

novag[®]

SPRAY EQUIPMENT

Parts Manual

Proportioning Unit

novag - V

Issue 1.6 - 04/09/2019

Ref. NR-00007-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 (hereinafter "HI-TECH") provides this **LIMITED WARRANTY** (hereinafter "Warranty") to the original purchaser (hereinafter "Customer") covering this equipment and the original HI-TECH manufactured accessories delivered with the equipment (hereinafter "Product") against defects in material or workmanship of the Product (hereinafter "Defect" or "Defective") for a period of two (2) years from the date of first purchase as shown on the original HI-TECH invoice (hereinafter "Warranty Period").

If during the Warranty Period under normal use, the Product is suspected by Customer to be Defective in material or workmanship, it is Customer's responsibility to contact HI-TECH and return the Product to HI-TECH as directed by HI-TECH, freight prepaid. If HI-TECH determines that the Product is Defective and that such Defect is covered by this Warranty, HI-TECH will credit Customer for the reasonable freight charges incurred by Customer in returning the Defective Product to HI-TECH, and HI-TECH (or its authorized agent) will, at HI-TECH's option, repair or replace the Product, subject to the following:

Original Invoice: The original invoice must be kept as proof of the date of first sale and the Product serial number. The Warranty does not cover any Product if the Original Invoice appears to have been modified or altered, or when the serial number on the Product appears to have been altered or defaced.

Product Maintenance: It is the Customer's responsibility to maintain the Product properly. See your maintenance schedule and owner's manual for details. The Warranty does not cover an improperly maintained Product.

Non-HI-TECH Components and Accessories: Non-HI-TECH manufactured components and accessories that are used in the operation of the Product are not covered by this Warranty. Such components and accessories shall be subject to the warranty offered to the Customer, if any, by the original manufacturer of such component or accessory.

Other Warranty Exclusions: The Warranty does not cover any Product that HI-TECH determines has been damaged or fails to operate properly due to misuse, negligence, abuse, carelessness, neglect, or accident. By way of example only, this includes:

- Normal wear and tear.
- Improper or unauthorized installation, repair, alteration, adjustment or modification of the Product.
- Use of heating devices, pumping equipment, dispensers, or other parts or accessories with the Product that have not been approved or manufactured by HI-TECH.
- Failure to follow the operating instructions and recommendations provided by HI-TECH.
- Cosmetic damage.
- Fire, flood, "acts of God," or other contingencies beyond the control of HI-TECH.

THE WARRANTY DESCRIBED HEREIN IS THE EXCLUSIVE REMEDY FOR THE CUSTOMER AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, AND THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. TO THE FULLEST EXTENT PERMITTED BY LAW, HI-TECH SHALL NOT BE RESPONSIBLE, WHETHER BASED IN CONTRACT, TORT (INCLUDING, WITHOUT LIMITATION, NEGLIGENCE), WARRANTY OR ANY OTHER LEGAL OR EQUITABLE GROUNDS, FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, LOST PROFITS, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, WHETHER TO PERSON OR PROPERTY, ARISING FROM OR RELATING TO THE PRODUCT, EVEN IF HI-TECH HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.

Non-Warranty Service by HI-TECH: If HI-TECH determines that the suspected Defect of the Product is not covered by this Warranty, disposition of the Product will be made pursuant to the terms and conditions of HI-TECH's written estimate on a time and materials basis.

Continuing Warranty for Products Repaired or Replaced under Warranty: Following the repair or replacement of a Product covered by this Warranty, such Product will continue to be subject to the original Warranty for the remainder of original Warranty Period or for three (3) months from the repair or replacement date, whichever is longer.

No Rights Implied: Nothing in the sale, lease or rental of any Product by HI-TECH shall be construed to grant any right, interest or license in or under any patent, trademark, copyright, trade secret or other proprietary right or material owned by anyone; nor does HI-TECH encourage the infringement of same.

Exclusive Warranty: This writing is the final, complete, and exclusive expression of the Warranty covering the Product. Any statements made by HI-TECH, its employees or agents that differ from the terms of this Warranty shall have no effect. It is expressly understood that Customer's acceptance of this Warranty, by performance or otherwise, is upon and subject solely to the terms and conditions hereof, and any additional or different terms and conditions proposed or expressed by Customer or anyone, whether in writing or otherwise, are null and void unless specifically agreed to in writing by an Officer of HI-TECH.



PROPORTIONING UNIT NOVAG - V MODEL

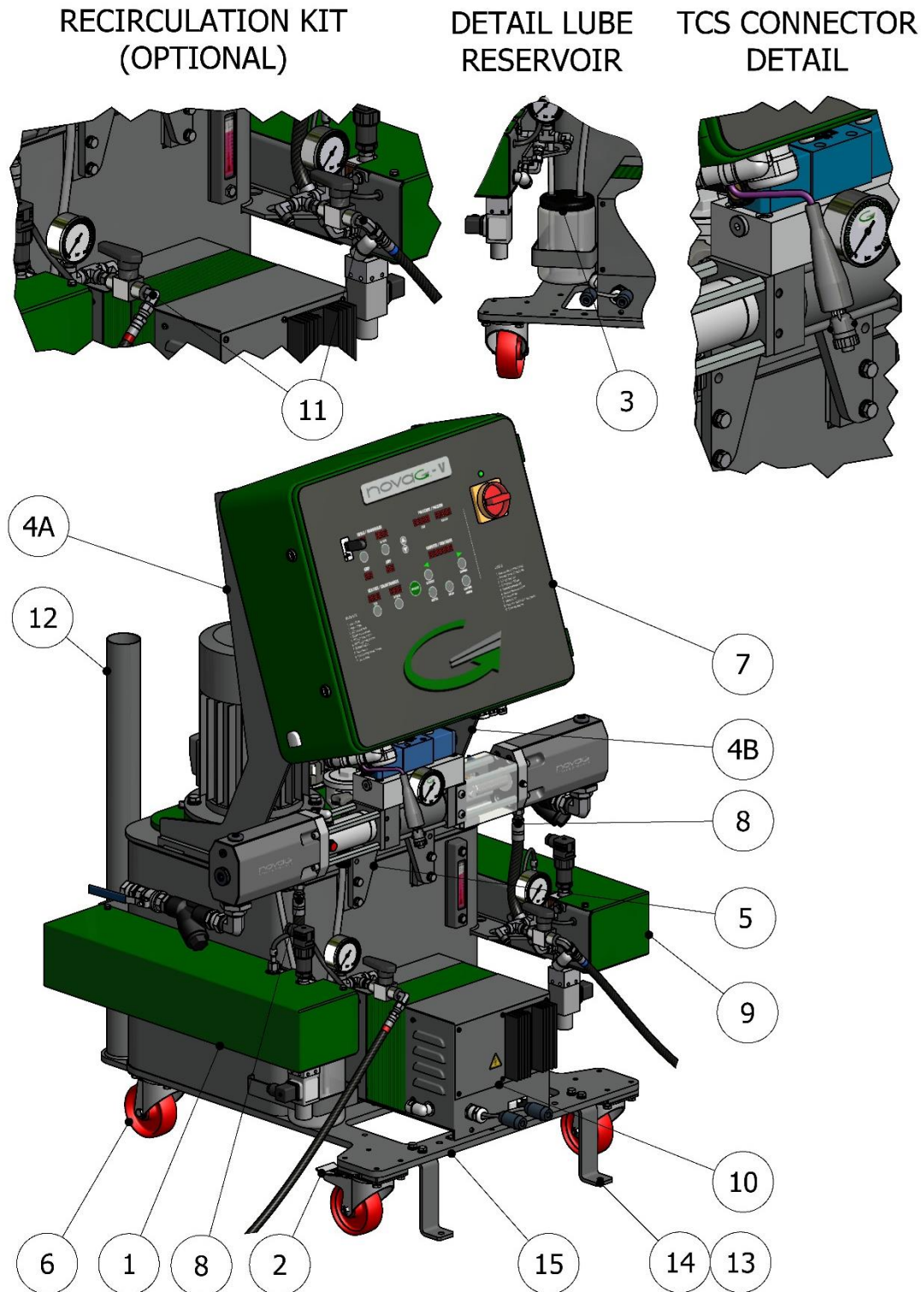


Figure 1. Proportioning Unit novaG – V Model

**Table 1. Proportioning Unit novaG – V 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-00127-15	Hose Transformer 3x400v Version



Table 3. A-Primary Heater Reference List

Part Number		Description
NCL-01001-00AT	400V	A Heater 8000 w with Transducer / 250 bar – 3500 psi /400V
NCL-01001-00BT	230V	A Heater 8000 w with Transducer / 250 bar – 3500 psi /230V

Table 4. R-Primary Heater Reference List

Part Number		Description
NCL-01002-00AT	400V	R Heater 8000 w with Transducer / 250 bar – 3500 psi / 400V
NCL-01002-00BT	230V	R Heater 8000 w with Transducer / 250 bar – 3500 psi / 230V

Table 5. Electrical Console Reference List

Part Number	Description
EL-00245-03	Electrical Console Assy. (3x400v. w/o N, with III phases Motor & Logger)



ELECTRICAL CONSOLE

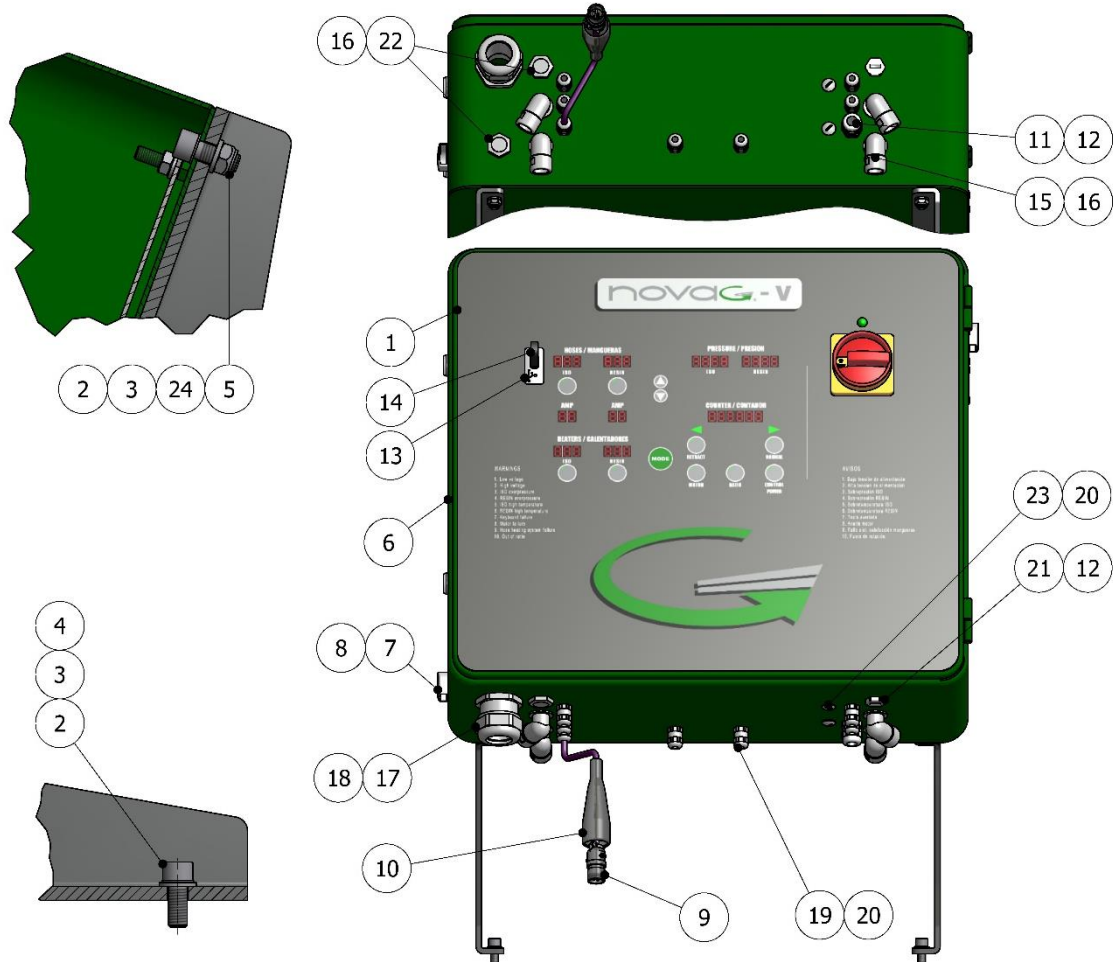


Figure 1. Electrical Console novaG - V



Table 6. Electrical Console novaG - V Model, Parts List

Item	Description	Part Number	Qty.
1	Bezel & Electronic Circuit	See Table 7	1
2	Screw	TN-00176	8
3	AET Washer	TN-00038	8
4	Washer	TN-00119	4
5	Lock Nut	TN-00283	4
6	Console Assy	EL-00246	1
7	Air Vent	EL-00158-05	2
8	Nut (included in POS.7)		
9	Male Connector	EL-00096-19	1
10	Cover Connector	EL-00096-21	1
11	Connector	EL-00088-05	1
12	Nut	EL-00090-06	2
13	USB Port, Included in Ref. 1 (optional)	See Table 7	1
14	Massive Storage 4 GB, included in Ref. 1 (optional)	See Table 7	1
15	Elbow	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	2
23	Plug	EL-00183	2
24	Lock Washer	TN-00028	4



Table 7. Bezel Components Assembly

	3x 400v/230v.w/oN 50/60 Hz With Logger EL-00248-01
Bezel 1x	EL-00248
Circuit 1x	EL-00019-07
Switch 1x	EL-00107-02
Divider 9x	EL-00019-03
USB Port 1x	EL-00078-04
Mass. Storage 1x	NEL-00078-05



**HYDRAULIC MANIFOLD WITH MOTOR 3x400v. 50/60Hz
(hyd. Pump 28 cc.)**

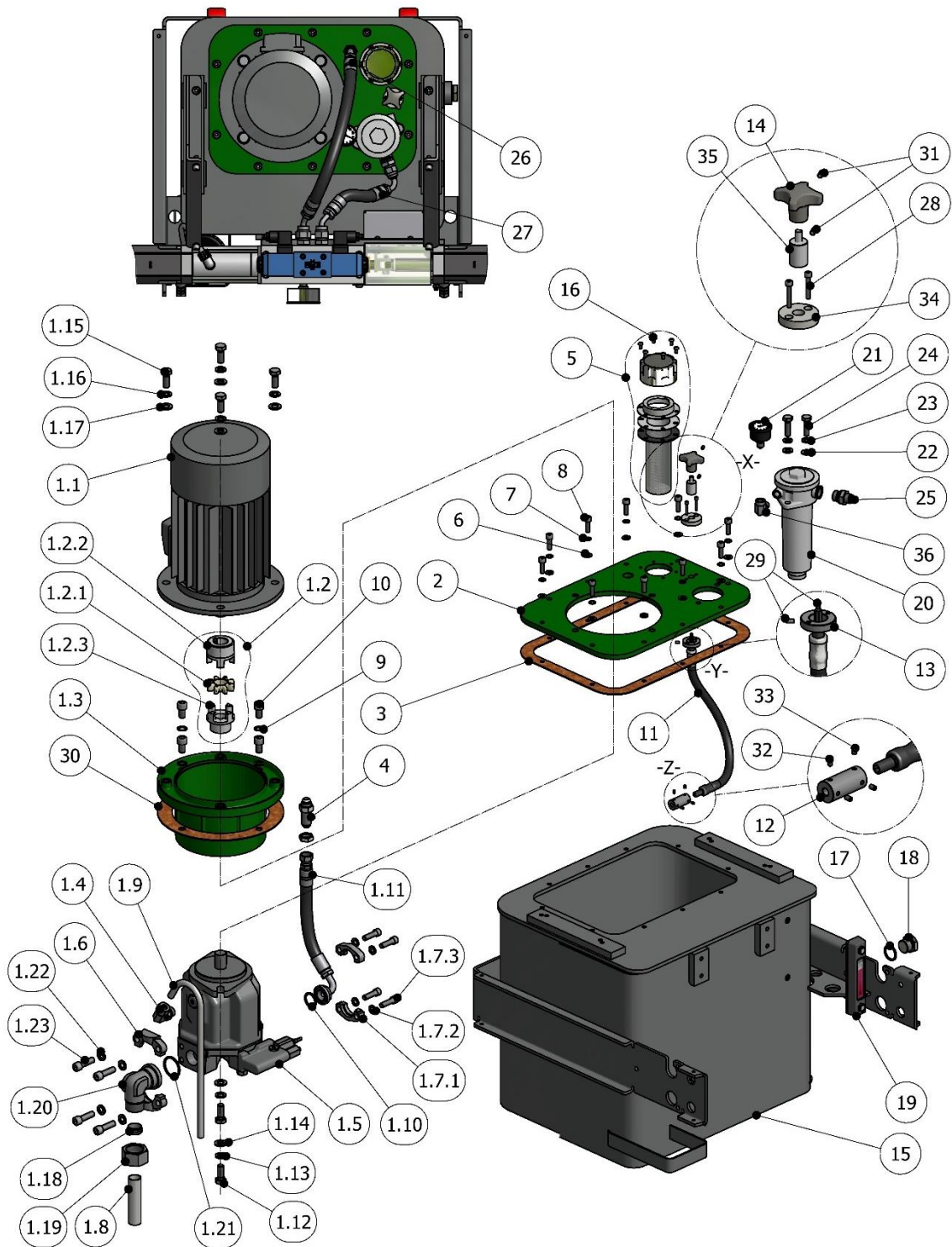


Figure 2. Hydraulic Manifold 3x400v.50/60Hz (hyd. Pump 28 cc), Exploded View



Table 8. Hydraulic Manifold with Motor 3x400v. 50/60Hz, 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	HI-00081	1
1.6	SAE Pair Clamp	RA-00495-01	1
1.7	SAE Clamp Set		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-00156-01	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
1.18	Press. Ring	RA-00495-02	1
1.19	Hex. Nut	RA-00495-03	1



