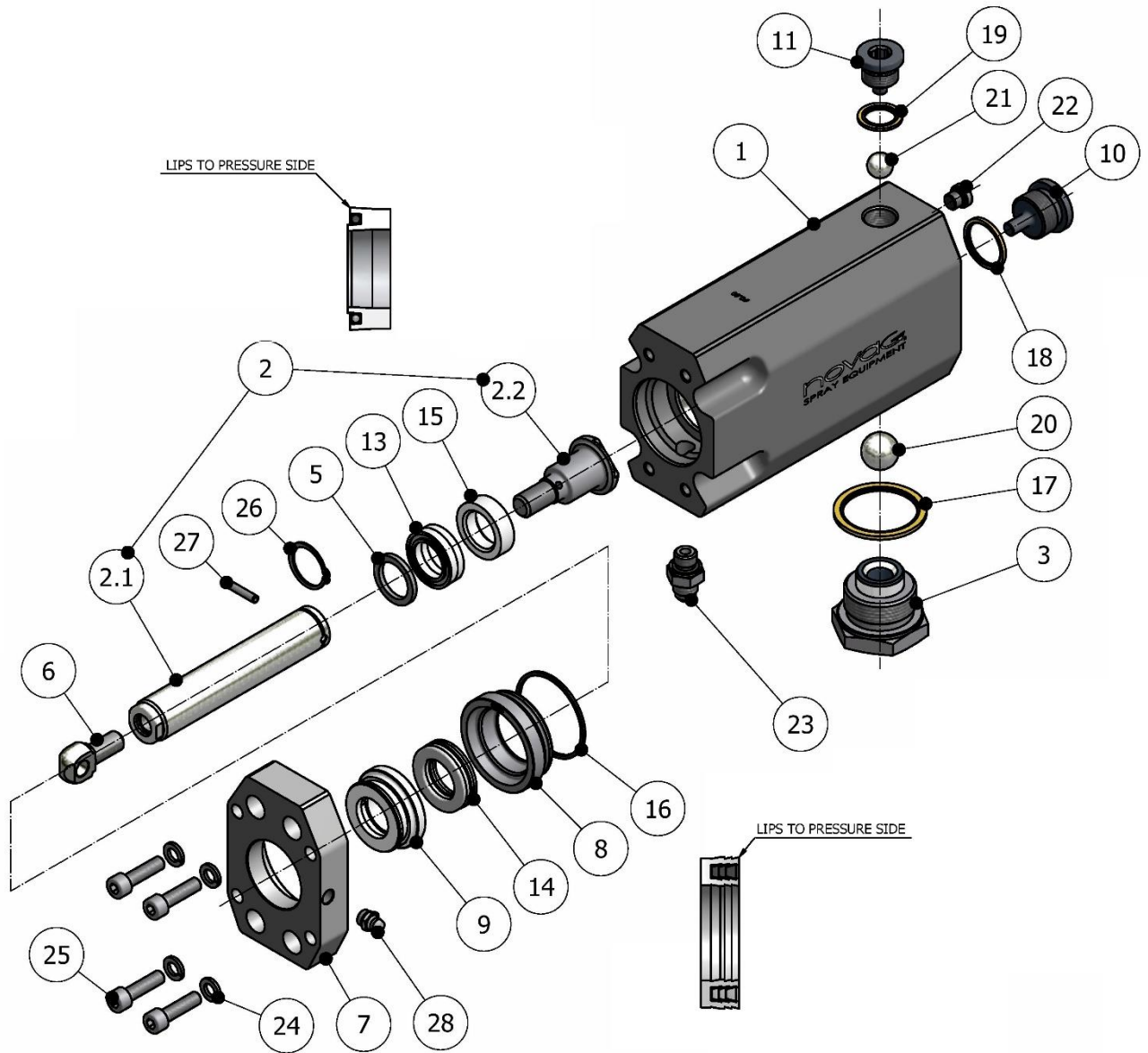


Figure 9. “R” Proportioning Pump Assembly, Exploded View



Table 18. “R” Proportioning Pump Assembly, Parts List

Item	Description	Part Number	Qty.
1	Body Pump with Check Valve Seat	See Table 19	1
2	Piston Rod Assembly (Only item. 2.1 y 2.2)	See Table 19	1
2.1	Piston Rod (Included in item 2)	See Table 19	1 (#)
2.2	Piston Head (Included in item 2)	See Table 19	1 (#)
3	Inlet Ball Seat Assembly	PU-01003-0J	1
4			
5	Piston Seal	See Table 19	1
6	Pump Clevis	PU-01042	1
7	Monobloc Flange Pump – POL	NPU-06005	1
8	Seat Seal – POL	See Table 19	1
9	Bearing ISO	See Table 20	1 (*)
10	Plug Side Pump	PU-01003-0E	1
11	Upper Plug Pump	PU-01003-0F	1
12			
13	Piston Seal	See Table 20	1 (*)
14	Cylinder Seal	See Table 20	1 (*)
15	Piston Guide	See Table 20	1 (*)
16	O-Ring	See Table 20	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 19	1
27	Pin	See Table 19	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 21).

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



Table 19. "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 20. 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 21. Repair Seal Kit "R" Pump

Pump	Item
1.20	KT-00158
0.80	KT-00160

N.B :

The standard proportioning pumps sizes are #1.20 & #0.80. 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 18.*



“A” STANDARD PRIMARY HEATER

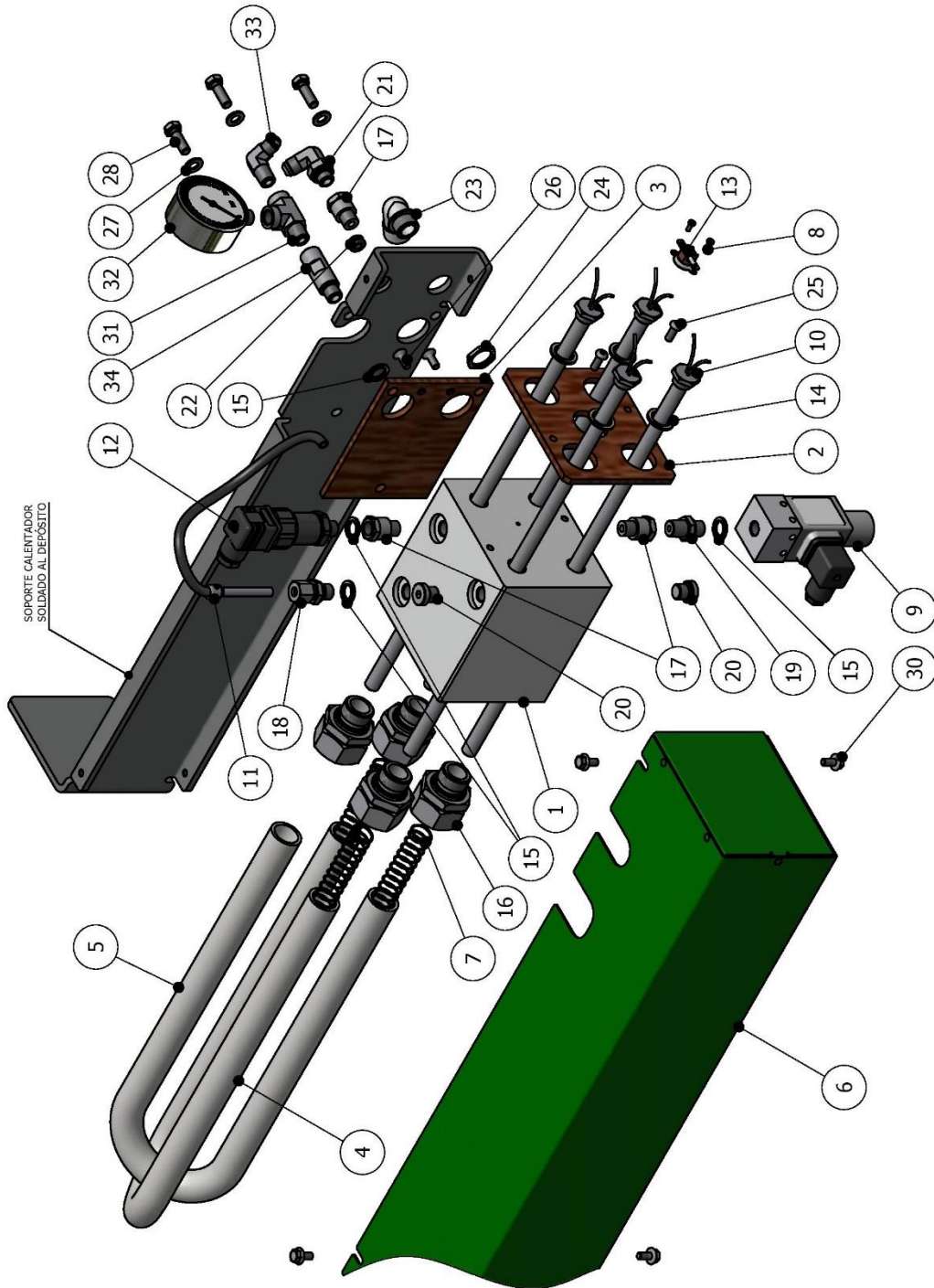


Figure 10. “A” Standard Primary Heater, Exploded View

**Table 22. "A" Standard Primary Heater, Parts List**

Item	Description	Part Number	Qty.
1	Heater Block	NCL-01001-02	1
2	Front Insulate Plate	NCL-01001-03	1
3	Side Insulate Plate	NCL-03001-04	1
4	Long Pipe	NCL-01001-05	1
5	Short Pipe	NCL-01001-06	1
6	Heater Cover	NCL-01001-08	1
7	Spring	SP-00037	3
8	Screw	TN-00128	2
9	Pressure Switch	HI-00021	1
10	Heat Resistance	See Table 23	4
11	Thermocouple	EL-00156-01	1
12	Transducer	HI-00033	1
13	Thermal Limit Switch	EL-00006	1
14	Metal O-Ring	OR-00018	4
15	Metal O-Ring	OR-00054	4
16	Male Connector	RA-00493	4
17	Extension Nipple	RA-00077	3
18	Male Connector for Thermocouple	RA-00231	1
19	Union	RA-00138	1
20	Plug	RA-00013	2
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	"ULS" Screw	TN-00424	2
26	Screw	TN-00322	2
27	Washer	TN-00119	3
28	Hex. Cap Screw	TN-00146	3



