

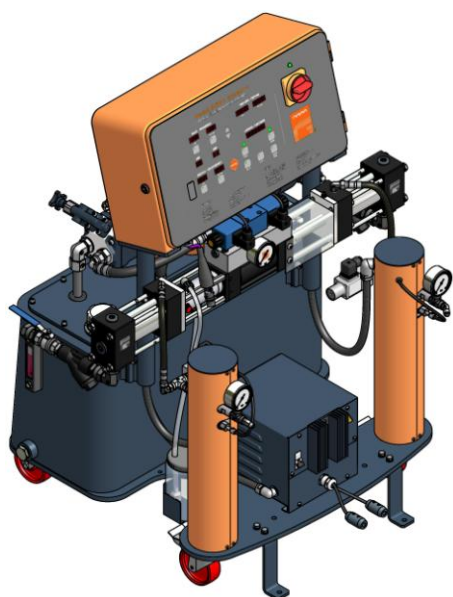


Parts Manual

Proportioning Unit

evolution G-30 H

Issue 2.2 24/10/2012
Ref. NR-00039-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

GARRAF MAQUINARIA, S. A. (hereinafter "GAMA") provides this **LIMITED WARRANTY** (hereinafter "Warranty") to the original purchaser (hereinafter "Customer") covering this equipment and the original GAMA 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 GAMA 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 GAMA and return the Product to GAMA as directed by GAMA, freight prepaid. If GAMA determines that the Product is Defective and that such Defect is covered by this Warranty, GAMA will credit Customer for the reasonable freight charges incurred by Customer in returning the Defective Product to GAMA, and GAMA (or its authorized agent) will, at GAMA'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-GAMA Components and Accessories: Non-GAMA 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 GAMA 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 GAMA.
- Failure to follow the operating instructions and recommendations provided by GAMA.
- Cosmetic damage.
- Fire, flood, "acts of God," or other contingencies beyond the control of GAMA.

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, GAMA 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 GAMA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.

Non-Warranty Service by GAMA: If GAMA 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 GAMA'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 GAMA 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 GAMA 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 GAMA, 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 GAMA.

PROPORTIONING UNIT evolution G-30 H MODEL

RECIRCULATION KIT (OPTIONAL)