Item.	Description	Part Number	Qty.
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
28	Allen Screw	TN-00117	2
29	Screw	TN-00436	2



novaG - V

Parts Manual

Item.	Description	Part Number	Qty.
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	RA-00416	1



REVERSING SWITCH & PUMP LINE SUPPORT

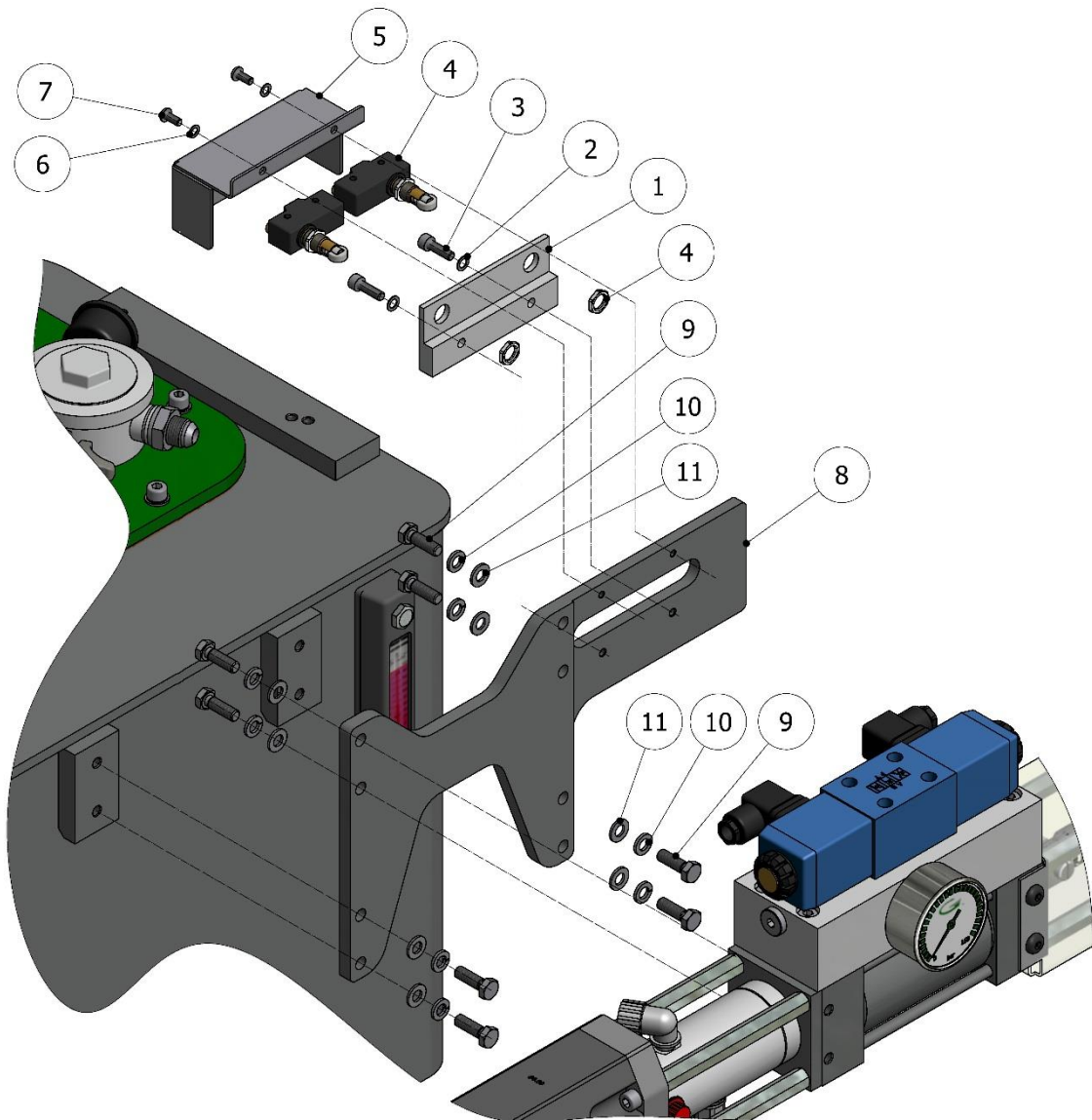


Figure 3. Reversing Switch & Pump Line Support, Exploded View

**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

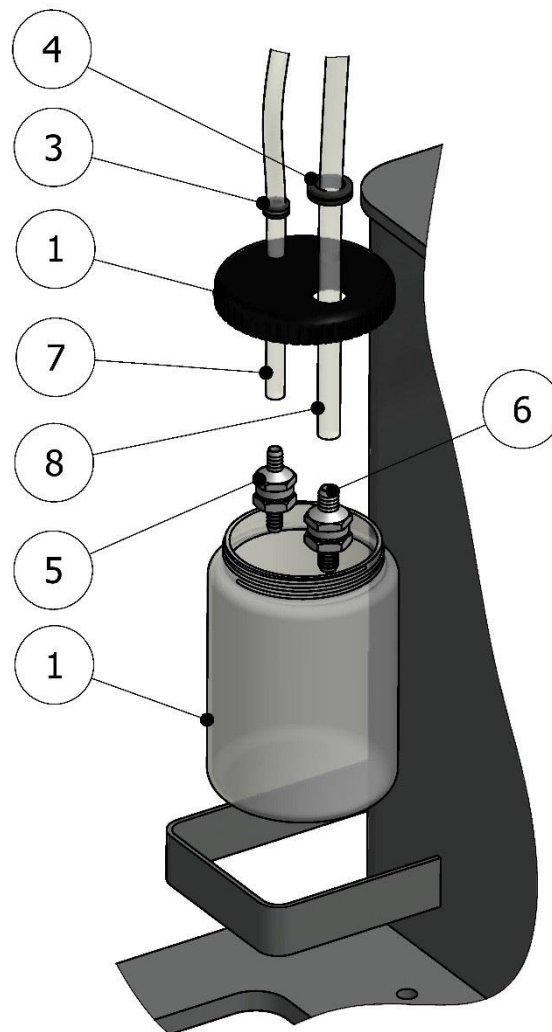


Figure 4. Lube Reservoir Hose Assembly, Exploded View

**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

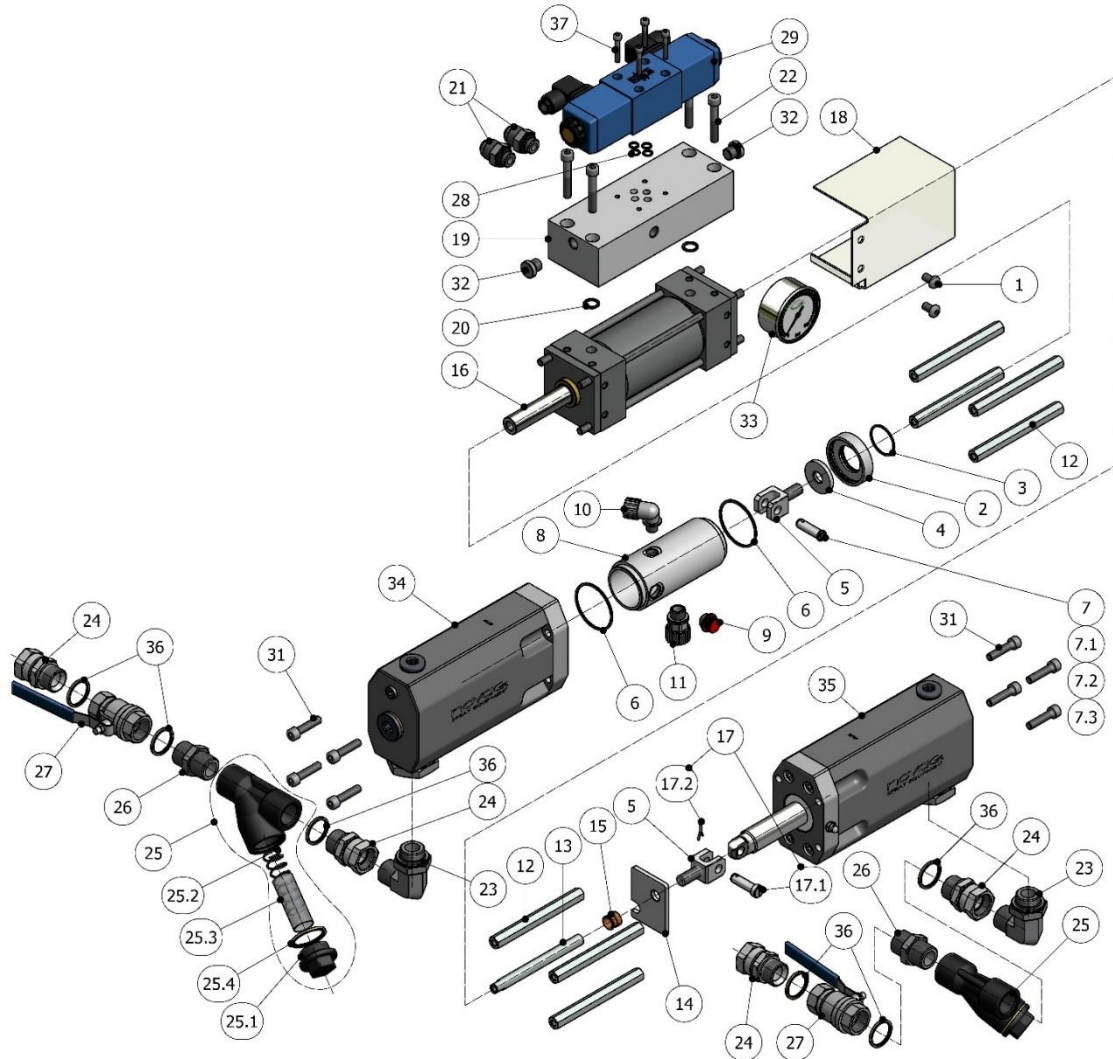


Figure 5. Pump Line Assembly, Exploded View



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

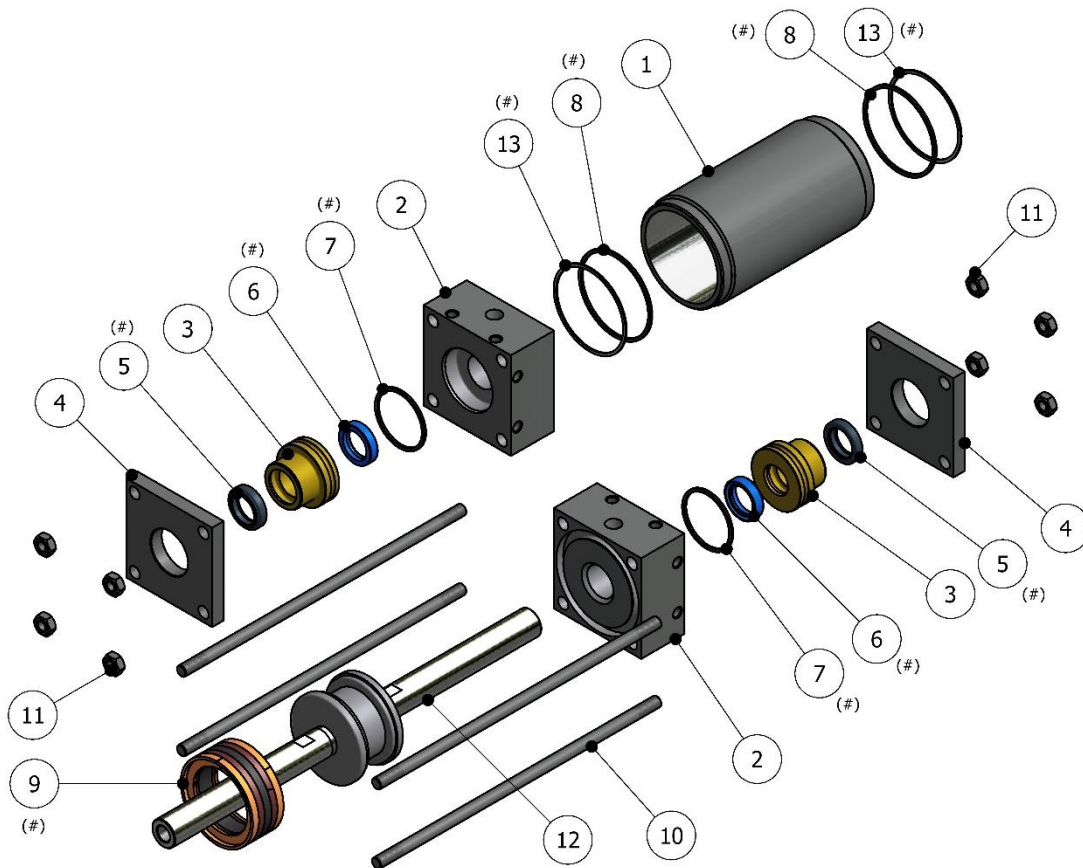


Figure 6. Hydraulic Cylinder with Spacers, Exploded View

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

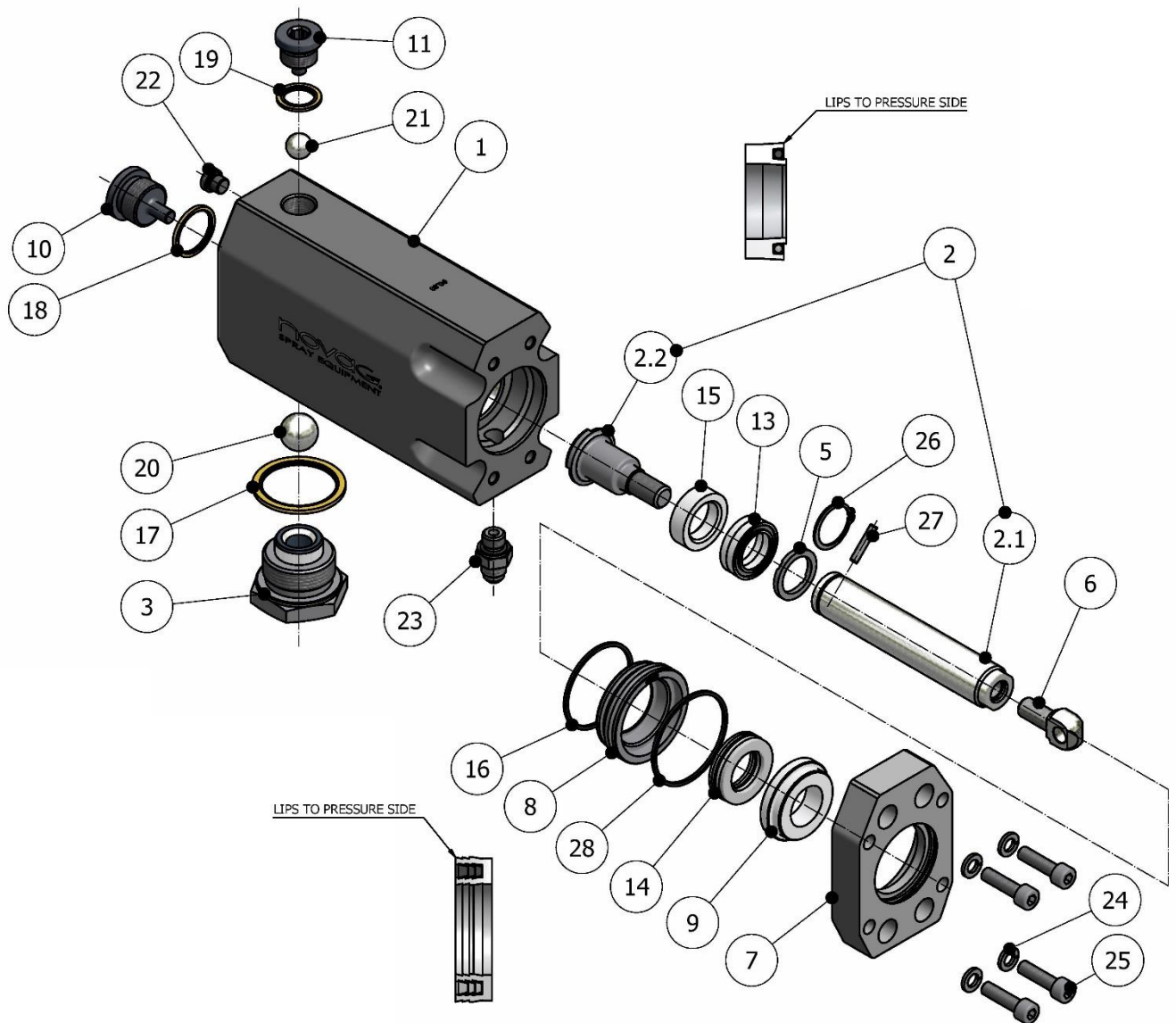


Figure 7. “A” Proportioning Pump Assembly, Exploded View



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

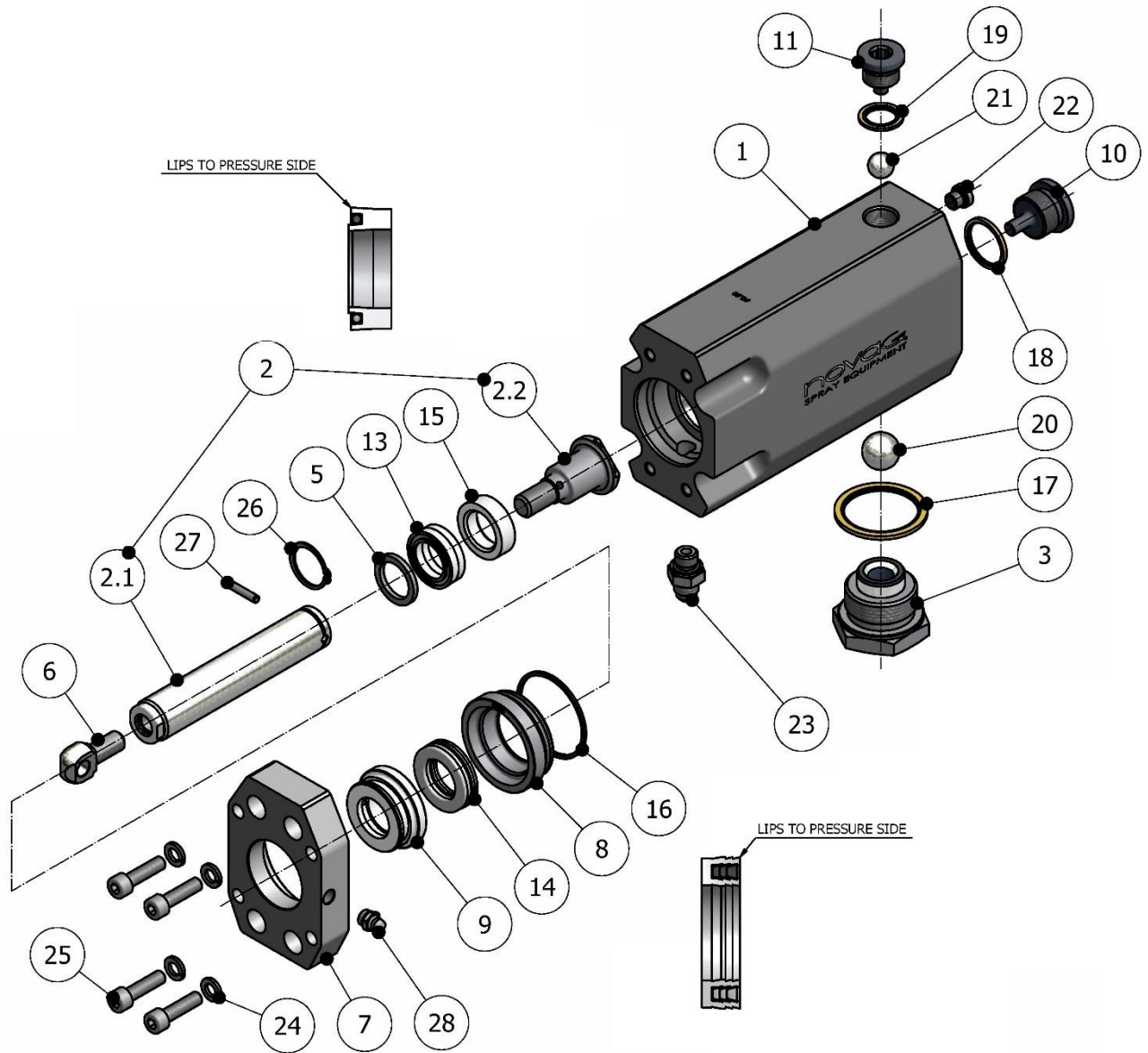