Item	Description	Part Number	Qty.
29			
30	Hex. Cap Screw	TN-00491	4
31	"T" Adapter	RA-00018	1
32	Pressure Gauge	NHI-00035	1
33	Elbow 90°	RA-00254	1
34	Extension Nipple	RA-00100	1

Table 23. "A" Heat Resistance & Press. Gauge Reference List

Item	Description	Part Number	Qty.
10	Heat Resistance 400v 2000w	EL-00258	4



“R” STANDARD PRIMARY HEATER

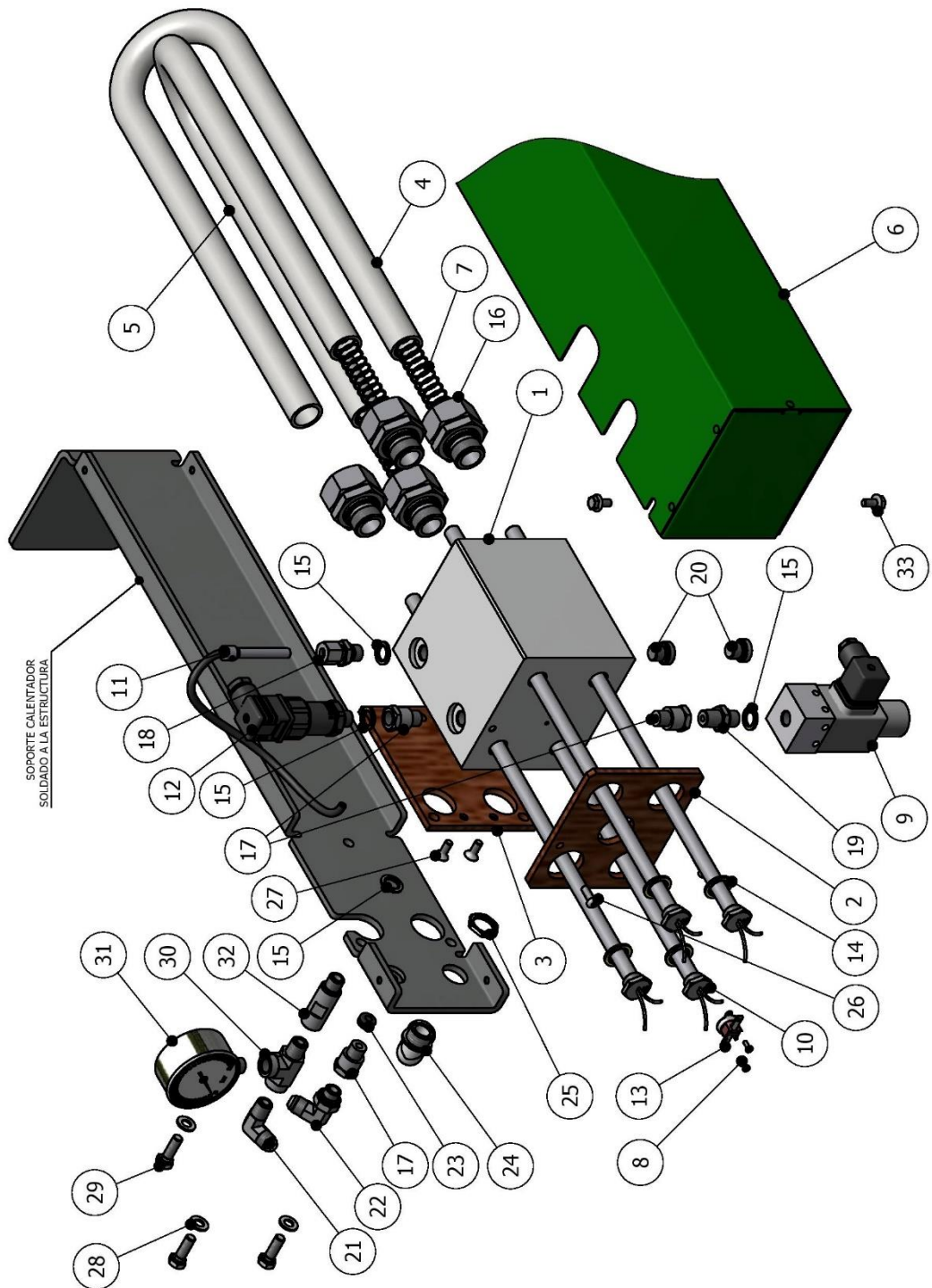


Figure 11. “R” Standard Primary Heater, Exploded View



Table 24. "R" Standard Primary Heater, Parts List

Item	Description	Part Number	Qty.
1	Heater Block	NCL-01001-02	1
2	Front Insulate Plate	NCL-01001-03	1
3	Side Insulate Plate	NCL-03001-04	1
4	Short Pipe	NCL-01001-06	1
5	Long Pipe	NCL-01001-05	1
6	Heater Cover	NCL-01002-08	1
7	Spring	SP-00037	3
8	Screw	TN-00128	2
9	Pressure Switch	HI-00021	1
10	Heat Resistance	See Table 25	4
11	Thermocouple	EL-00156-01	1
12	Transducer	HI-00033	1
13	Thermal Limit Switch	EL-00006	1
14	Metal O-Ring	OR-00018	4
15	Metal O-Ring	OR-00054	4
16	Male Connector	RA-00493	4
17	Extension Nipple	RA-00077	3
18	Male Connector for Thermocouple	RA-00231	1
19	Union	RA-00138	1
20	Plug	RA-00013	2
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	"ULS" Screw	TN-00424	2
27	Screw	TN-00322	2
28	Washer	TN-00119	3
29	Hex. Cap Screw	TN-00146	3



Item	Description	Part Number	Qty.
30	"T" Adapter	RA-00018	1
31	Pressure Gauge	NHI-00035	1
32	Extension Nipple	RA-00100	1
33	Hex. Cap Screw	TN-00491	4
34			