TCS DETAIL

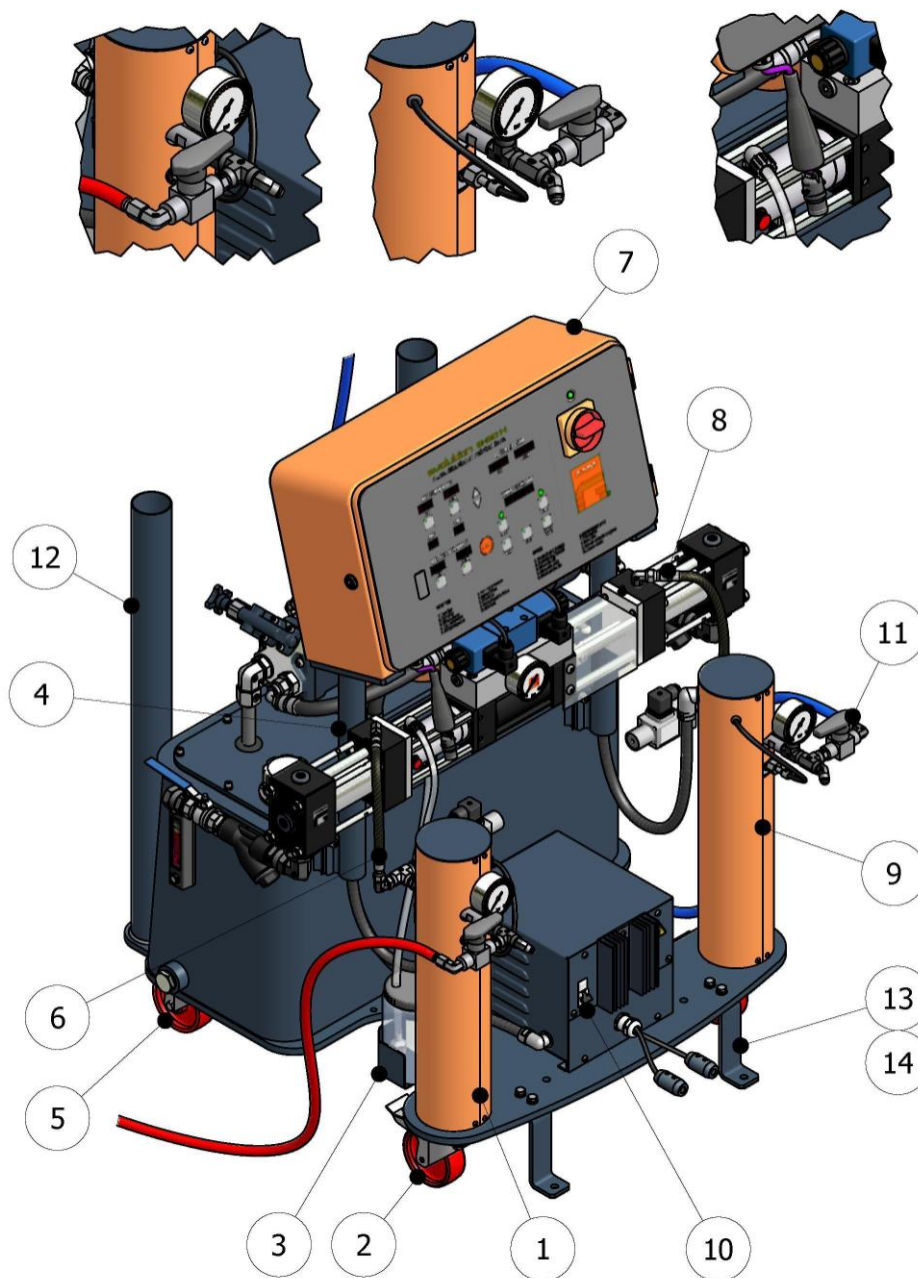


Figure 1. Proportioning Unit evolution G-30 H Model



Table 1. Proportioning Unit Evolution G-30 H Model, Parts List

Ref.	Description	Part Number	Qty.
1	A Primary Heater	See Table 2	1
2	Front Wheel With Brake	MQ-01002	2
3	Lube Reservoir Bracket	MQ-01008	1
4	Electrical Console Support and Pump Line	MQ-01004-06	1
5	Back Wheel	MQ-01016	2
6	A Pump/Heater Hose Assy.	MA-00048	2
7	Electrical Console Assy.	See Table 4	1
8	R Pump/Heater Hose Assy.	MA-00048	1
9	R Primary Heater	See Table 3	1
10	Hose Transformer	EL-00013-02	1
11	Recirculation KIT	KT-00038	1
12	Transfer Pump Bracket	MQ-01015-00	2
13	"Z" Bracket with Transfer Pump Bracket	MQ-01017	2
14	"Z" Bracket without Transfer Pump Bracket	MQ-02014	2

Table 2. A-Primary Heater Reference List

Reference	Description
CL-03001-00G	A Primary Heater 6000 w for # 1,2 Prop. Pumps (standard)
CL-03001-00GT	A Primary Heater 6000 w with Transducer for # 1,2 Prop. Pumps (optional)
CL-03001-00H	A Primary Heater 6000 w for # 0,8 Prop. Pumps (optional)
CL-03001-00HT	A Primary Heater 6000 w with Transducer for # 0,8 Prop. Pumps (optional)

Table 3. R-Primary Heater Reference List

Reference	Description
CL-03002-00G	R Primary Heater 6000 w for # 1,2 Prop. Pumps (standard)
CL-03002-00GT	R Primary Heater 6000 w with Transducer for # 1,2 Prop. Pumps (optional)
CL-03002-00H	R Primary Heater 6000 w for # 0,8 Prop. Pumps (optional)
CL-03002-00HT	R Primary Heater 6000 w with Transducer for # 0,8 Prop. Pumps (optional)



Table 4. Electrical Console Reference List

Reference	Description
EL-00059-10	Electrical Console Assy. (3x400v.-N with III phases Motor & without Logger) Standard Version.
EL-00059-11	Electrical Console Assy. (3x400v.-N with III phases Motor & Logger) Optional Version.