Figure 8. “R” Proportioning Pump Assembly, Exploded View



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

item	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

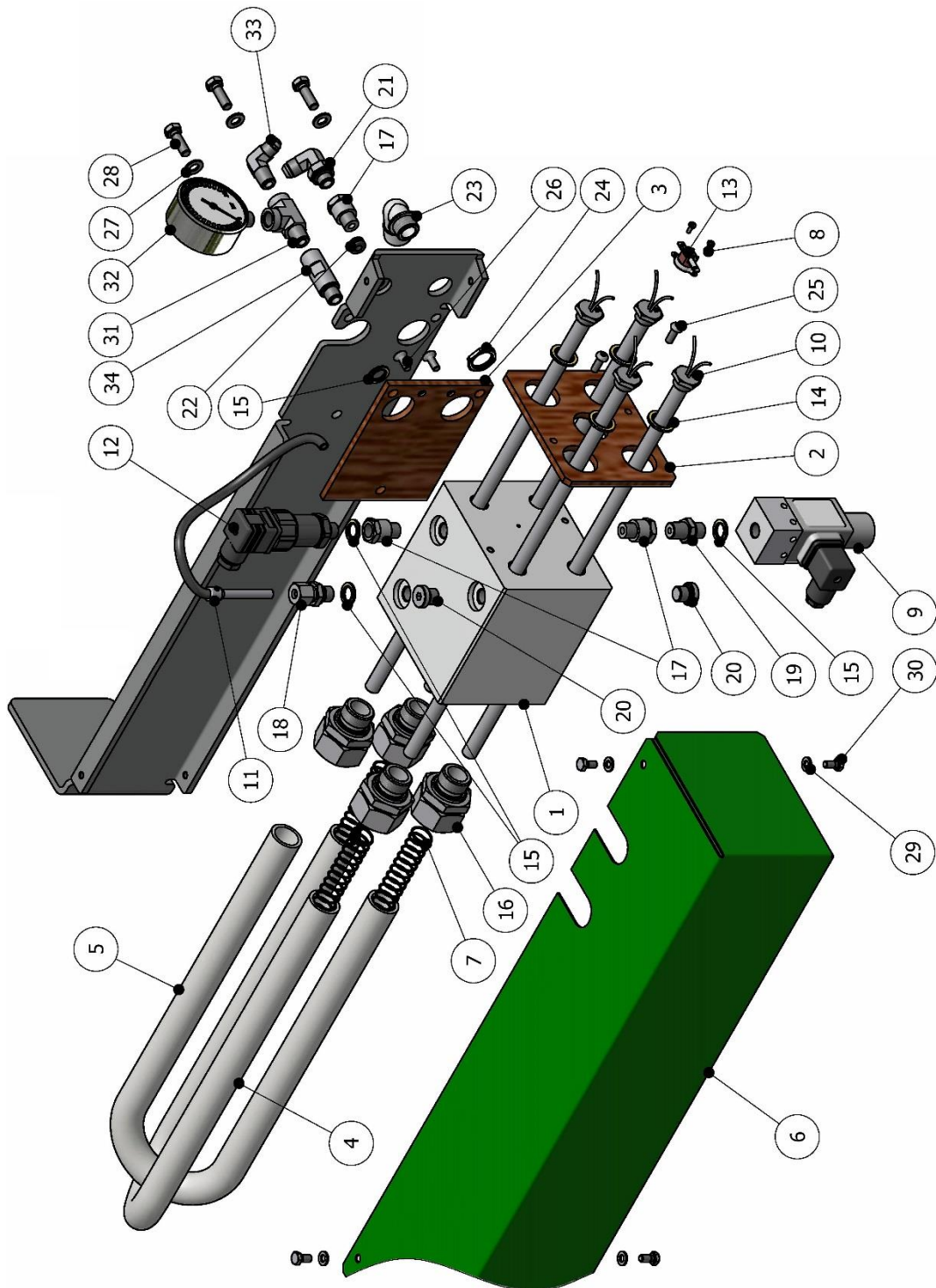


Figure 9. “A” Standard Primary Heater, Exploded View

**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-01001-07	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-00146-00	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	Washer	TN-00024	4
30	Hex. Cap Screw	TN-00438	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
	Heat Resistance 230v 2000w	EL-00177	4



“R” STANDARD PRIMARY HEATER

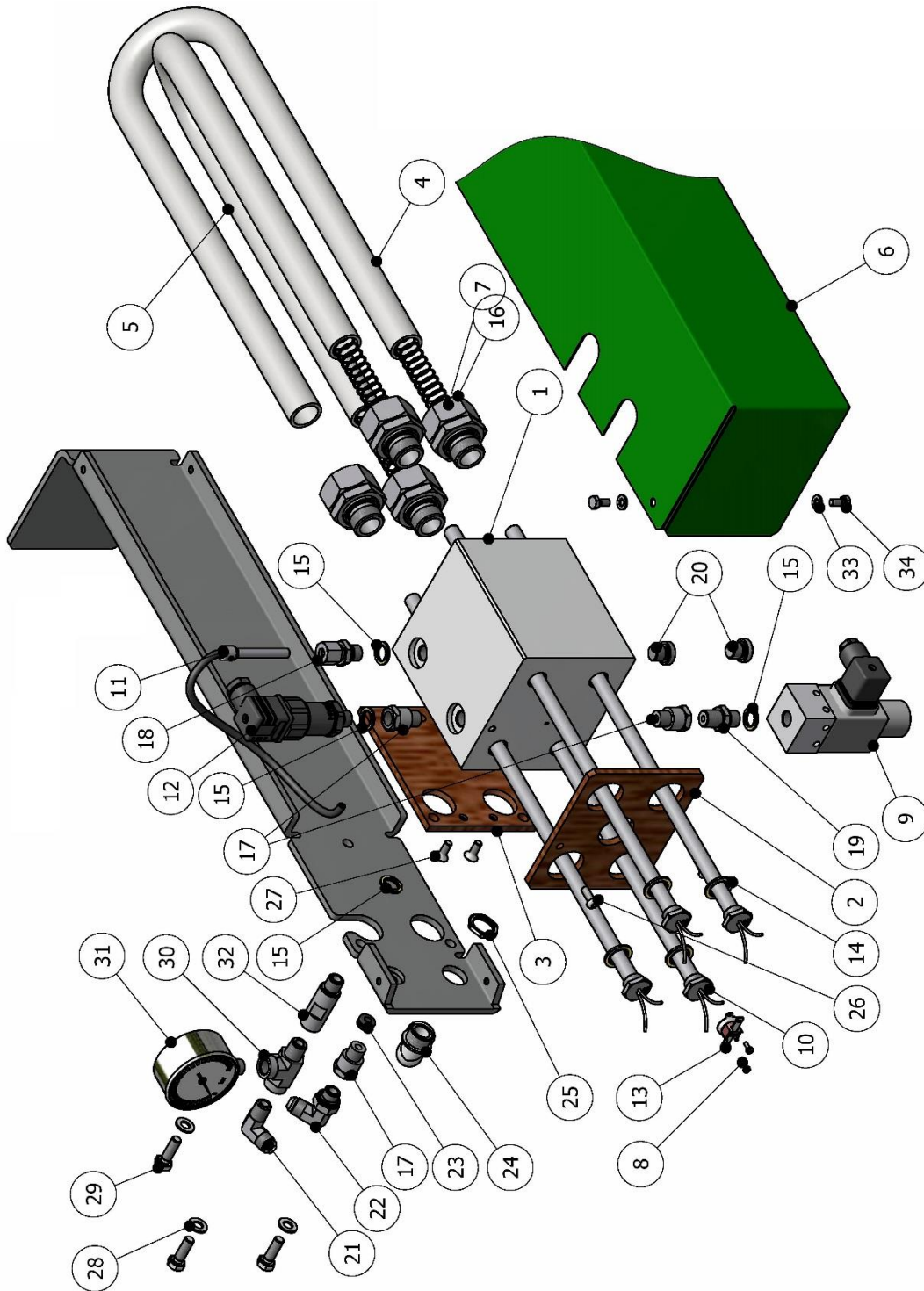


Figure 10. “R” Standard Primary Heater, Exploded View



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-01002-07	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-00146-00	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	Washer	TN-00024	4
34	Hex. Cap Screw	TN-00438	4

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

Item	Description	Part Number	Qty.
10	Heat Resistance 400v 2000w	EL-00258	4
	Heat Resistance 230v 2000w	EL-00177	4