Table 25. "R" Heat Resistance & Press. Gauge Reference List

Item	Description	Part Number	Qty.
10	Heat Resistance 400v 2000w	EL-00258	4



RECIRCULATION KIT P#: KT-00038

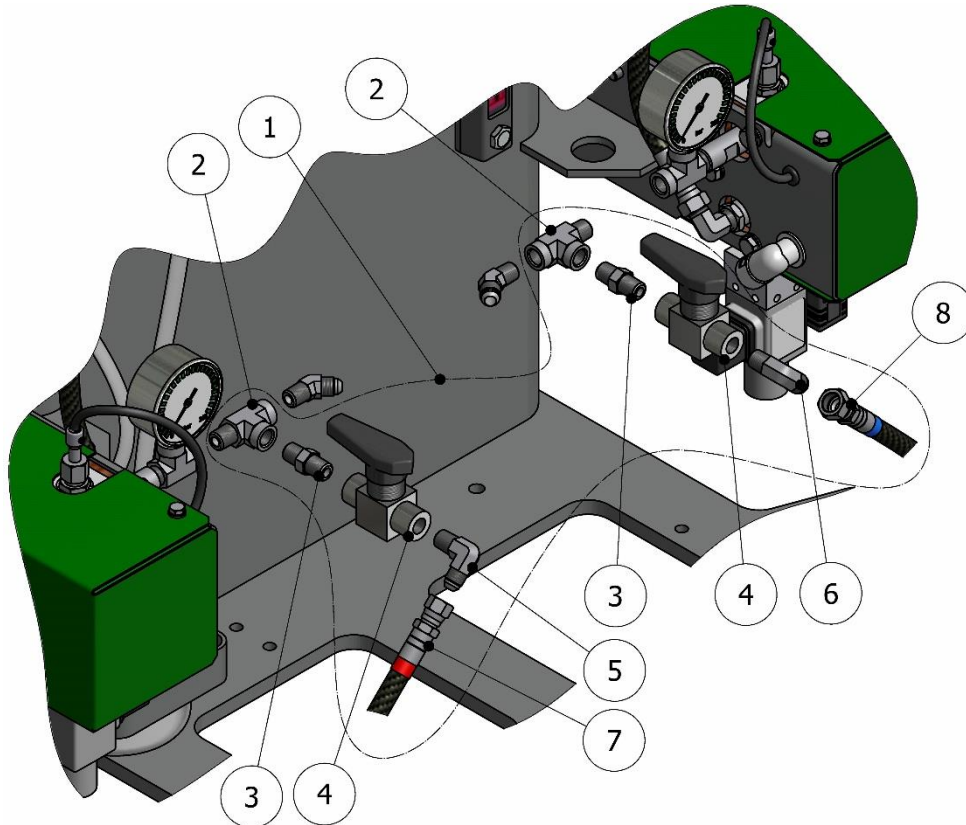


Figure 12. Recirculation Kit P#: KT-00038, Exploded View

Table 26. 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

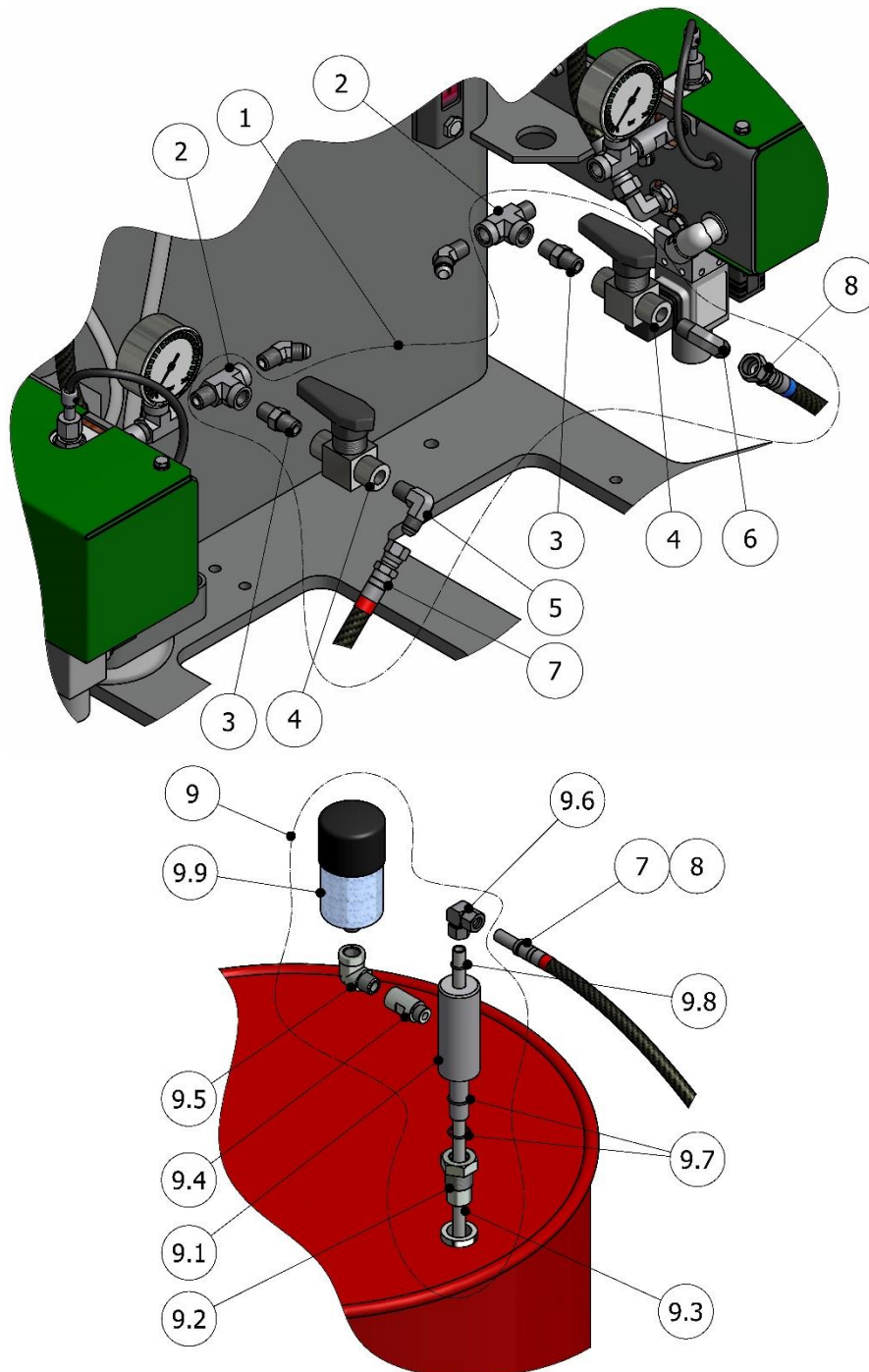


Figure 13. Recirculation Kit P#: KT-00038-01, Exploded View



Table 27. 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

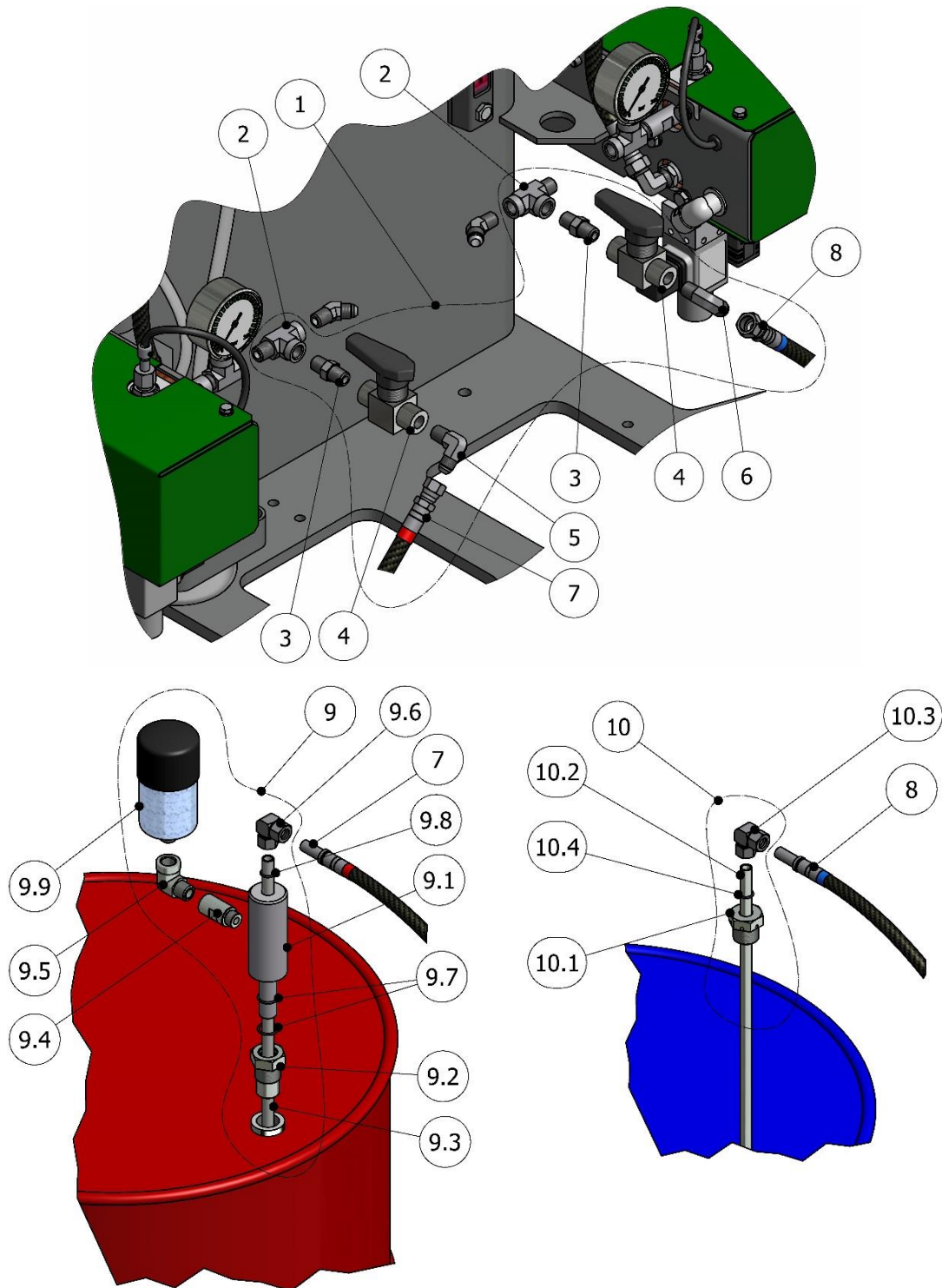


Figure 14. Recirculation Kit P#: KT-00038-03, Exploded View



Table 28. 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



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

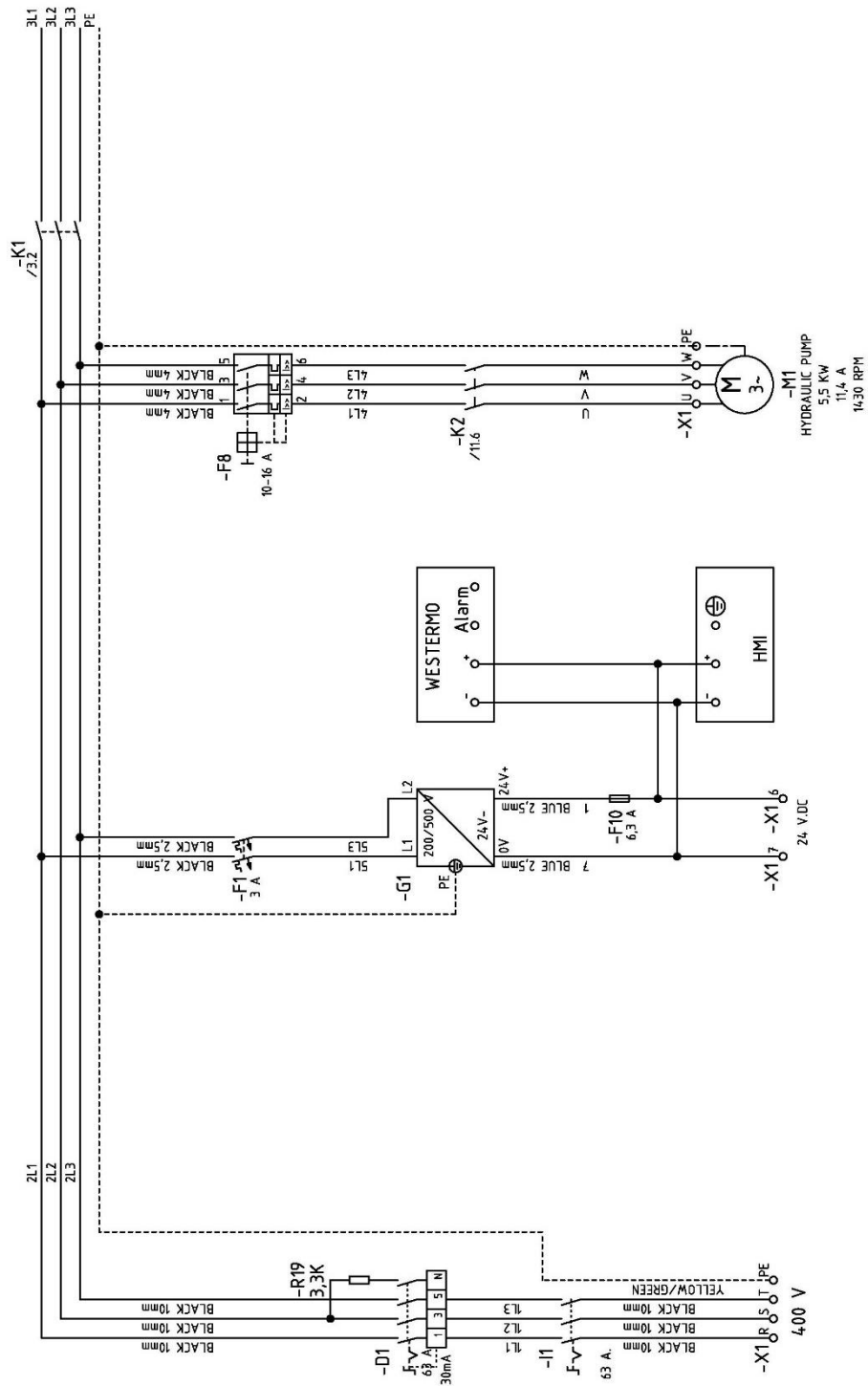


Figure 15. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 1/12)