ELECTRICAL CONSOLE

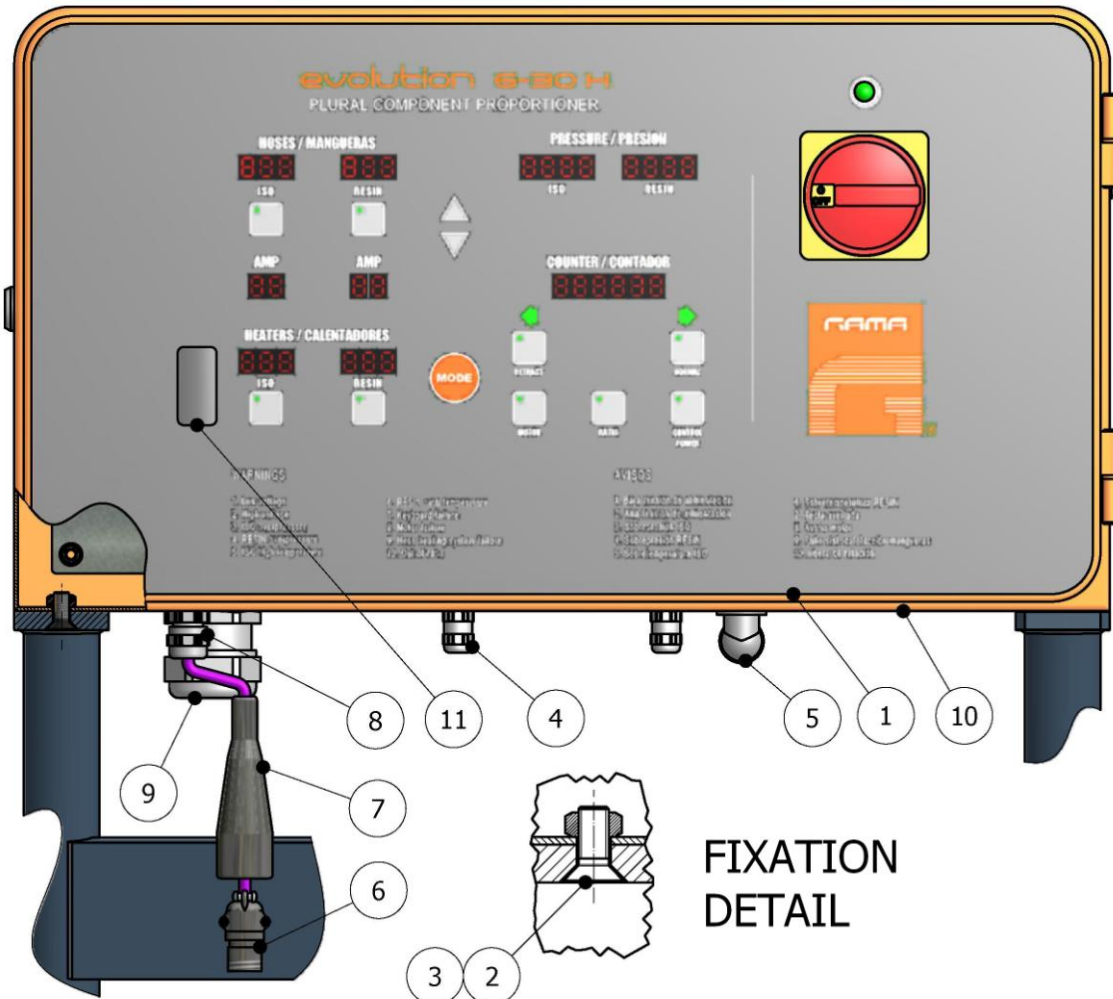


Figure 2. Electrical Console evolution G-30 H



Table 5. Electrical Console evolution G-30 H Model, Parts List

Ref.	Description	Part Number	Qty.
1	Bezel & Electronic Circuit	See Table 6	1
2	Screw	TN-00233	4
3	Conical Washer	TN-00296	4
4	Directional Valve Connector	EL-00088-00	2
5	Motor Conduit Connector	EL-00087-01	1
6	Connector Sensor Male	EL-00096-19	1
7	Connector Sensor Cover	EL-00096-21	1
8	TCS Conduit Connector	EL-00088-05	1
9	Cable Connector	EL-00088-04	1
10	Electrical Console	EL-00193-01	1
11	Cover Plug, included in Ref. 1 (standard)	See Table 6	1
12 (*)	USB Port, Included in Ref. 1 (optional)	See Table 6	1
13 (*)	Pen Drive 1 GB, included in Ref. 1 (optional)	See Table 6	1

Notes: (*) Parts not show in draw.