RECIRCULATION KIT P#: KT-00038

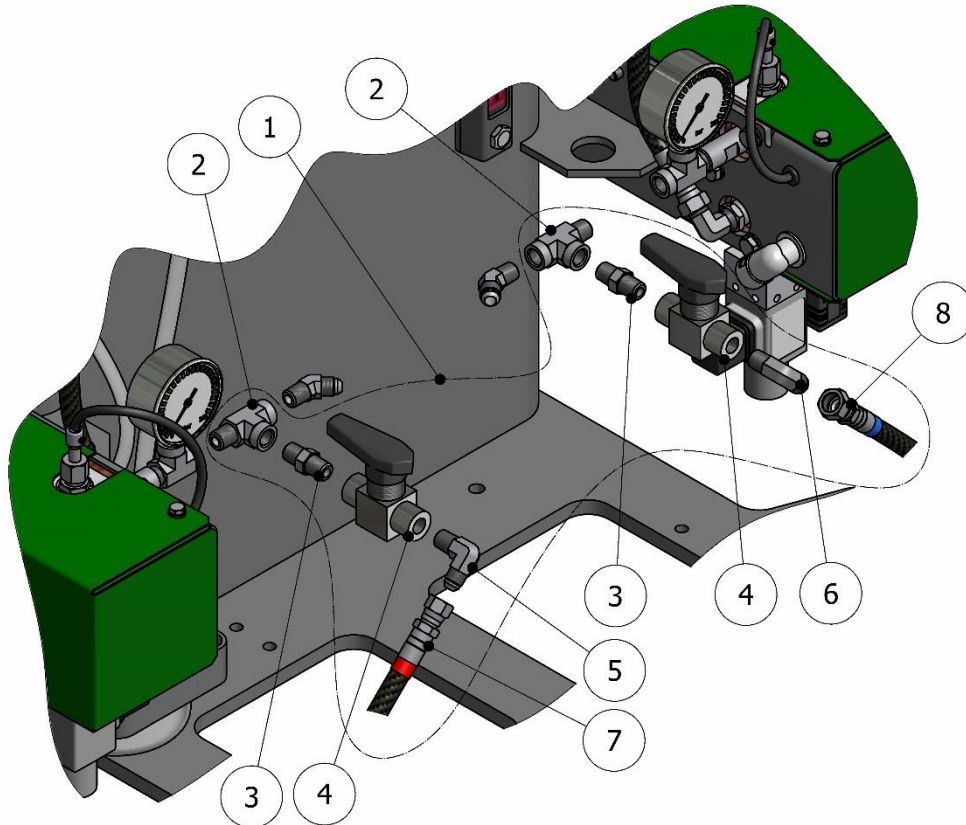


Figure 11. Recirculation Kit P#: KT-00038, Exploded View

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-00189	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

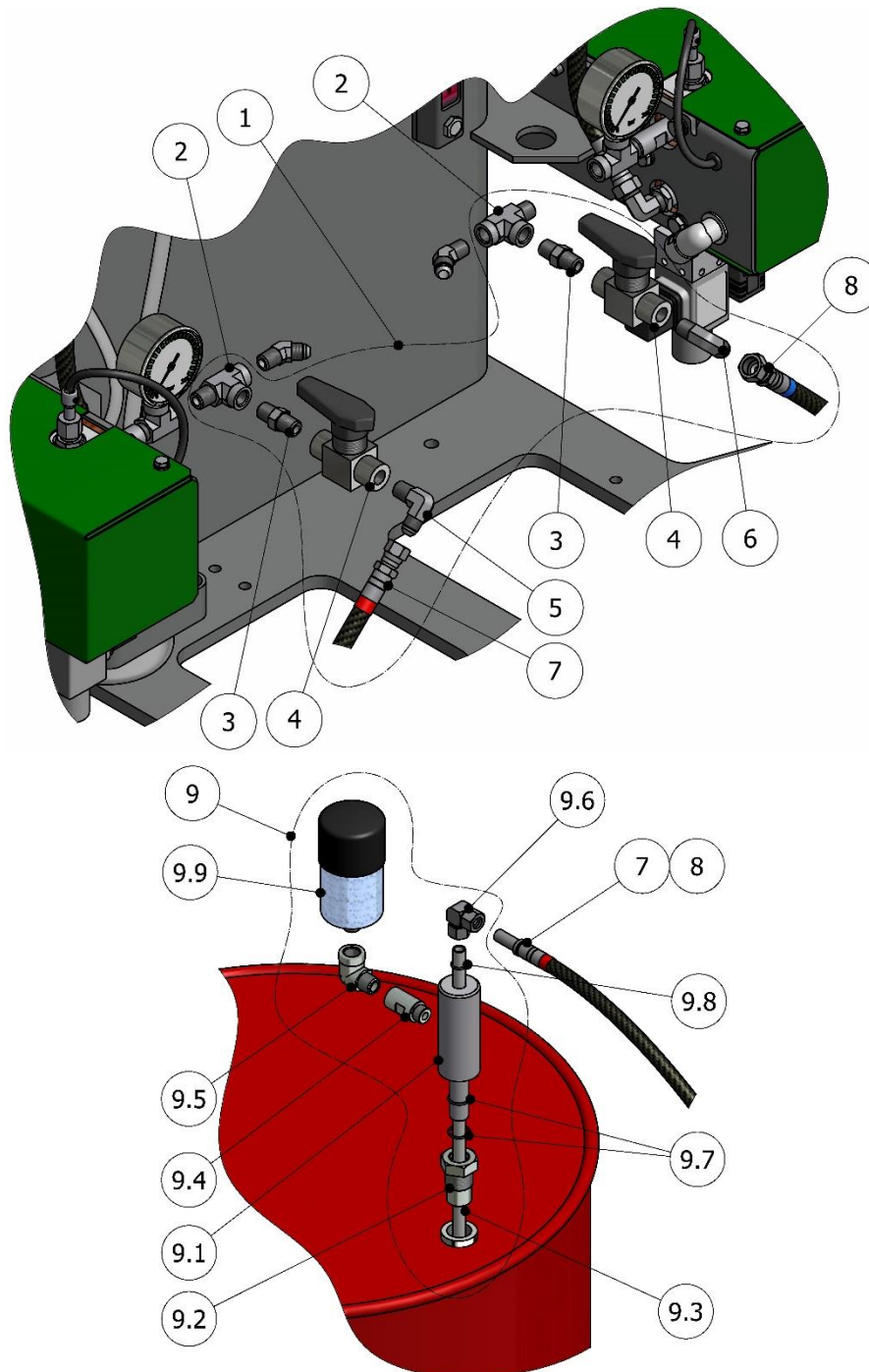


Figure 12. Recirculation Kit P#: KT-00038-01, Exploded View



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-00189	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

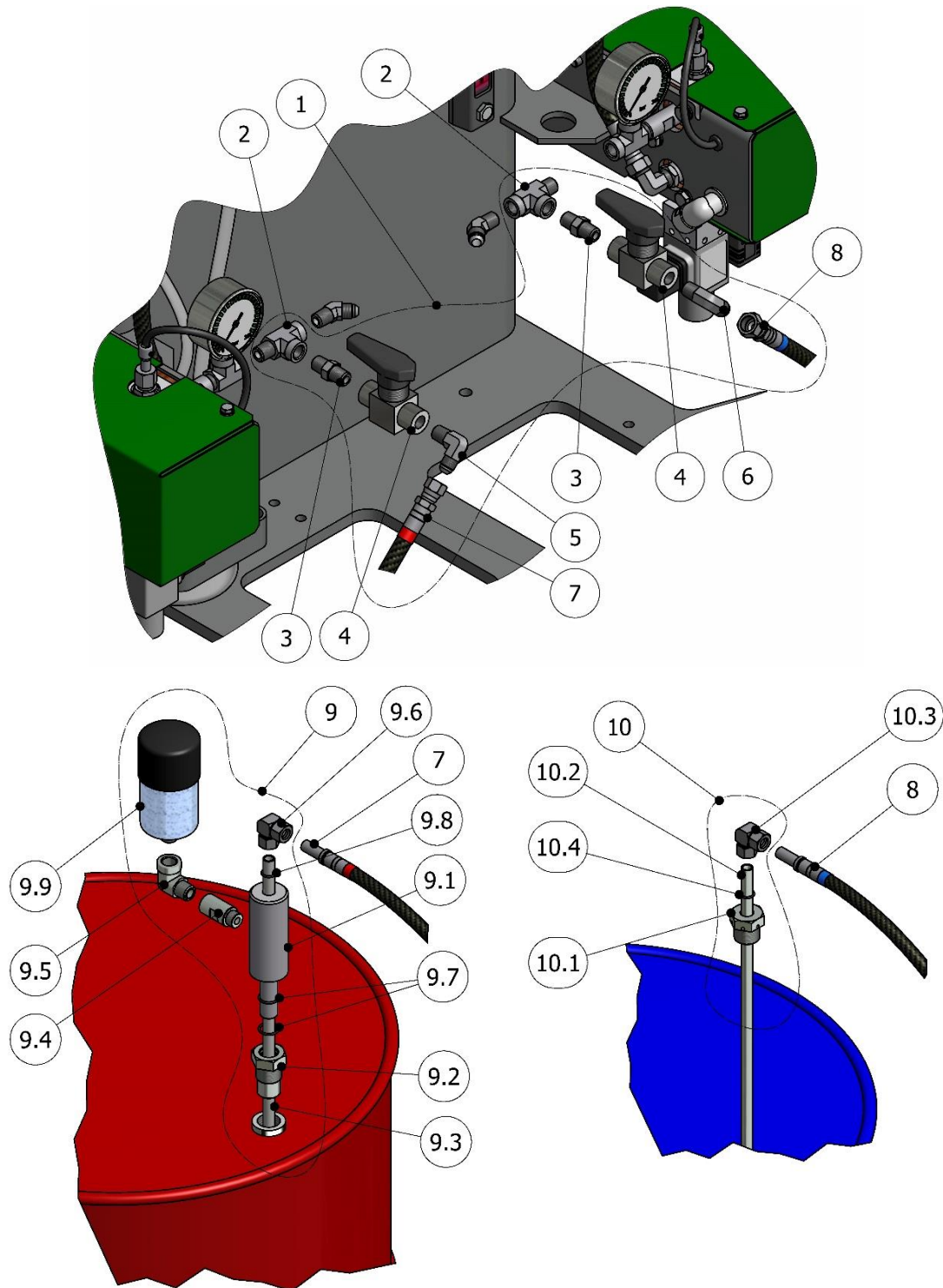


Figure 13. Recirculation Kit P#: KT-00038-03, Exploded View



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-00189	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 3x400v. w/o NEUTRAL 50/60Hz

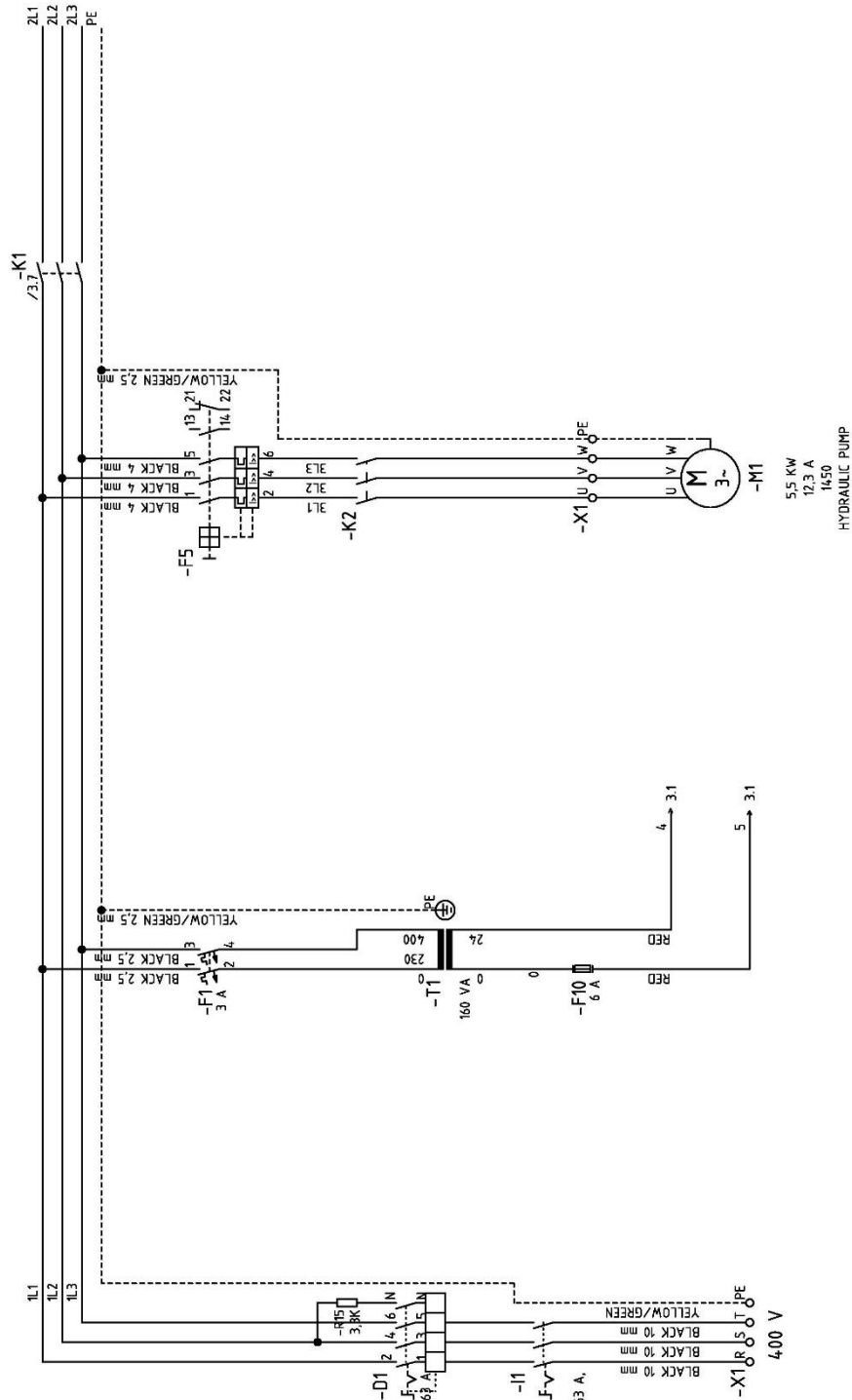


Figure 14. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 1/7)

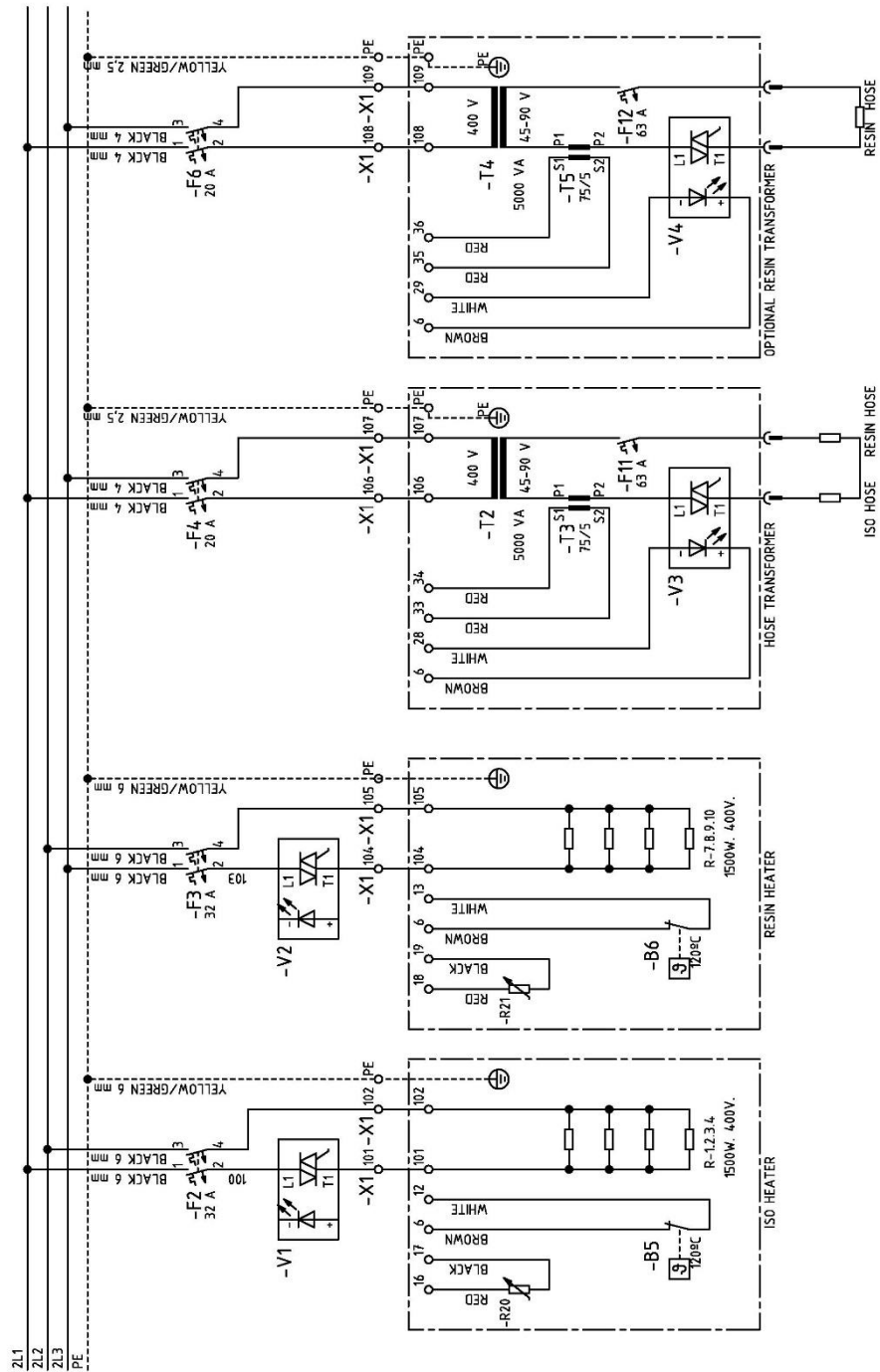


Figure 15. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 2/7)