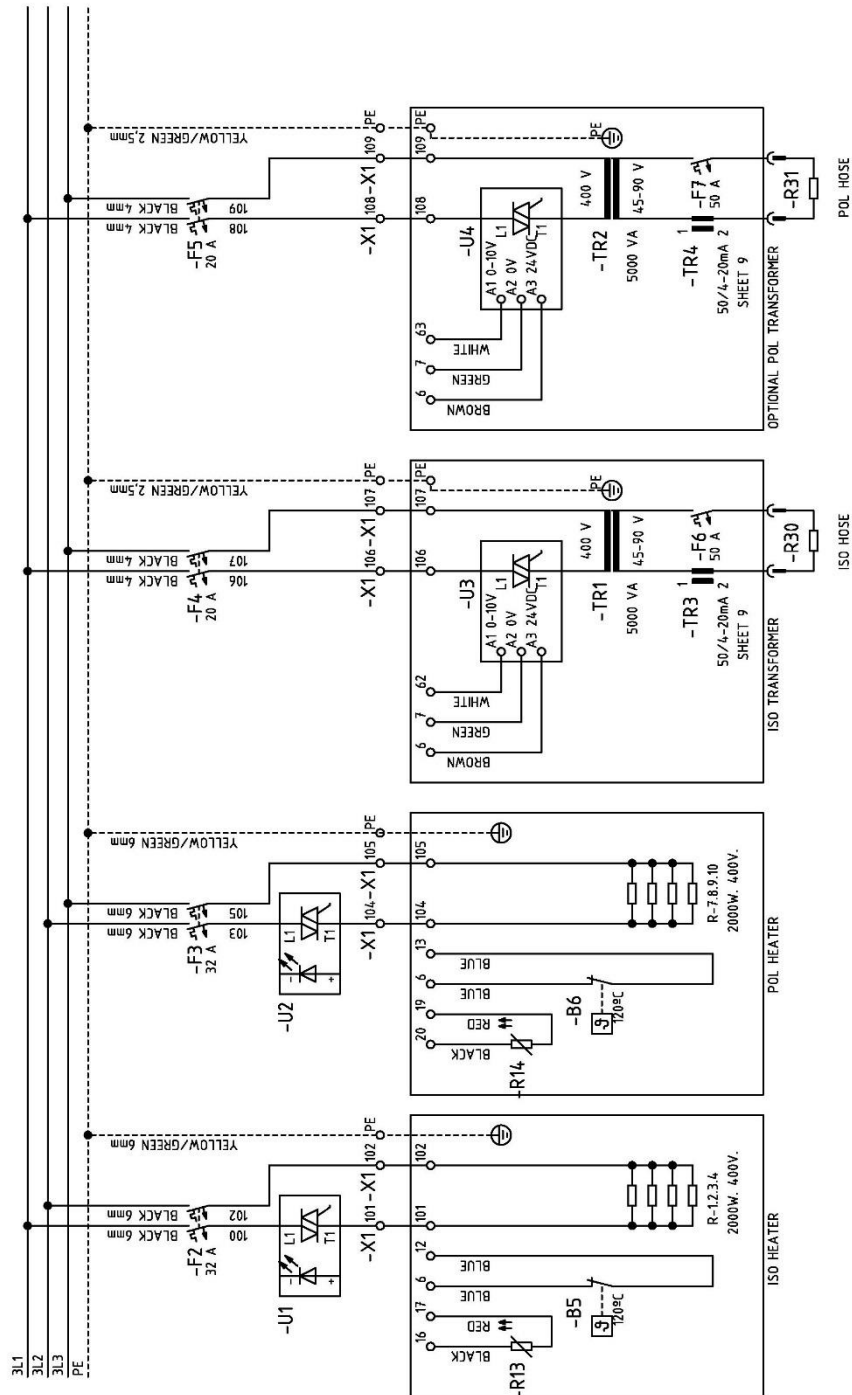


Figure 16. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 2/12)

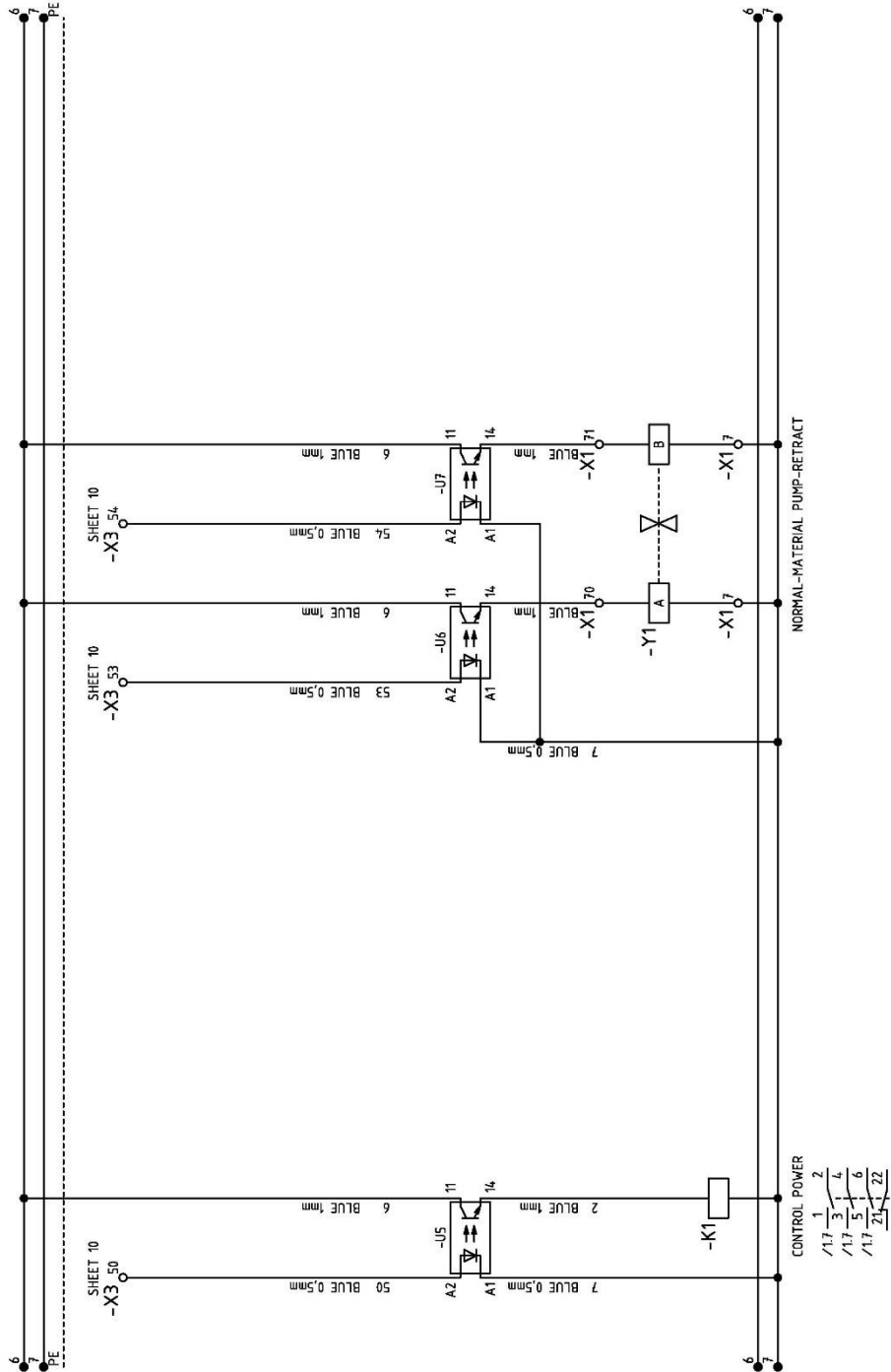


Figure 17. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 3/12)

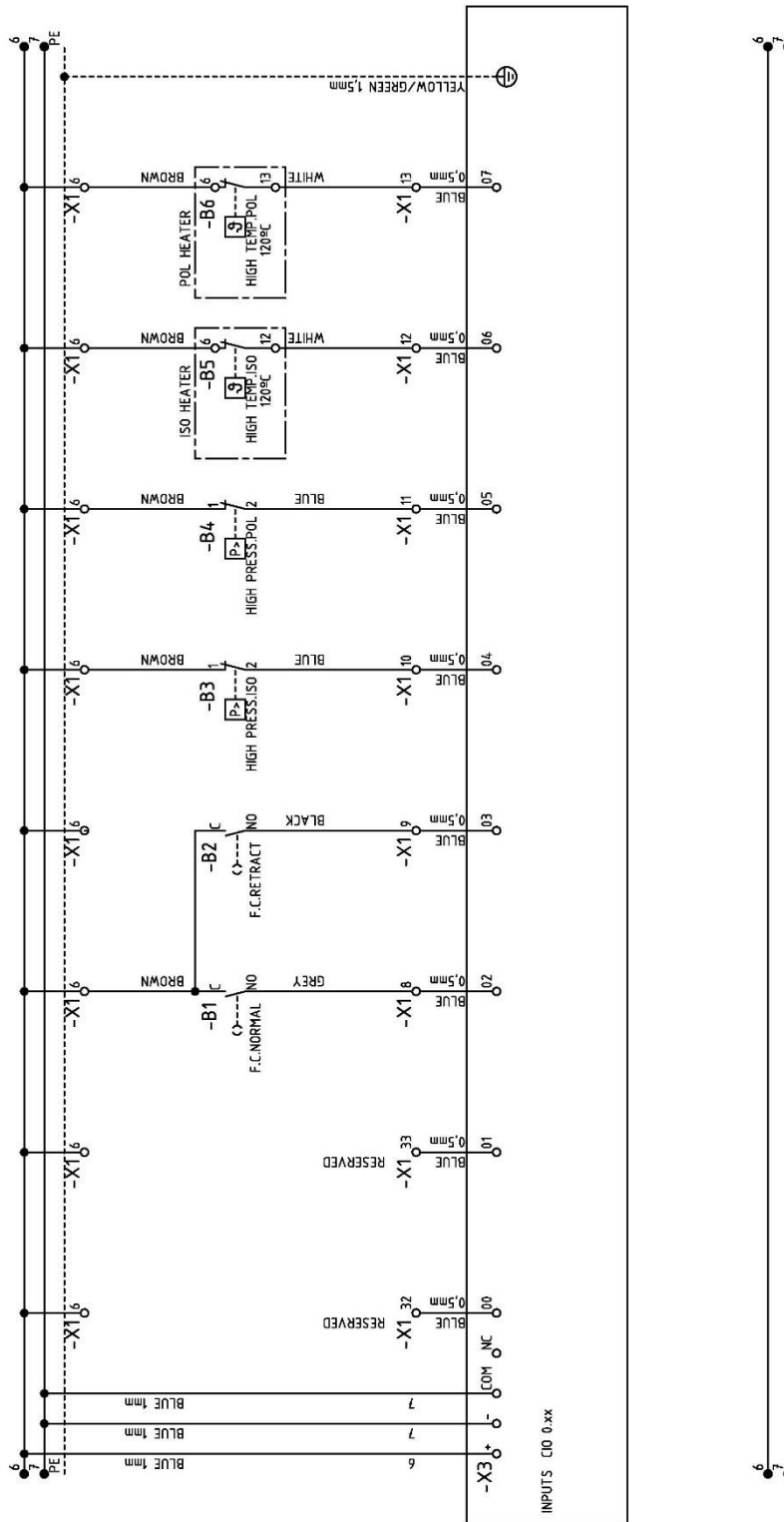


Figure 18. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 4/12)