Table 6. Bezel Components Assembly

	3x 400v.sN 50/60 Hz Without Logger (standard)	3x 400v.sN 50/60 Hz With Logger (optional)
Bezel 1x	EL-00192	EL-00192
Circuit 1x	EL-00019-07	EL-00019-07
Switch 1x	EL-00107-02	EL-00107-02
Divider 9x	EL-00019-03	EL-00019-03
Cover Plug 1x	EL-00190	-
USB Port 1x	-	EL-00078-04
Pen Driv" 1x	-	EL-00078-05

**HYDRAULIC MANIFOLD WITH MOTOR 3x400v. 50/60Hz
(hyd. Pump 16 cc.)**

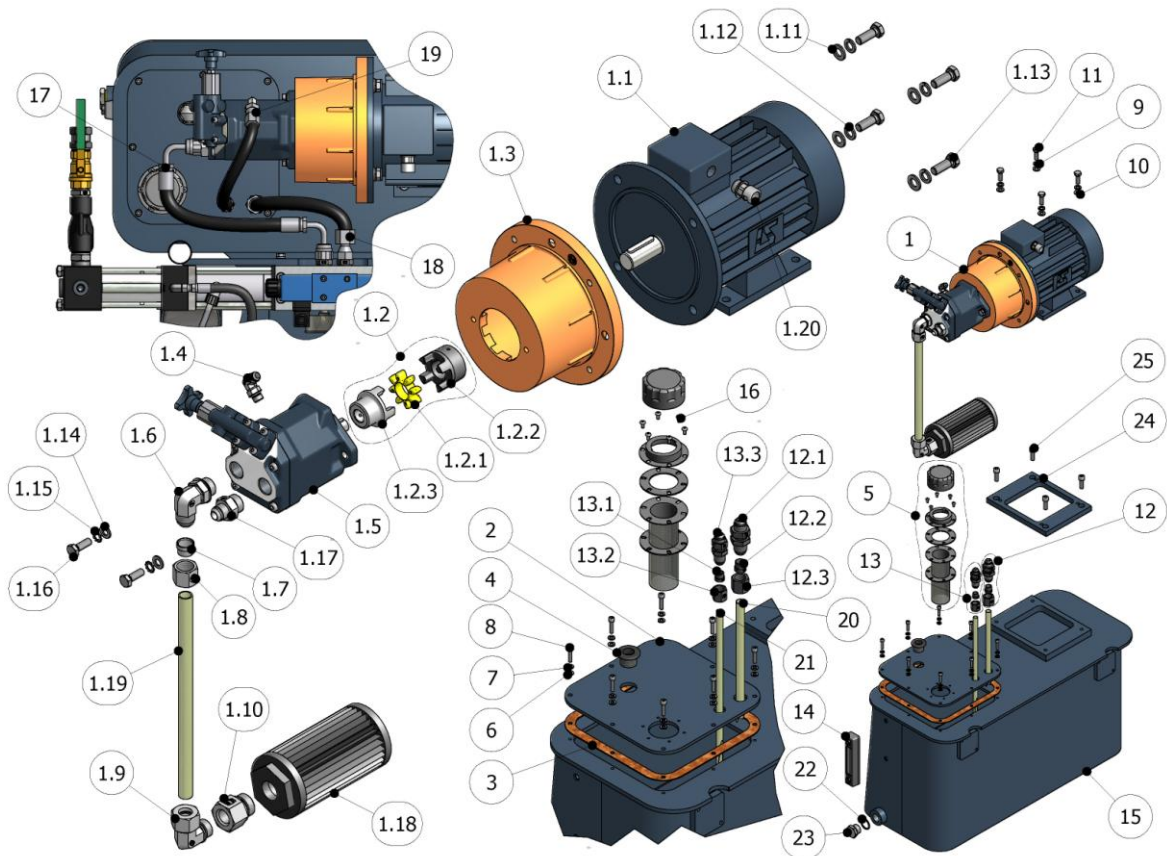


Figure 3. Hydraulic Manifold 3x400v50/60Hz (hyd. Pump 16 cc), Exploded View

HYDRAULIC MANIFOLD WITH MOTOR 3x400v. 50/60Hz (hyd. Pump 18 cc.)