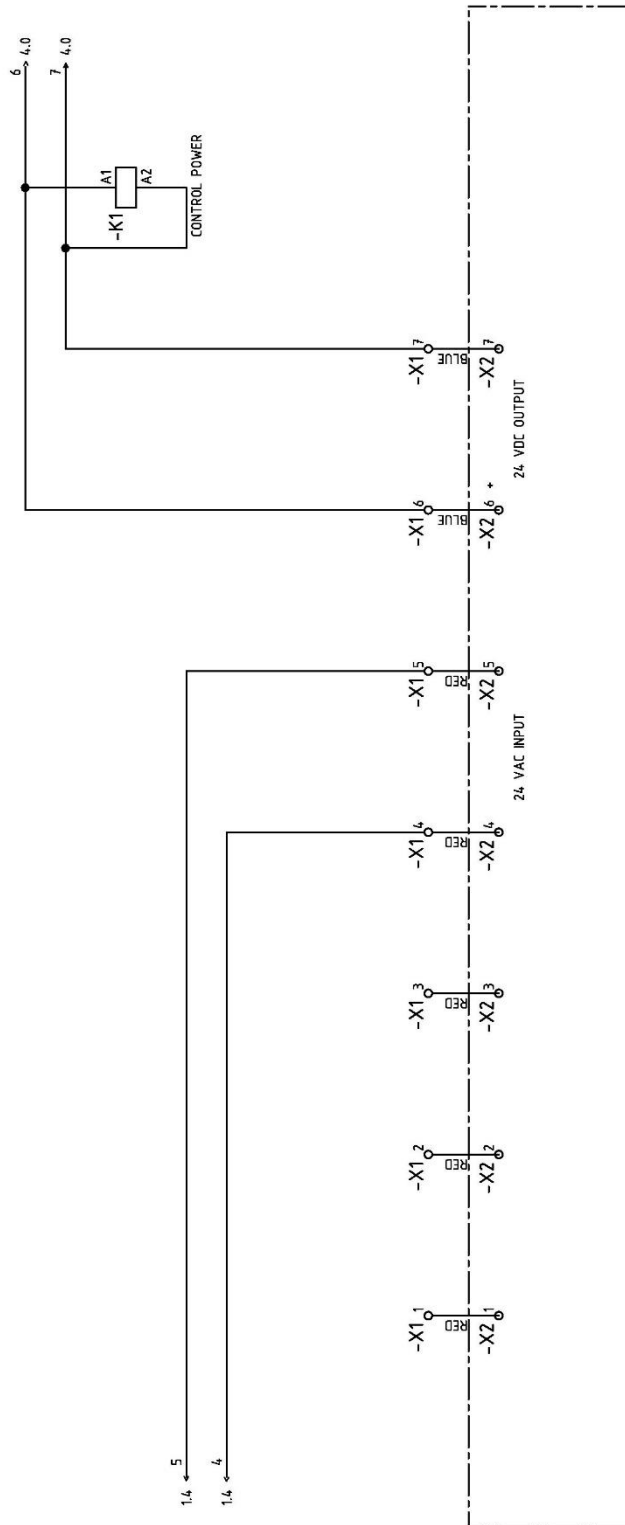


Figure 16. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 3/7)

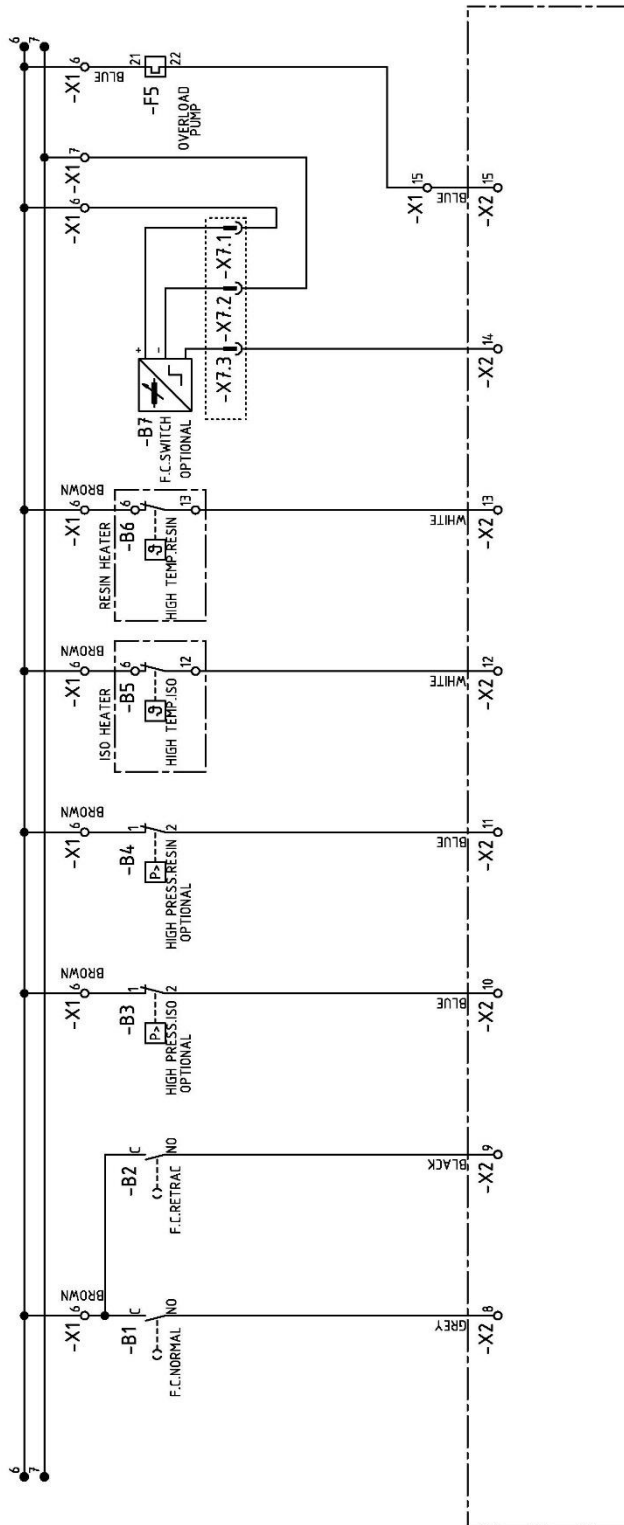


Figure 17. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 4/7)

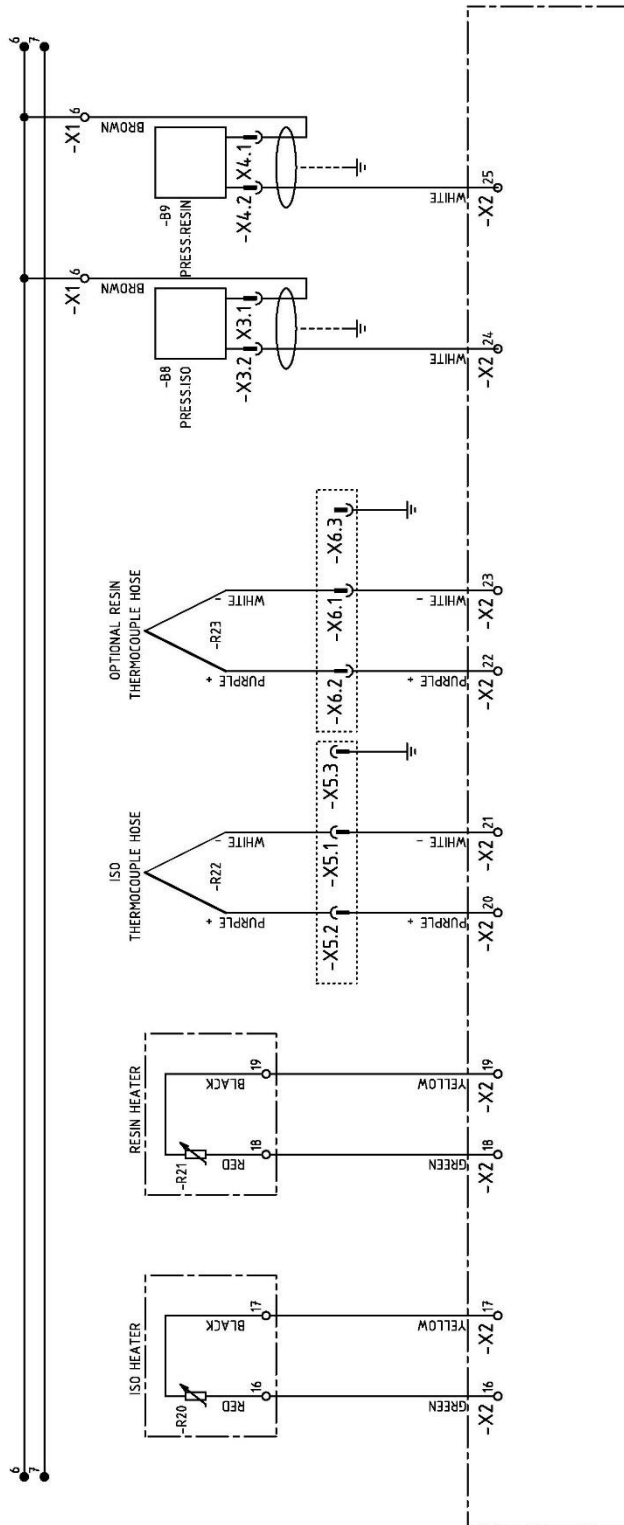


Figure 18. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 5/7)

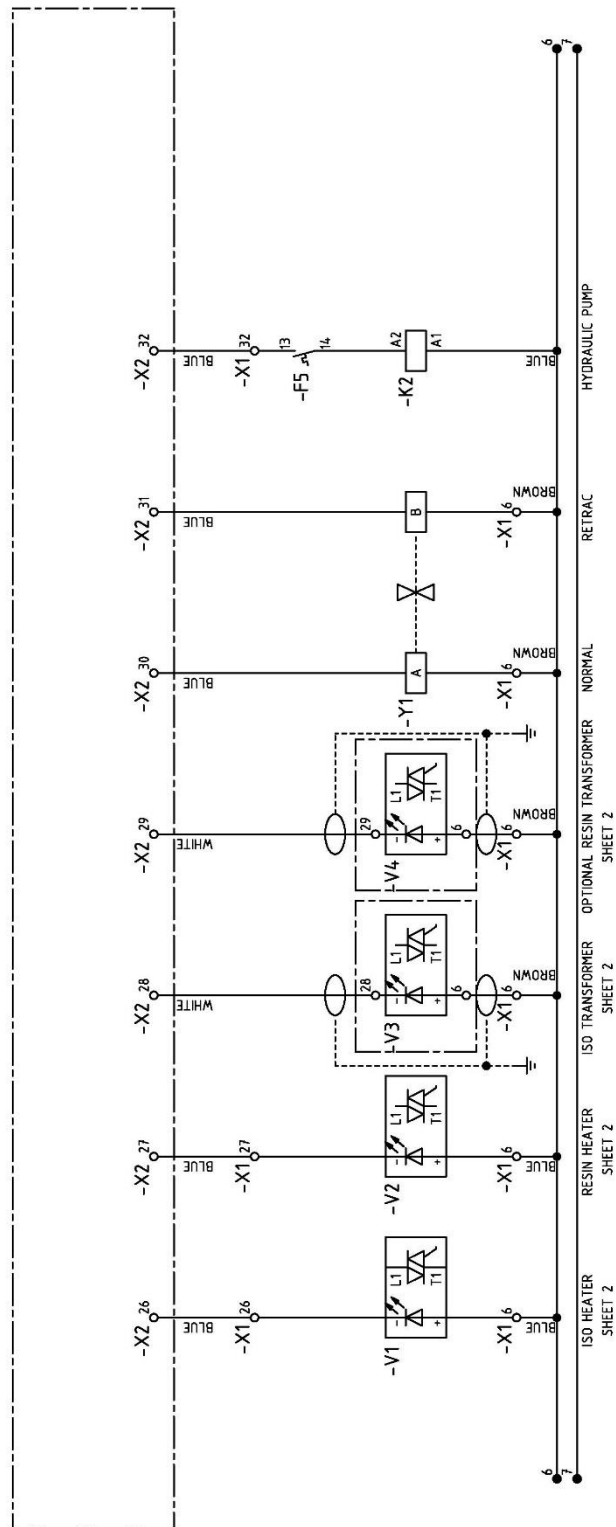


Figure 19. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 6/7)

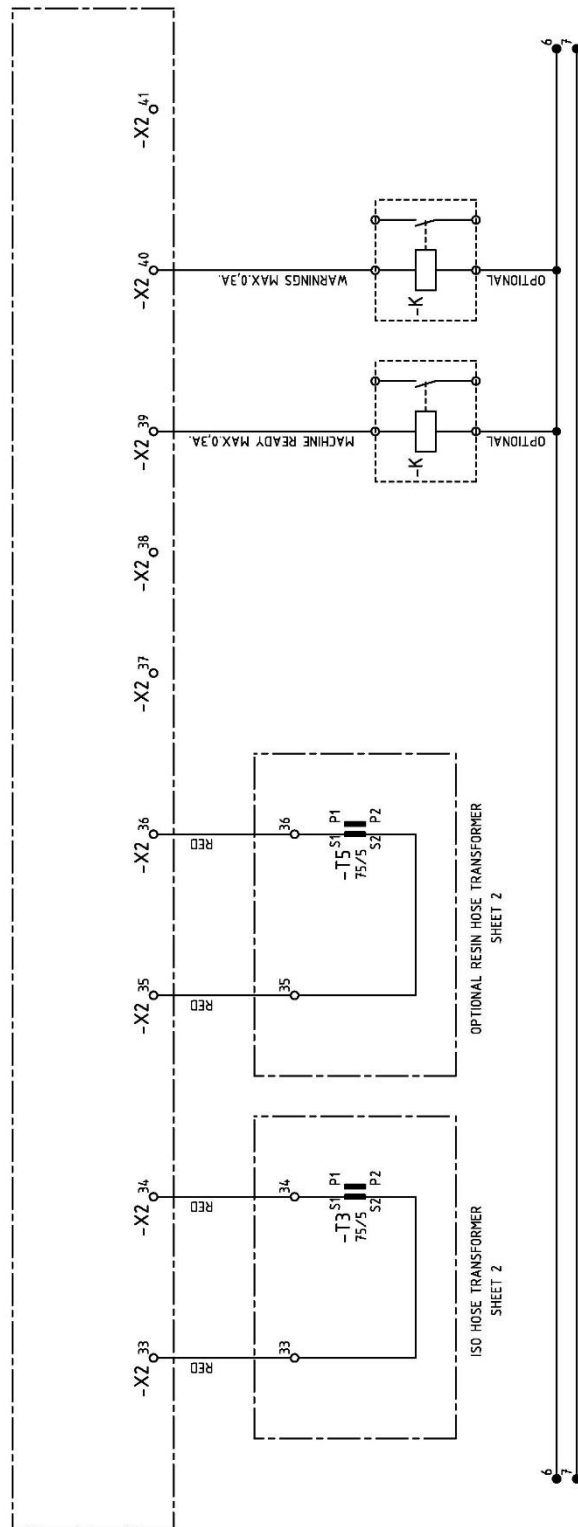


Figure 20. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 7/7)