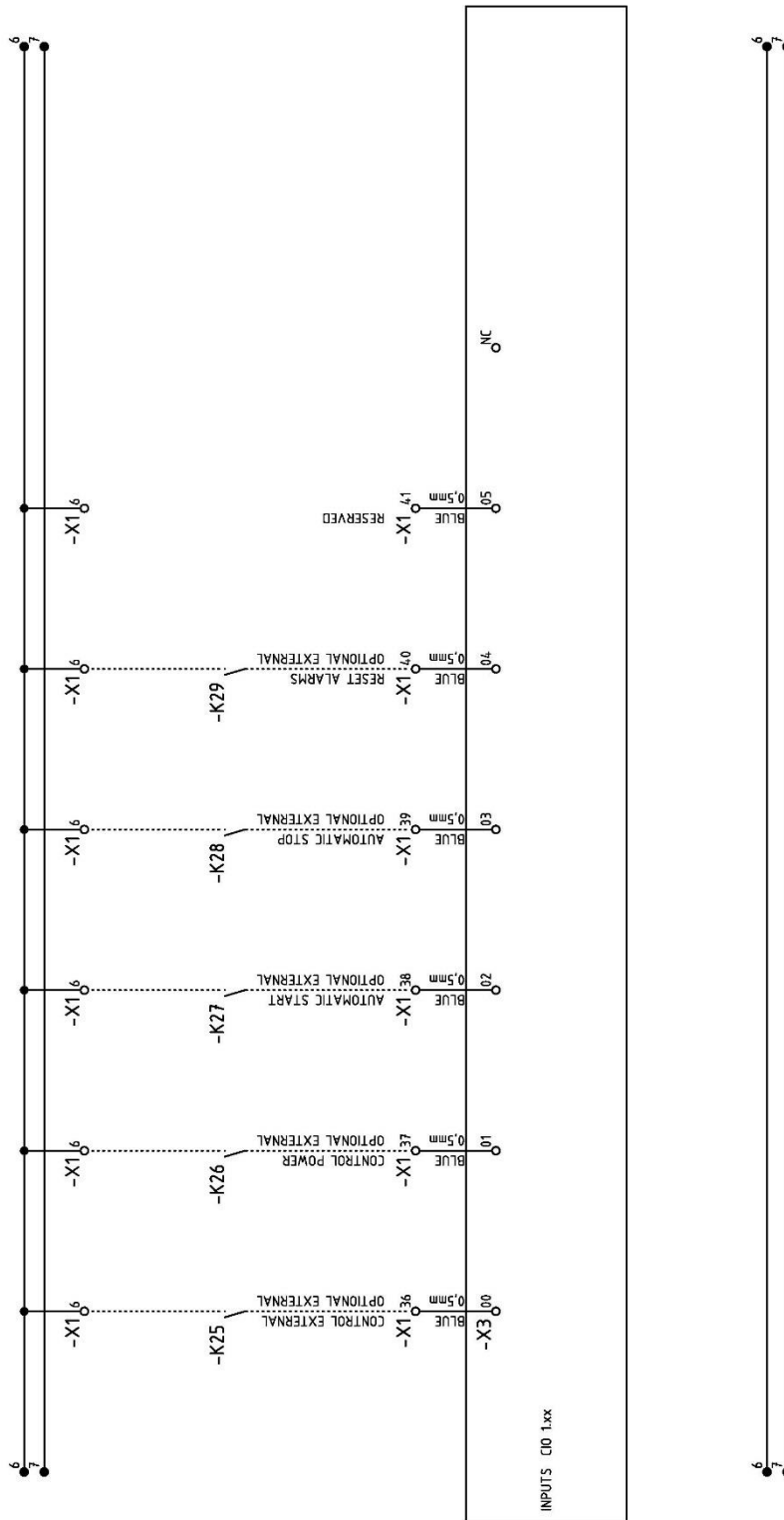


Figure 20. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 6/12)

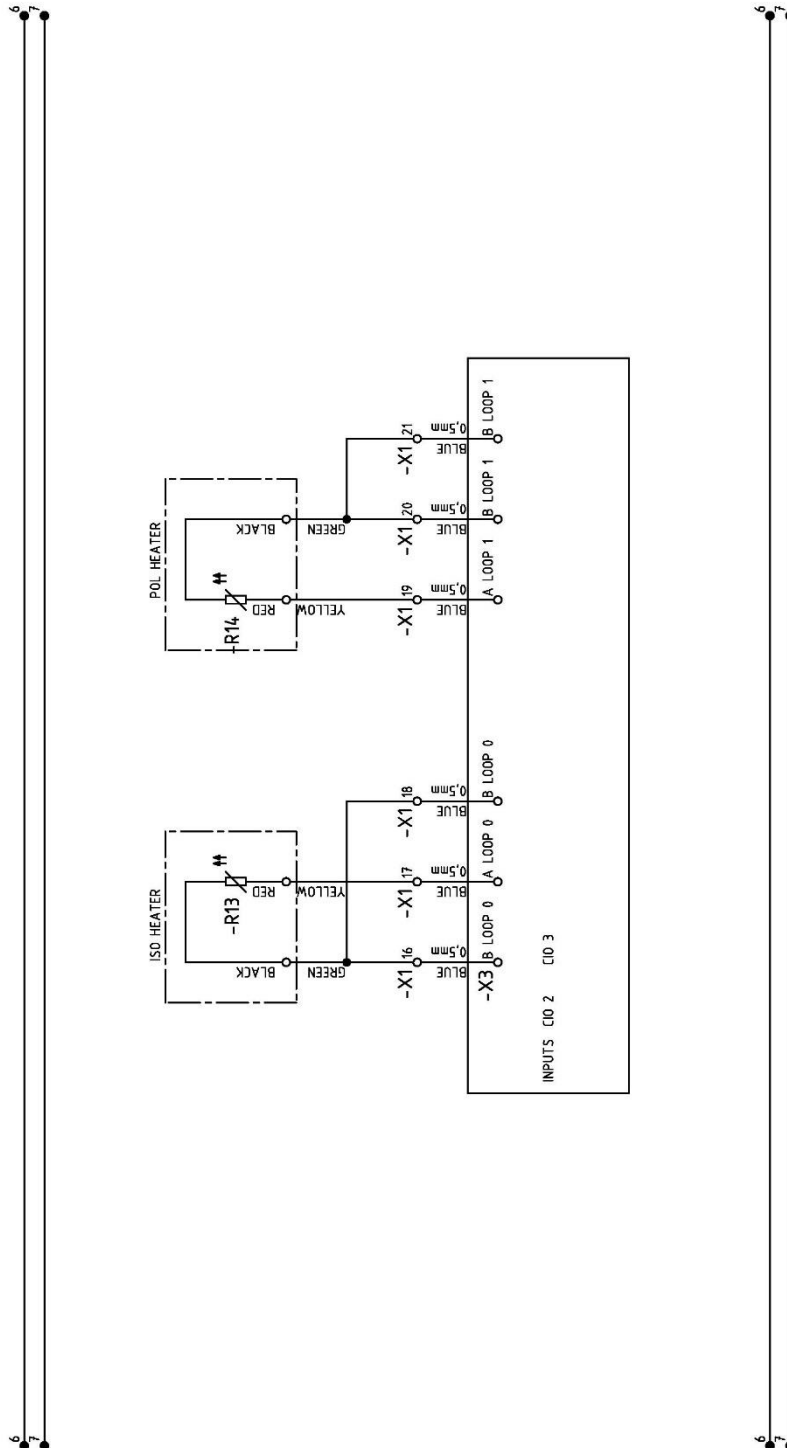


Figure 21. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 7/12)