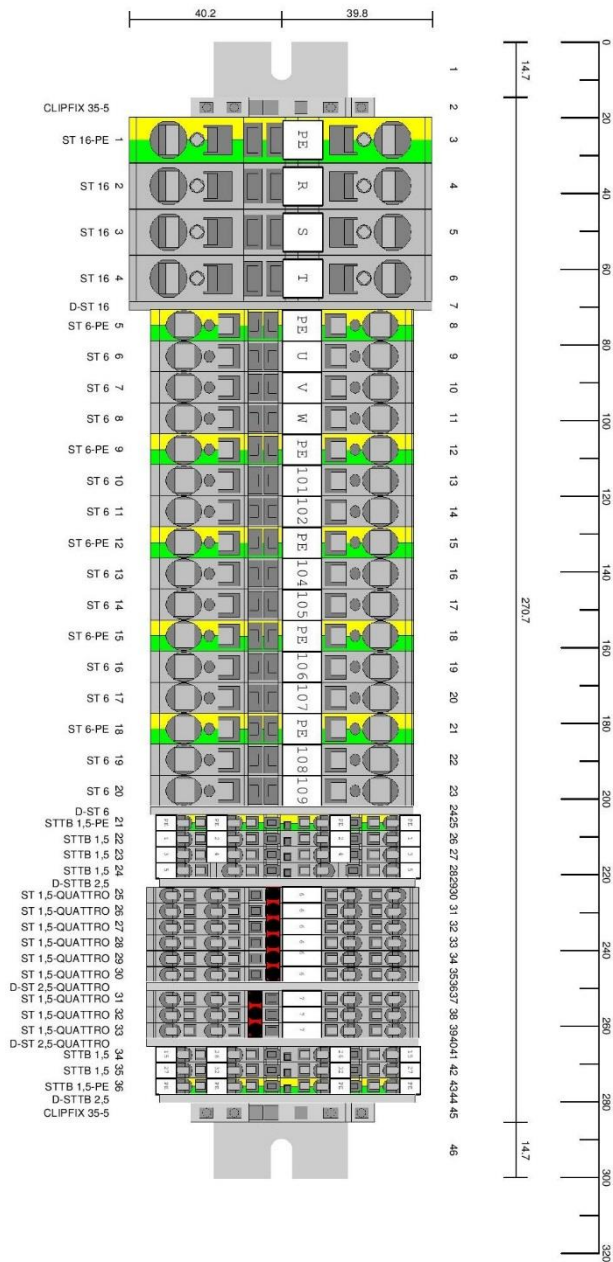


Figure 21. Distribution 3x400v.w/o N-50/60Hz Standard Version



Table 29. Electrical Schematic 3x400v.w/o N - 50/60Hz Standard Version, Parts List

Item	Description	Reference	Qty
	BEIGE TERMINAL 16 mm	EL-00104-03	3*
	GROUND TERMINAL 16 mm	EL-00104-05	1*
	BEIGE TERMINAL 6mm	EL-00104-06	9*
	GROUND TERMINAL 6mm	EL-00104-08	4*
	TERMINAL BLOCK 2,5	EL-00104-12	2*
	BEIGE TERMINAL 2,5	EL-00104-09	4*
	GROUND TERMINAL 2,5mm	EL-00104-11	2*
	UNION PLATE	EL-00104-14	2*
F 10	FUSIBLE POINT	EL-00104-13	1
F 10	FUSE	EL-00128-03	2
I 1	SWITCH 63 A	EL-00107-07	1
I 1	CONTROL YELLOW/RED	EL-00107-06	1
T 1	TRANSFORMER 230-400/24 160 VA	EL-00127-02	1
D 1	DIFERENTIAL 0,03 63 A	EL-00108-04	1
F 2,3	AUTOMATIC SWITCH	EL-00115-03	2
F 4	AUTOMATIC SWITCH	EL-00113-04	1
F 1	AUTOMATIC SWITCH	EL-00109-04	1
F 5	AUTOMATIC SWITCH 10-16A	EL-00119-02	1
F 5	AUXILIAR CONTACT	EL-00119-00	1
T 3	INTENSITY TRANSFORMER	EL-00127-03	1
V 1,2	STATIC RELAY	EL-00126-03	2
V 3	TRIAC	EL-00126-02	1
K 1	CONTACTOR	EL-00123-00	1
K 2	CONTACTOR	EL-00121-00	1
K 1,2	VARISTOR	EL-00120-00	2
	RESISTENCE 3,3 K.Ω 6 W.	EL-00129-01	1
X 1	TERMINAL	EL-00105-06	1

(*) *Alternative material.*



ELECTRICAL SCHEMATIC DIAGRAM 3x230v. w/o NEUTRAL 50/60Hz

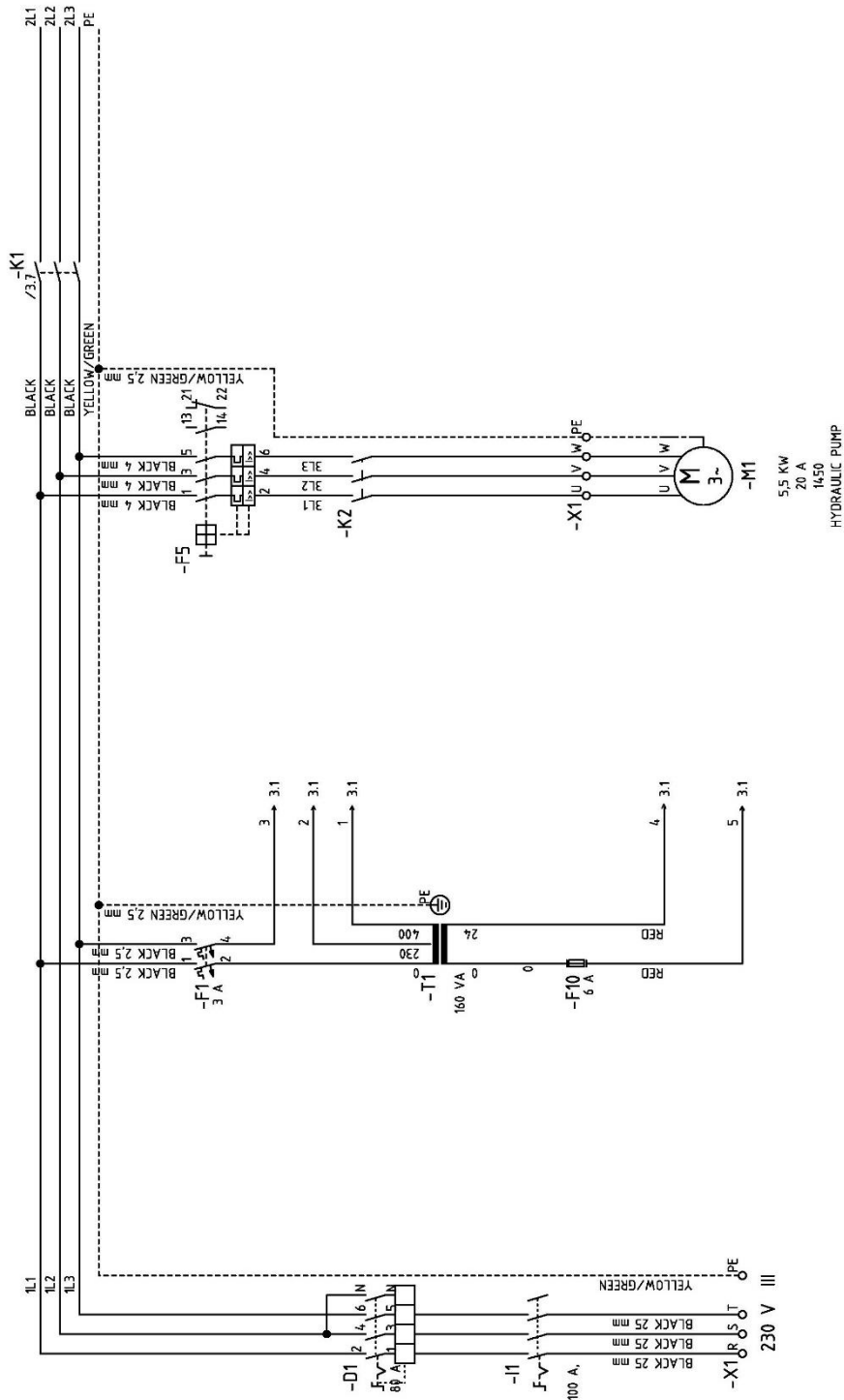


Figure 22. Elec. Schem. 3x230v. w/o N-50/60Hz Standard Version (Sheet 1/7)

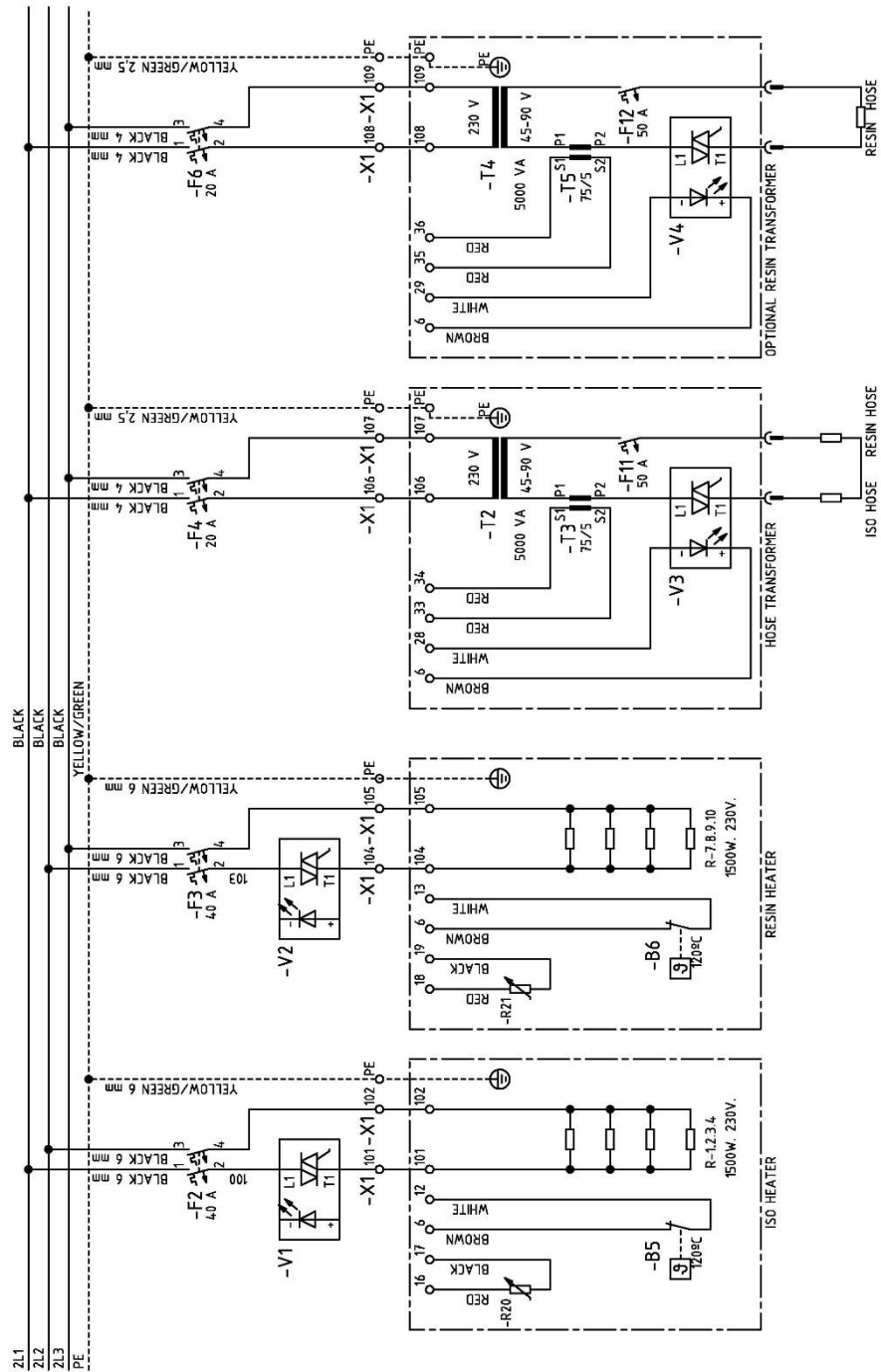


Figure 23. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 2/7)

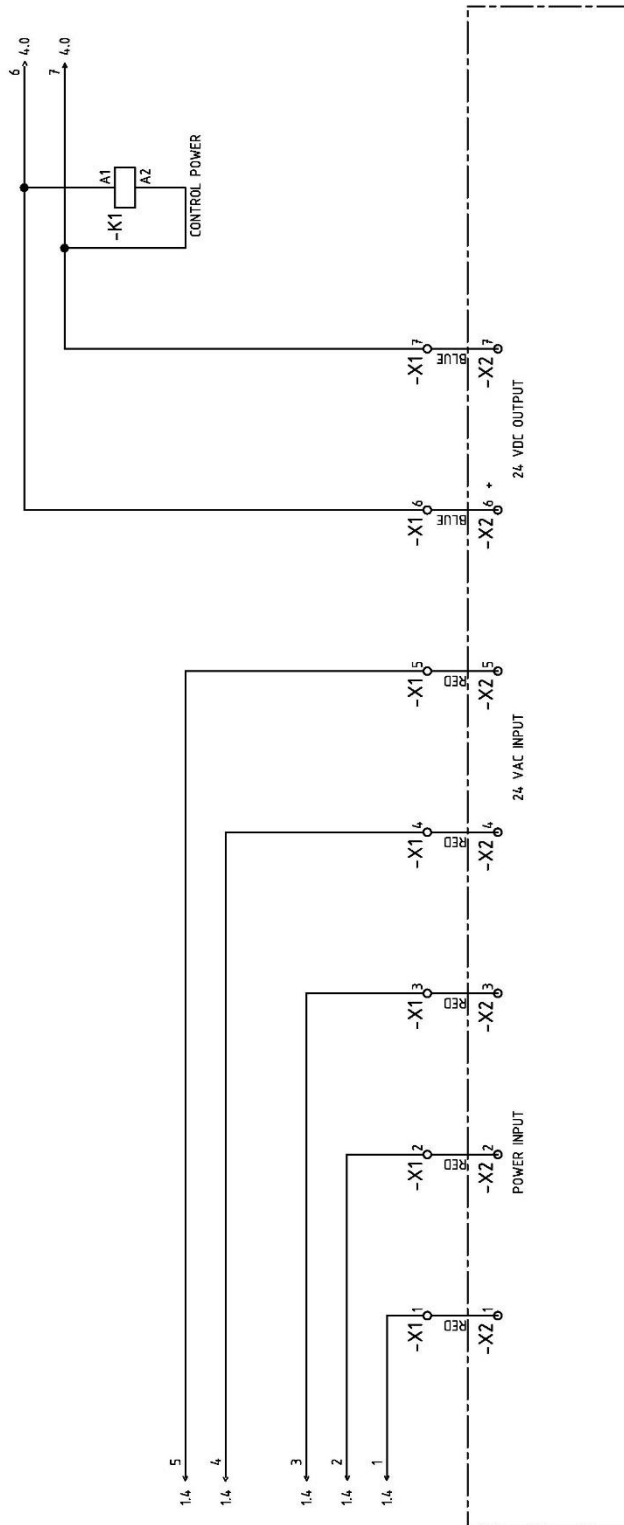


Figure 24. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 3/7)

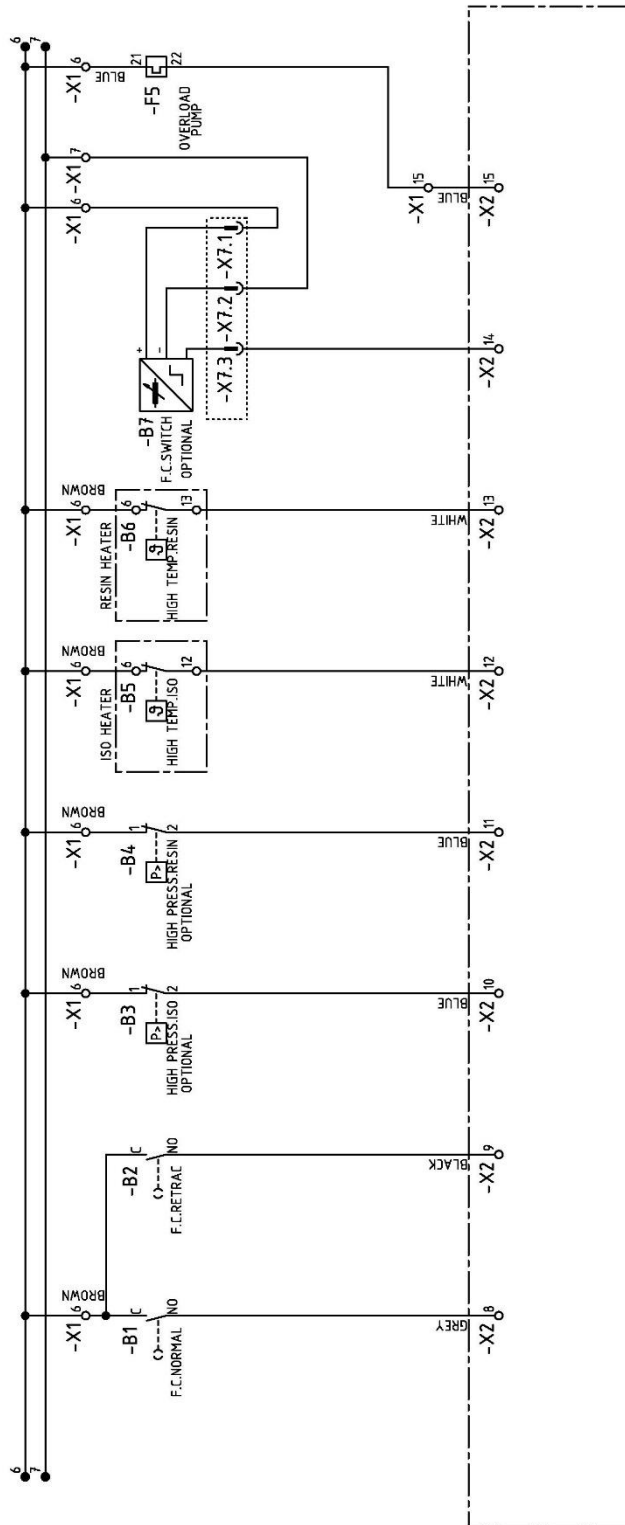


Figure 25. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 4/7)

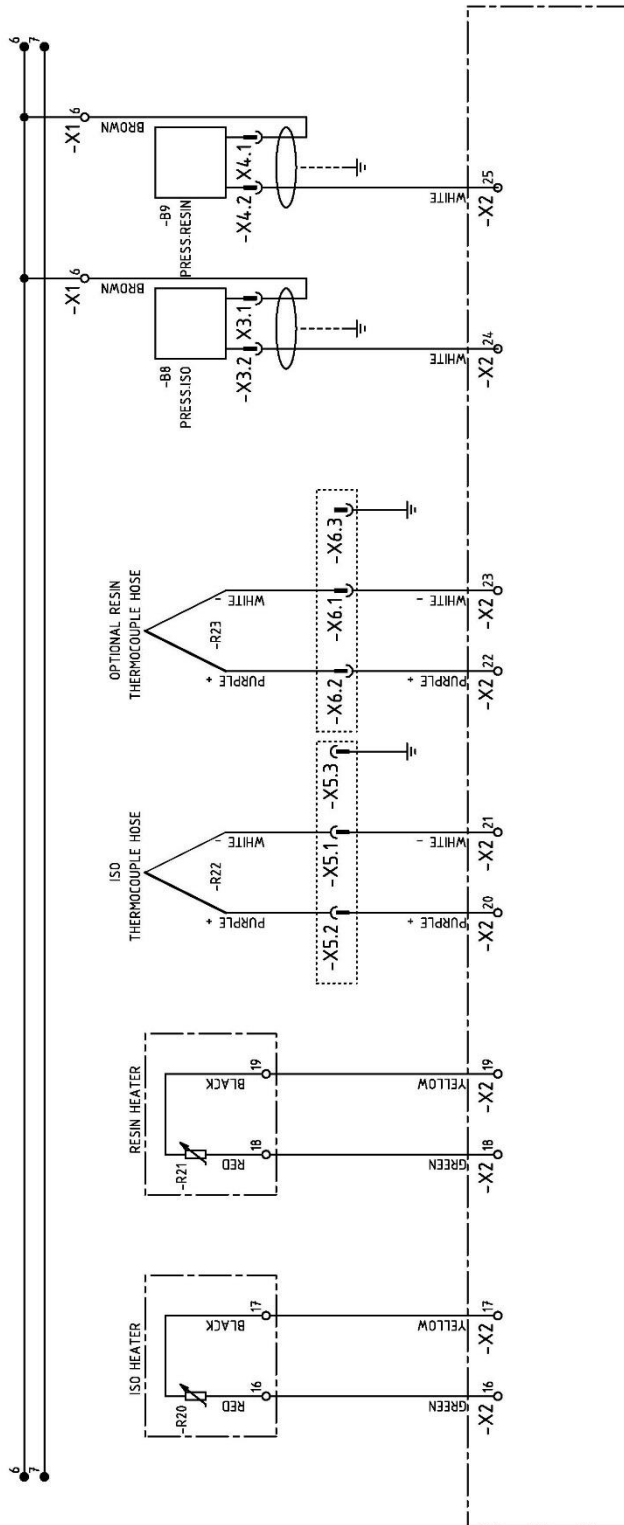


Figure 26. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 5/7)

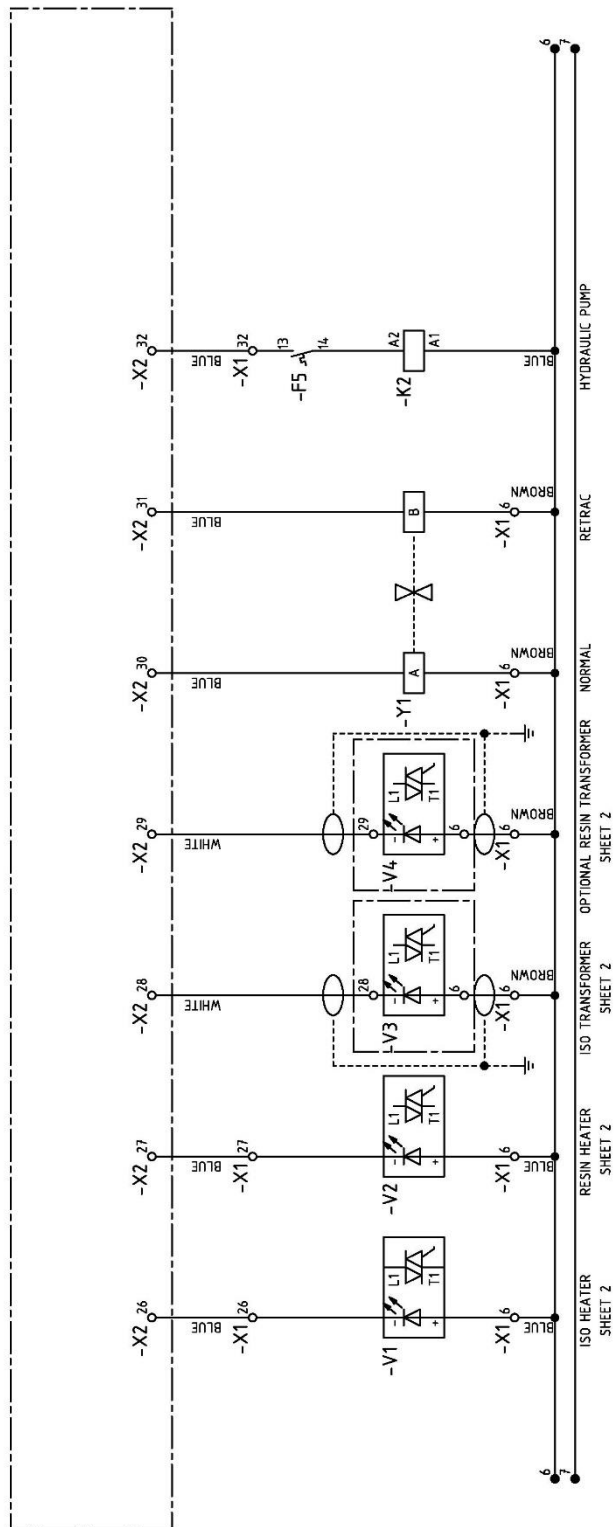


Figure 27. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 6/7)

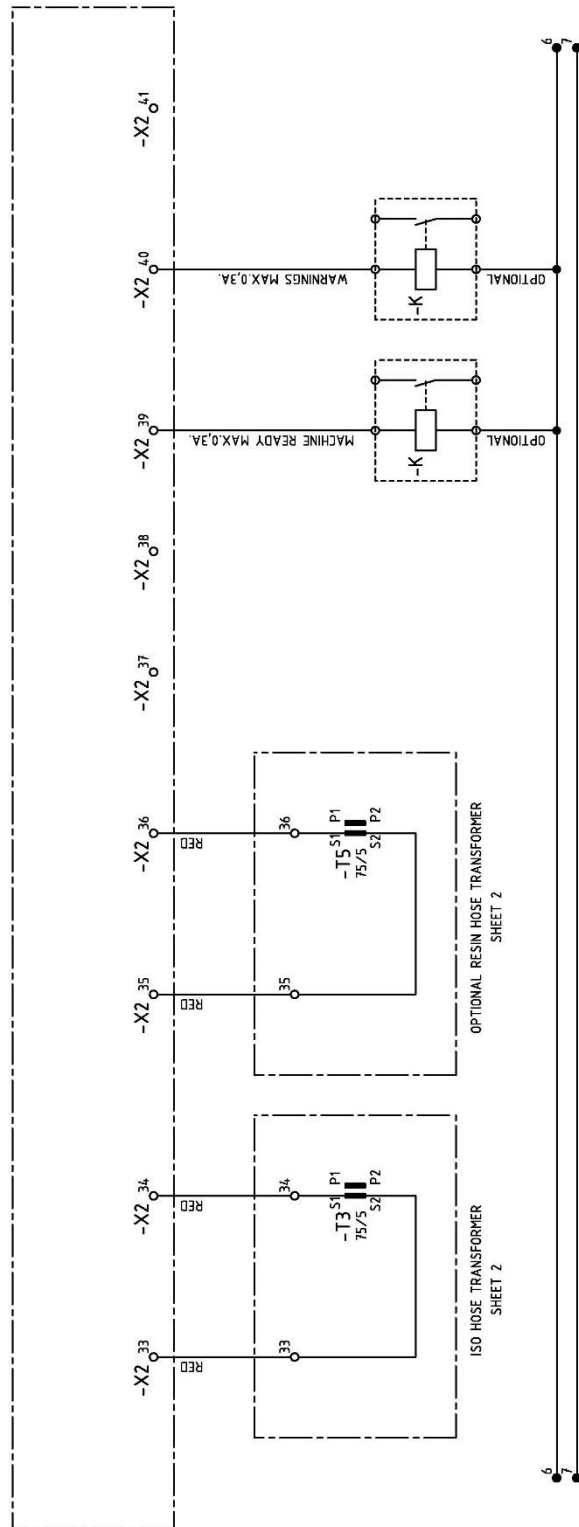


Figure 28. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 7/7)

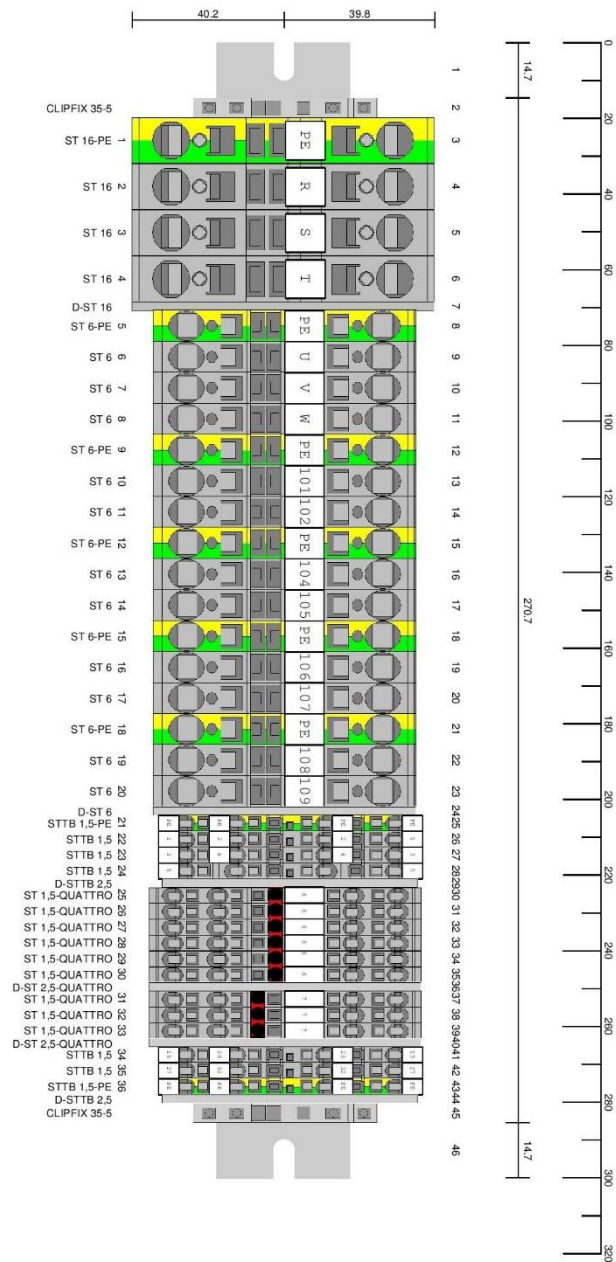


Figure 29. Distribution 3x230v.w/o N-50/60Hz Standard Version



Table 30. Electrical Schematic 3x230v.w/o N - 50/60Hz Standard Version, Parts List