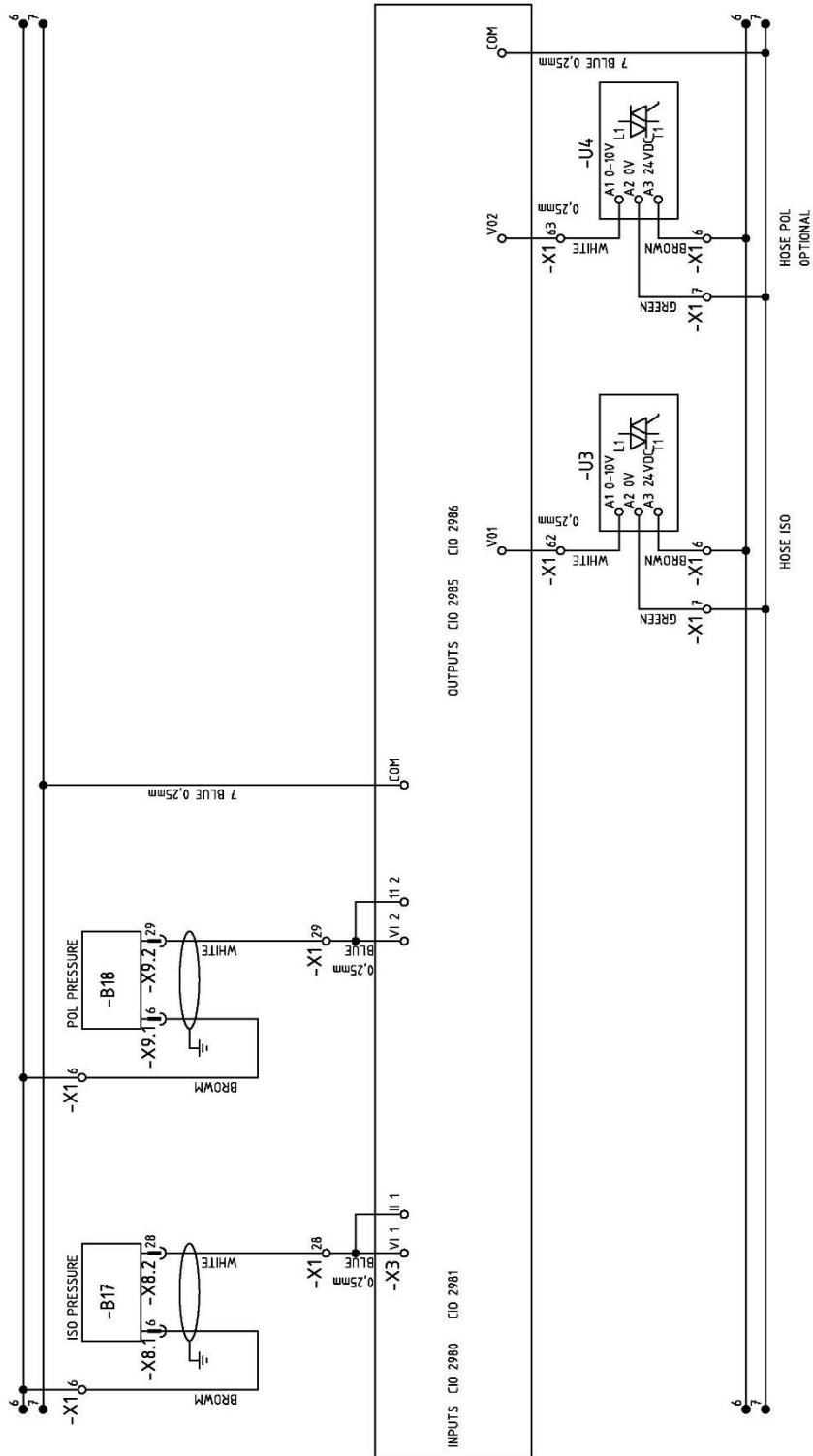


Figure 22. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 8/12)

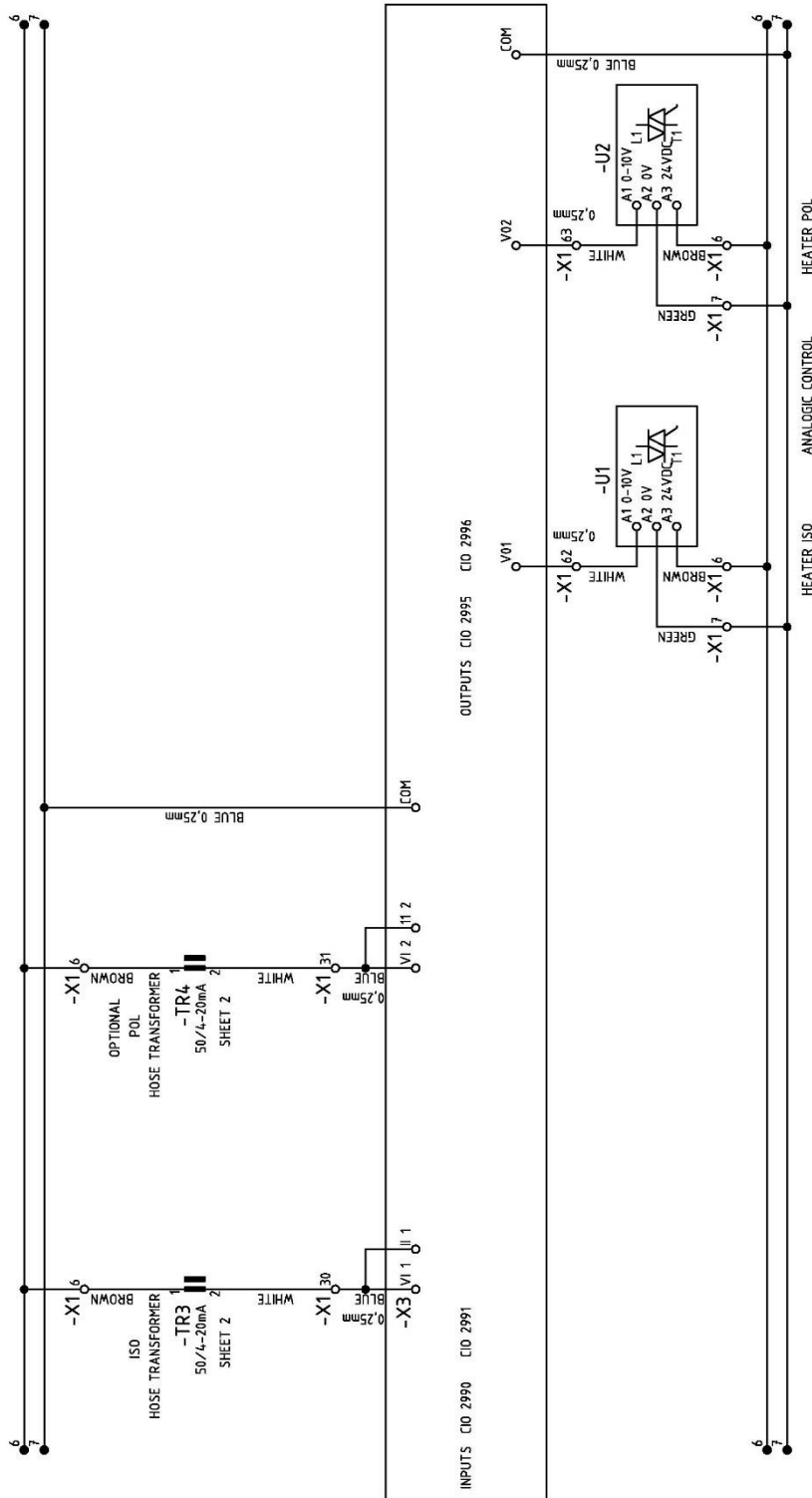


Figure 23. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 9/12)

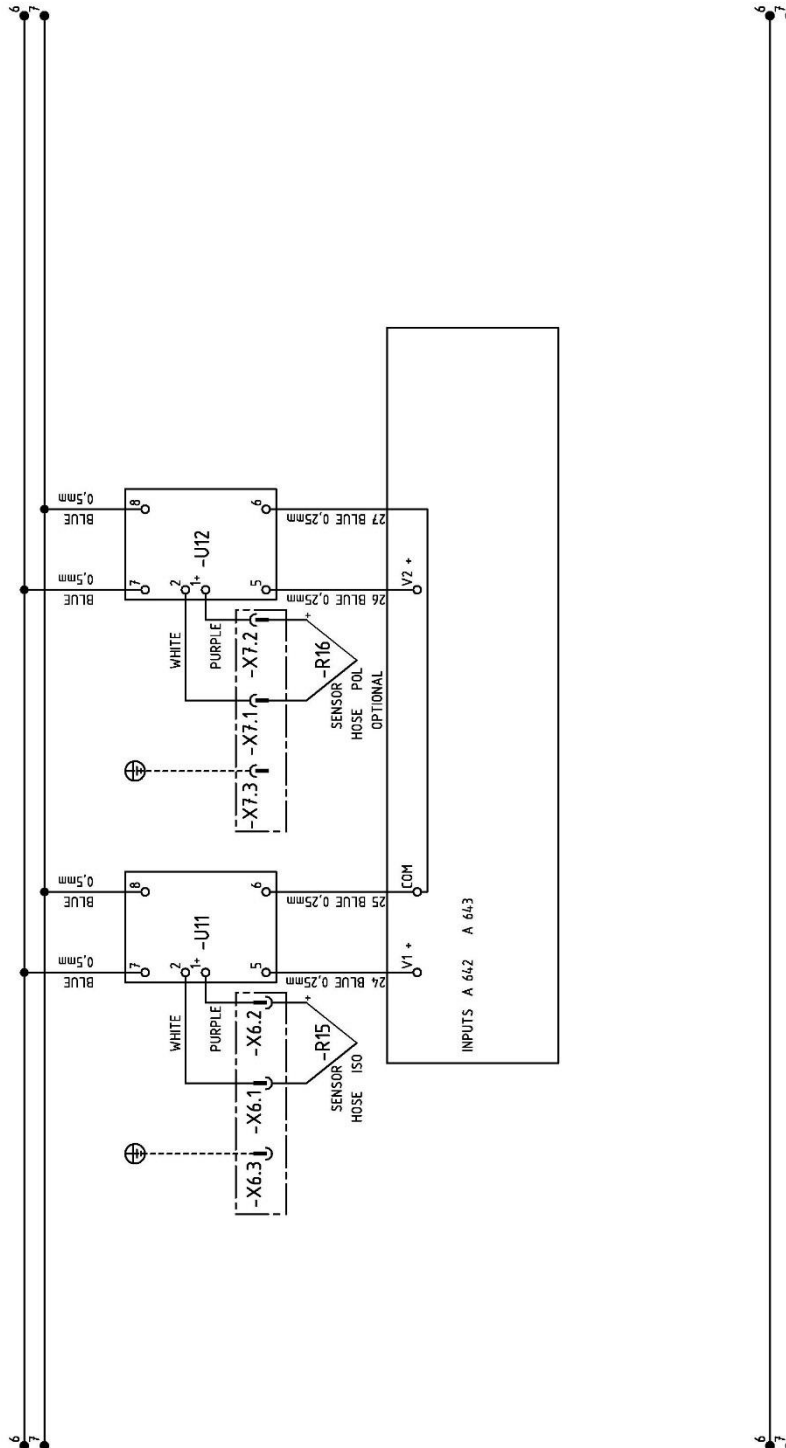


Figure 24. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 10/12)