Item	Description	Reference	Qty
	BEIGE TERMINAL 35 mm	EL-00104-00	3
	GROUND TERMINAL 35 mm	EL-00104-02	1
	BEIGE TERMINAL 6mm	EL-00104-06	9
	GROUND TERMINAL 6mm	EL-00104-08	4
	TERMINAL BLOCK 2,5	EL-00104-12	2
	BEIGE TERMINAL 2,5	EL-00104-09	4
	GROUND TERMINAL 2,5mm	EL-00104-11	2
	UNION PLATE	EL-00104-14	2
F 10	FUSIBLE POINT	EL-00104-13	1
F 10	FUSE	EL-00128-03	2
I 1	SWITCH 100A	EL-00107-08	1
I 1	CONTROL YELLOW/RED	EL-00107-06	1
D1	DIFFERENTIAL SWITCH 80A 0.03	EL-00108-05	1
T 1	TRANSFORMER 230-400/24 160 VA	EL-00127-02	1
F 2,3	CIRCUIT BREAKER	EL-00116-06	2
F 4	CIRCUIT BREAKER	EL-00113-06	1
F 1	CIRCUIT BREAKER	EL-00109-06	1
F 5	AUTOMATIC SWITCH 14,5-20 A	EL-00119-08	1
F 5	AUXILIARY CONTACTOR	EL-00119-03	1
T 3	INTENSITY TRANSFORMER	EL-00127-03	1
V 1,2	STATIC RELAY	EL-00126-03	2
V 3	TRIAC	EL-00126-02	1
K 1	CONTACTOR 24 VDC	EL-00123-02	1
K 2	CONTACTOR 24 VDC	EL-00122-02	1
X 5	CONNECTOR		1
X 5	PINS		3
	CONNECTOR 3 PINS MALE	EL-00142-00	1
	GROMET		1
	SUPPORT	EL-00106-01	2
X 1	TERMINAL		1

(*) *Alternative material.*



PNEUMATIC SCHEMATIC DIAGRAM

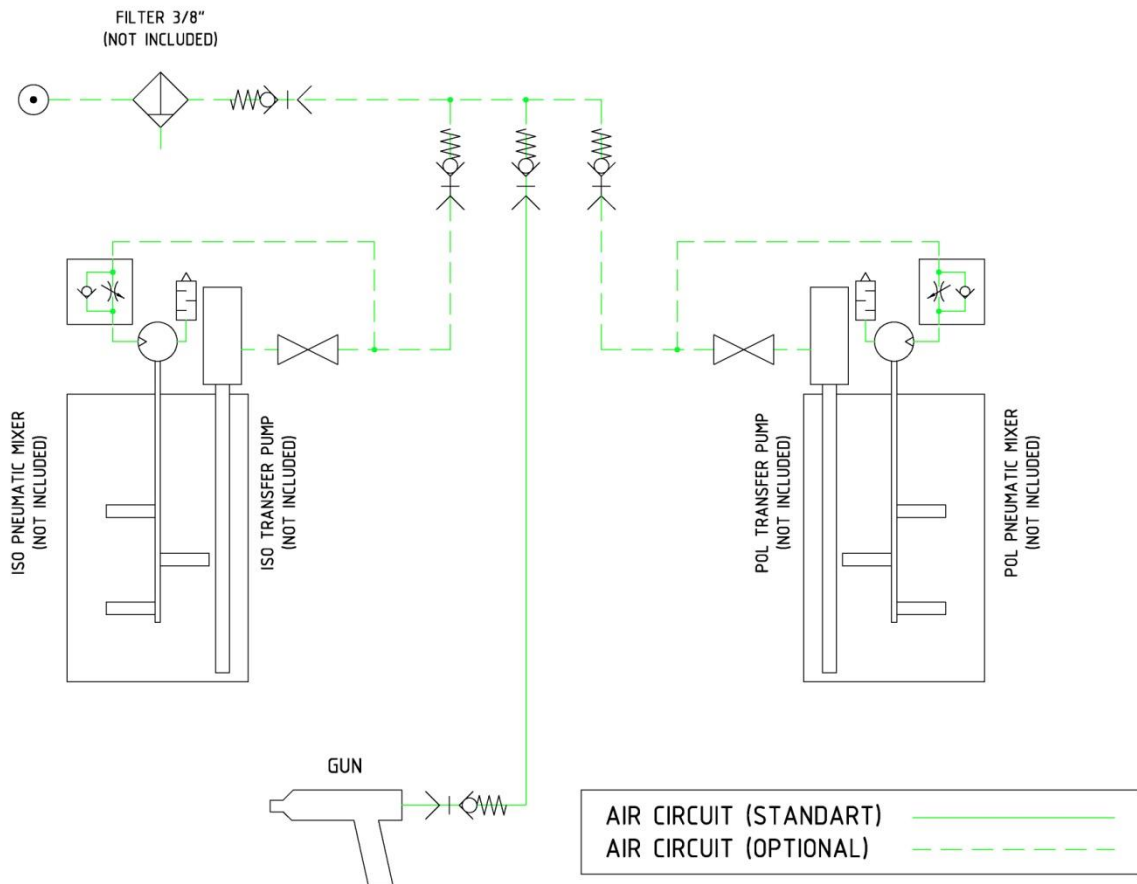


Figure 30. Pneumatic Schematic Diagram



HYDRAULIC SCHEMATIC DIAGRAM

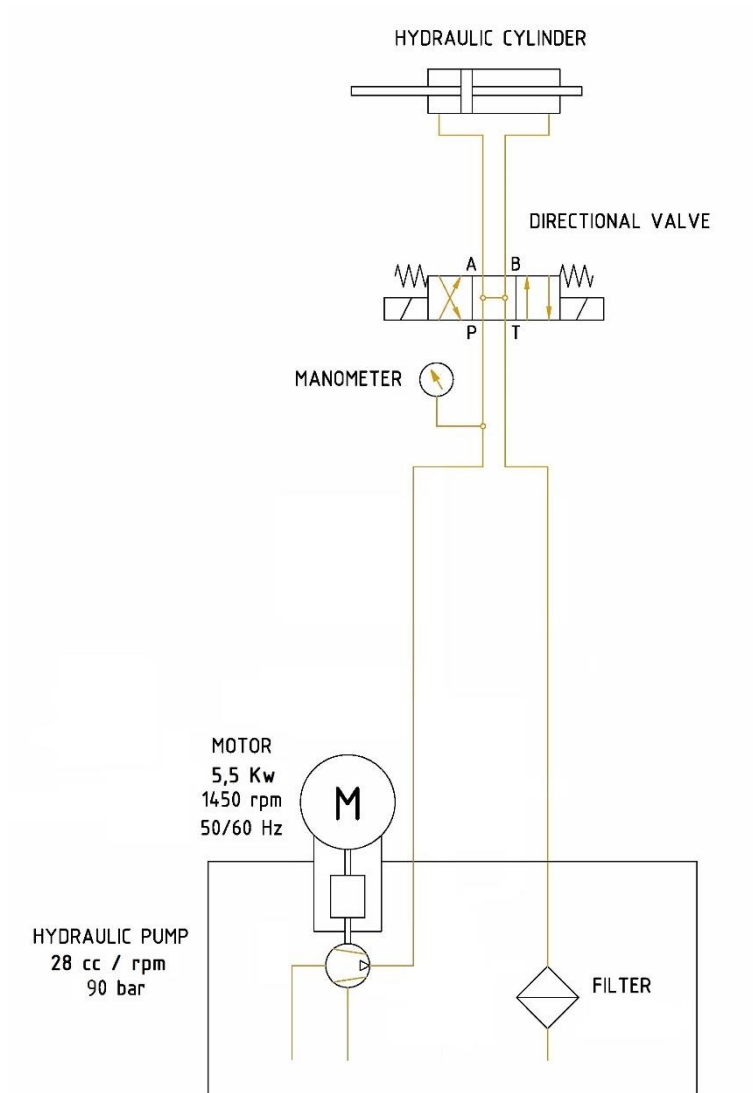


Figure 31. Hydraulic Schematic Diagram



FUNCTIONING SCHEMATIC DIAGRAM

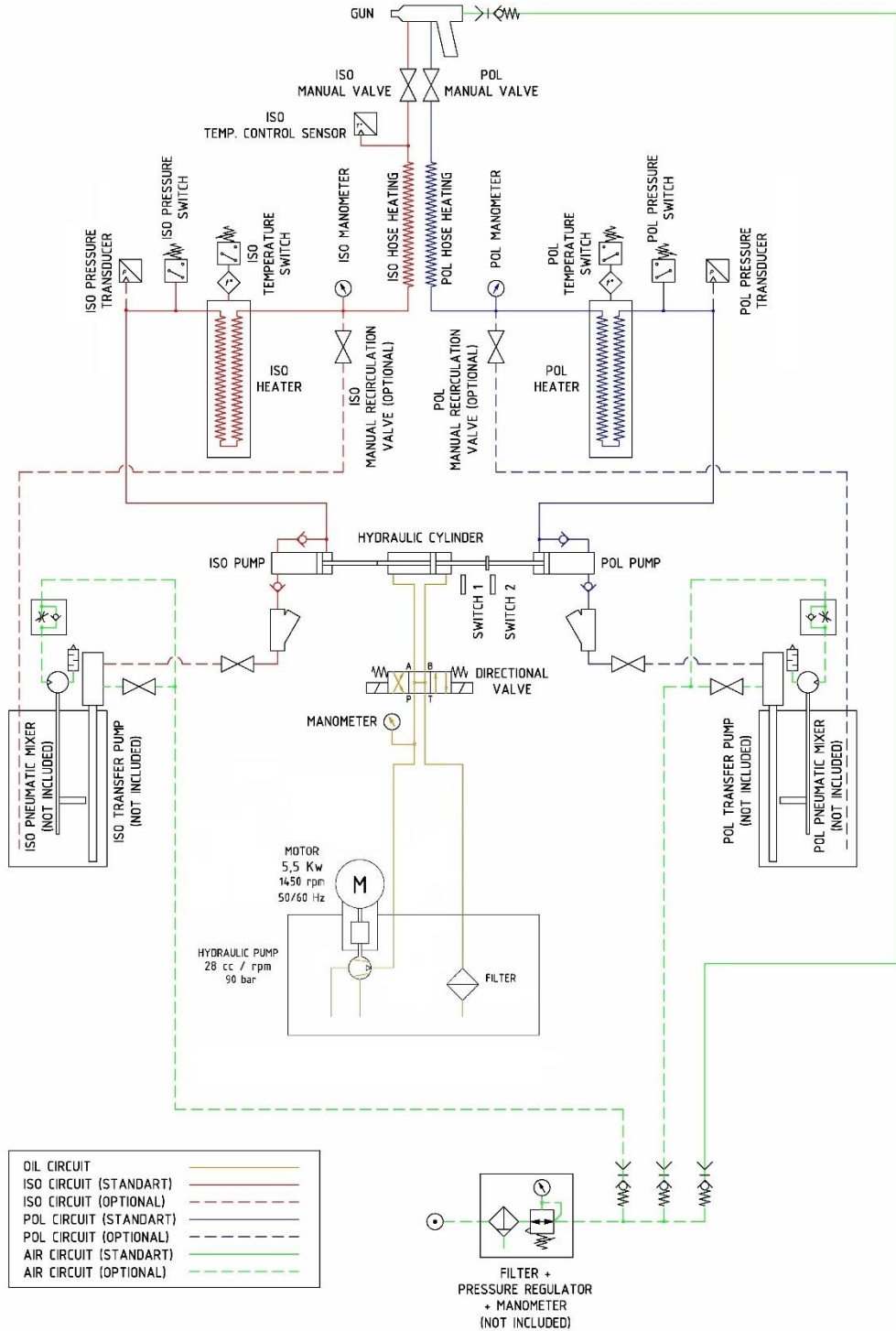


Figure 32. Functioning Schematic Diagram



TABLE OF CONTENTS

Warranty	2
Proportioning Unit novaG - V Model	3
Electrical Console	6
Hydraulic Manifold with Motor 3x400v. 50/60hz (hyd. Pump 28 cc.)	9
Reversing Switch & Pump Line Support	13
Lube Reservoir Hose Assembly	15
Pump Line Assembly	17
Hydraulic Cylinder with Spacers	20
“A” Proportioning Pump Assembly	22
“R” Proportioning Pump Assembly	25
“A” Standard Primary Heater	28
“R” Standard Primary Heater	31
Recirculation Kit P#: KT-00038	34
Recirculation Kit P#: KT-00038-01	35
Recirculation Kit P#: KT-00038-03	37
Electrical Schematic Diagram 3x400v. w/o Neutral 50/60hz	39
Electrical Schematic Diagram 3x230v. w/o Neutral 50/60hz	48
Pneumatic Schematic Diagram	57
Hydraulic Schematic Diagram	58
Functioning Schematic Diagram	59
Table of Contents	60
List of Tables	61
List of Illustrations	62



LIST OF TABLES

Table 1. Proportioning Unit novaG – V Model, Parts List	4
Table 2. Hose Transformer Reference List	4
Table 3. A-Primary Heater Reference List	5
Table 4. R-Primary Heater Reference List	5
Table 5. Electrical Console Reference List	5
Table 6. Electrical Console novaG - V Model, Parts List	7
Table 7. Bezel Components Assembly	8
Table 8. Hydraulic Manifold with Motor 3x400v. 50/60Hz, Parts List	10
Table 9. Reversing Switch & Pump Line Support, Parts List	14
Table 10. Lube Reservoir Hose Assembly, Parts List	16
Table 11. Pump Line Assembly, Parts List	18
Table 12. Proportioning Pump Size, Parts	19
Table 13. Hydraulic Cylinder with Spacers, Parts List	21
Table 14. “A” Proportioning Pump Assembly, Parts List	23
Table 15. “A” Proportioning Pump Assembly, Parts List	24
Table 16. Seals Monobloc “A” Pump	24
Table 17. Repair Seal Kit “A” Pump	24
Table 18. “R” Proportioning Pump Assembly, Parts List	26
Table 19. “R” Proportioning Pump Assembly, Parts List	27
Table 20. Seals Monobloc “R” Pump	27
Table 21. Repair Seal Kit “R” Pump	27
Table 22. “A” Standard Primary Heater, Parts List	29
Table 23. “A” Heat Resistance & Press. Gauge Reference List	30
Table 24. “R” Standard Primary Heater, Parts List	32
Table 25. “R” Heat Resistance & Press. Gauge Reference List	33
Table 26. Standard Recirculation Kit, Parts List	34
Table 27. Recirculation Kit #KT-00038-01, Parts List	36
Table 28. Recirculation Kit #KT-00038-03, Parts List	38
Table 29. Electrical Schematic 3x400v.w/o N - 50/60Hz Standard Version, Parts List	47
Table 30. Electrical Schematic 3x230v.w/o N - 50/60Hz Standard Version, Parts List	56



LIST OF ILLUSTRATIONS

Figure 1. Electrical Console novaG - V	6
Figure 2. Hydraulic Manifold 3x400v.50/60Hz (hyd. Pump 28 cc), Exploded View	9
Figure 3. Reversing Switch & Pump Line Support, Exploded View	13
Figure 4. Lube Reservoir Hose Assembly, Exploded View	15
Figure 5. Pump Line Assembly, Exploded View	17
Figure 6. Hydraulic Cylinder with Spacers, Exploded View	20
Figure 7. "A" Proportioning Pump Assembly, Exploded View	22
Figure 8. "R" Proportioning Pump Assembly, Exploded View	25
Figure 9. "A" Standard Primary Heater, Exploded View	28
Figure 10. "R" Standard Primary Heater, Exploded View	31
Figure 11. Recirculation Kit P#: KT-00038, Exploded View	34
Figure 12. Recirculation Kit P#: KT-00038-01, Exploded View	35
Figure 13. Recirculation Kit P#: KT-00038-03, Exploded View	37
Figure 14. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 1/7)	39
Figure 15. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 2/7)	40
Figure 16. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 3/7)	41
Figure 17. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 4/7)	42
Figure 18. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 5/7)	43
Figure 19. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 6/7)	44
Figure 20. Elec. Schem. 3x400v.w/o N-50/60Hz Standard Version (Sheet 7/7)	45
Figure 21. Distribution 3x400v.w/o N-50/60Hz Standard Version	46
Figure 22. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 1/7)	48
Figure 23. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 2/7)	49
Figure 24. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 3/7)	50
Figure 25. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 4/7)	51
Figure 26. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 5/7)	52
Figure 27. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 6/7)	53
Figure 28. Elec. Schem. 3x230v.w/o N-50/60Hz Standard Version (Sheet 7/7)	54
Figure 29. Distribution 3x230v.w/o N-50/60Hz Standard Version	55
Figure 30. Pneumatic Schematic Diagram	57
Figure 31. Hydraulic Schematic Diagram	58
Figure 32. Functioning Schematic Diagram	59