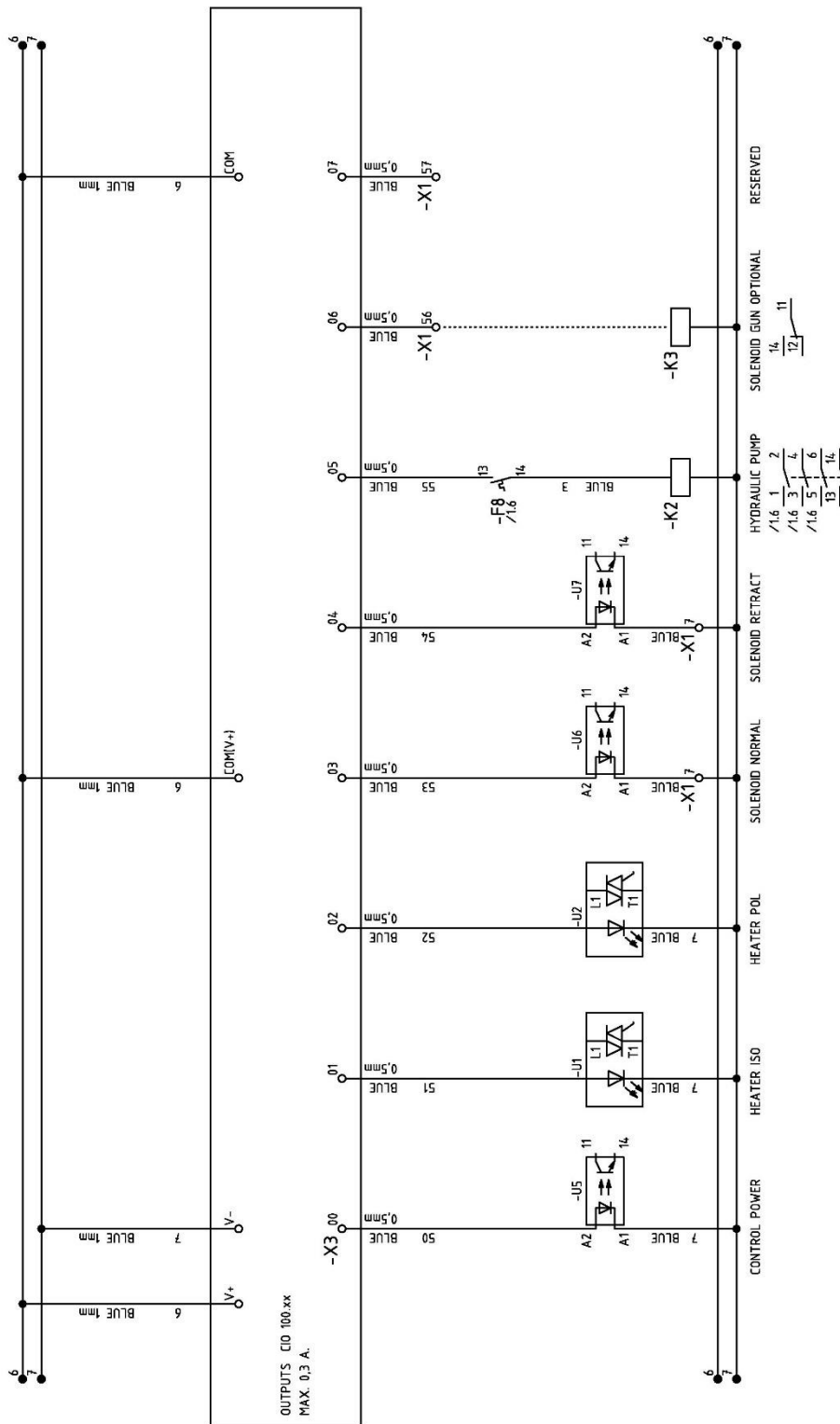


Figure 25. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 11/12)

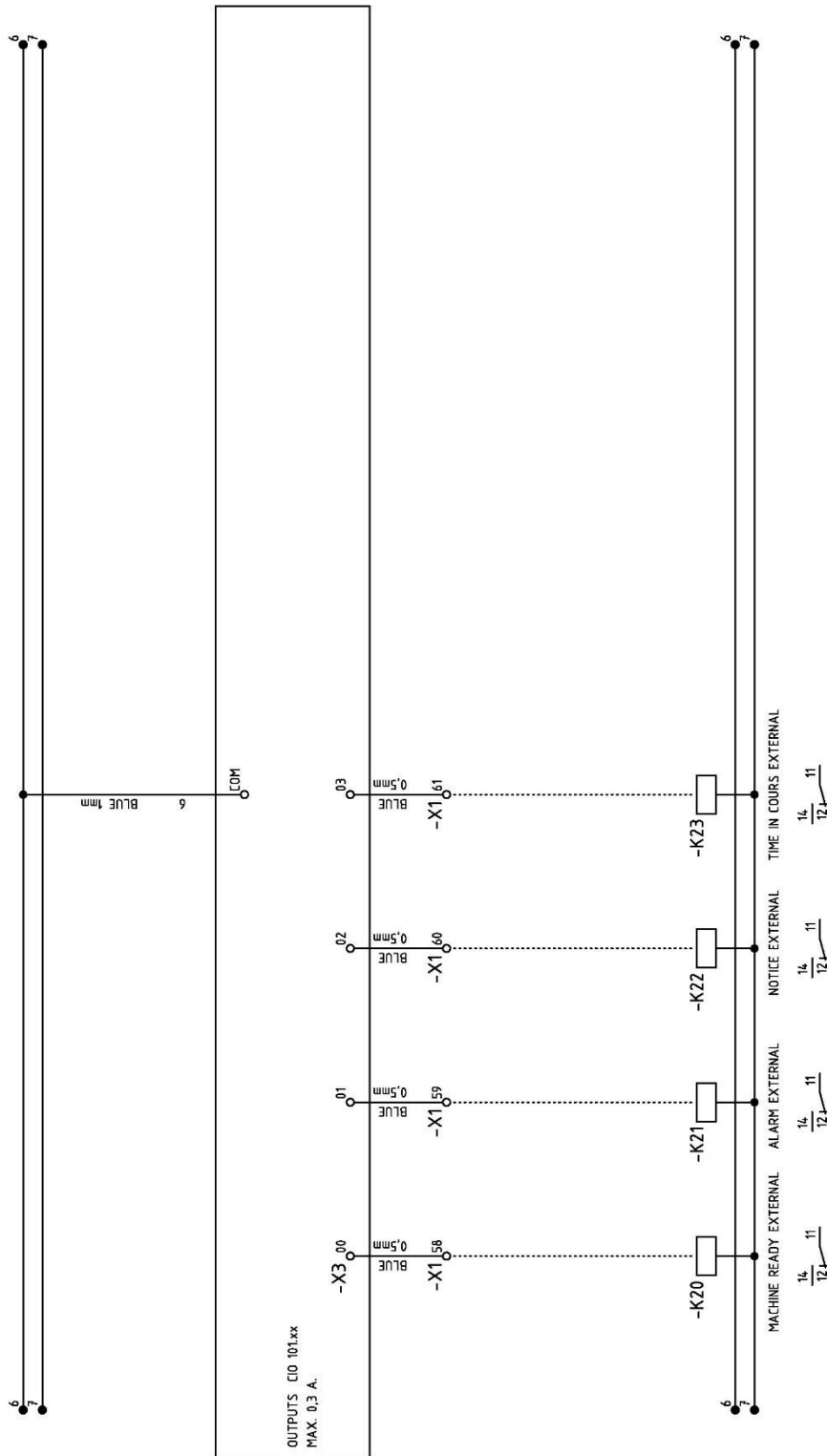


Figure 26. Elec. Schem. 3PE~400V 50/60Hz Standard Vers. (Sheet 12/12)

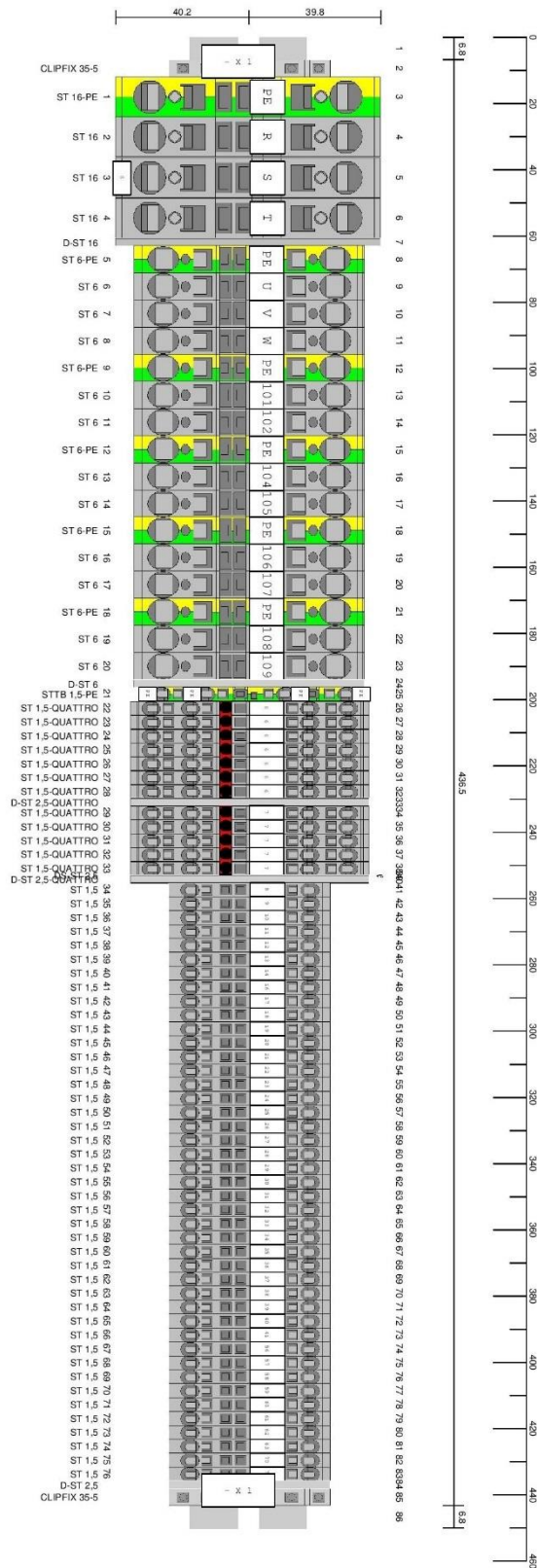


Figure 27. Distribution 3PE~400V 50/60Hz Standard Version



Table 29. Electrical Schematic 3PE~400V 50/60Hz 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 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 0,03 63 A	EL-00108-04	1
F 2,3	CIRUIT BREAKER	EL-00115-03	2
F 4	CIRUIT BREAKER	EL-00113-04	1
F 1	CIRUIT BREAKER	EL-00109-04	1
F 5	CIRUIT BREAKER 10-16A	EL-00119-05	1
F 5	AUX. 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	WIRE CONNECTION TRIAC	EL-00126-12	1
K 1	CONTACTOR 24 VDC	EL-00123-02	1
K 2	CONTACTOR 24 VDC	EL-00121-02	1
	RESISTENCE 3.3 kΩ 6 W	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
	2IN/2OUT ANALOGIC MODULE	EL-00171-05	1
	2OUT ANALOGIC MODULE	EL-00171-04	1
	EXPANSION MODULE 2EPt100	EL-00171-06	1
	SWITCH 5x ETHERNET	EL-00171-07	1
	7" TOUCH SCREEN	EL-00171-02	1
	ETHERNET WIRE 1,5 MTS	EL-00171-09	1
	ETHERNET WIRE 0,2 MTS	EL-00171-11	1
	MINI MCR-TC-UI-NC	EL-00164-02	1
	USB PORT	EL-00078-06	1
	CONSOLE 500x500		1
	VENTILATION DEVICE	EL-00158-05	1

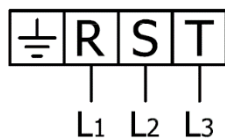


Figure 28. Connection 3PE~400V 50/60Hz Standard Version



PNEUMATIC SCHEMATIC DIAGRAM

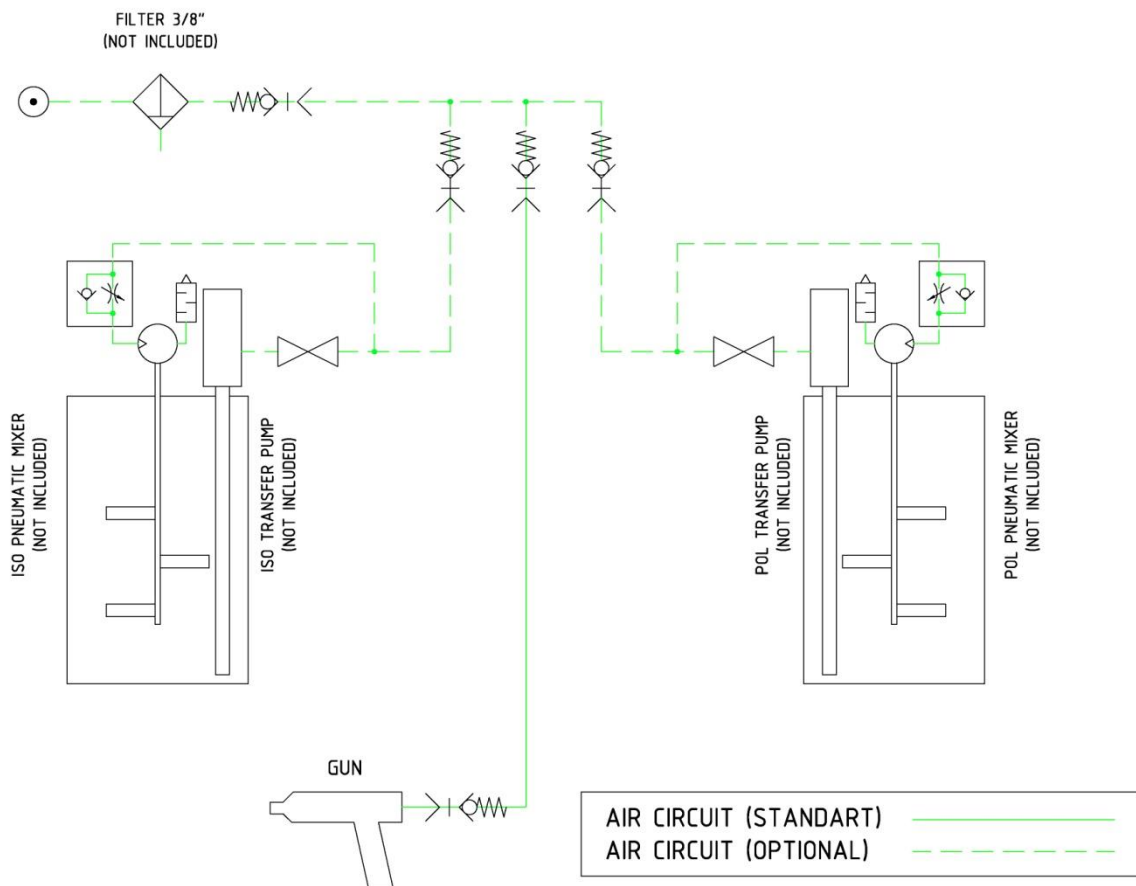


Figure 29. Pneumatic Schematic Diagram



HYDRAULIC SCHEMATIC DIAGRAM

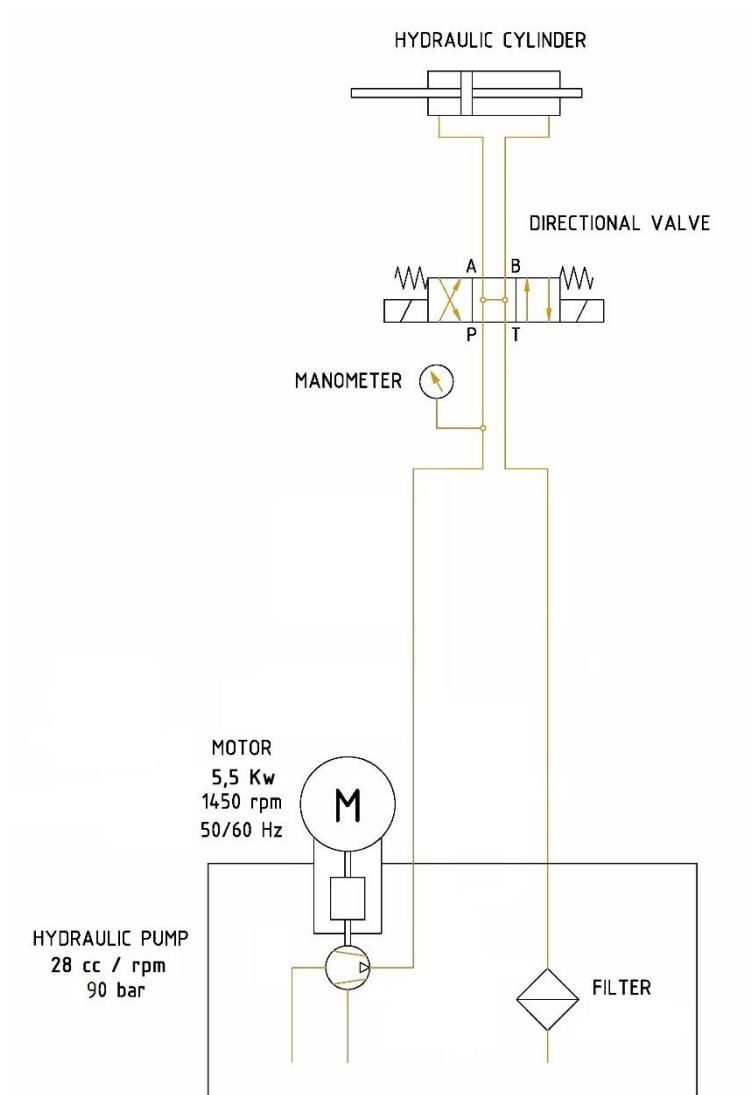


Figure 30. Hydraulic Schematic Diagram



FUNCTIONING SCHEMATIC DIAGRAM

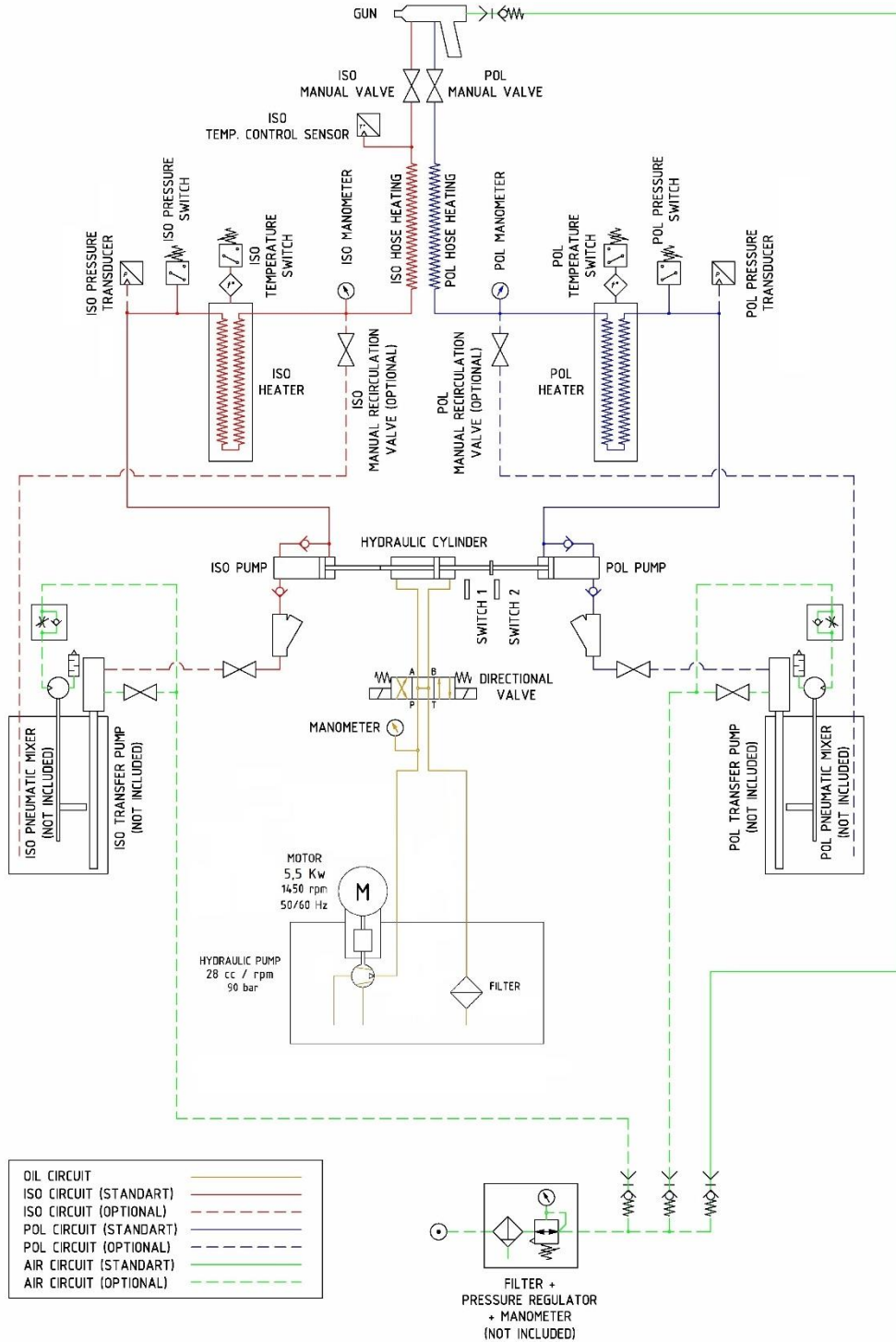


Figure 31. Functioning Schematic Diagram



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