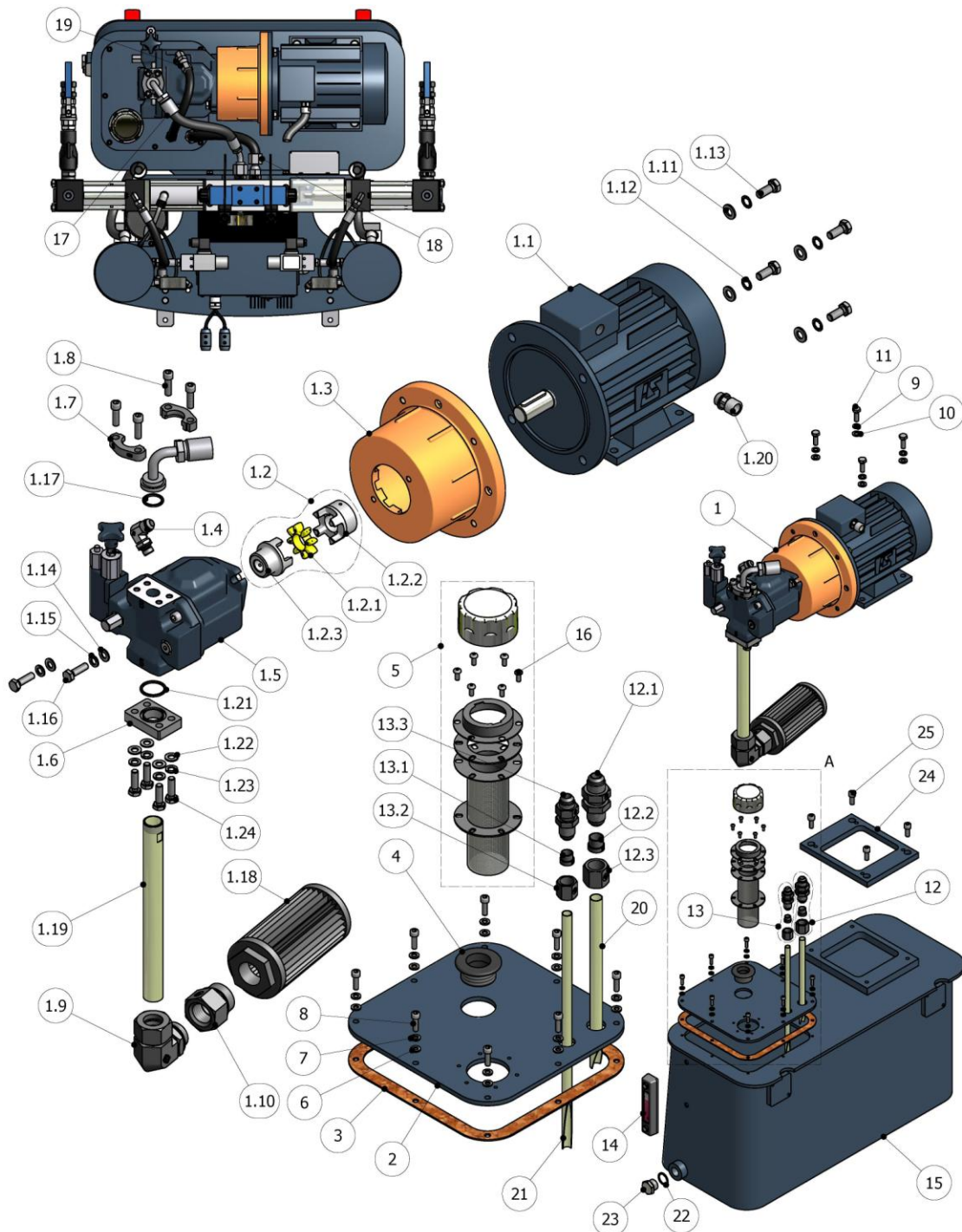


Figure 4. Hydraulic Manifold 3x400v50/60Hz (hyd. Pump 18 cc), Exploded View



Table 7. Hydraulic Manifold with Motor 3x230/400v. 50/60Hz, Parts List

Ref.	Description	Part Number	Qty.
1	Motor/Pump Line Assembly	HI-00040-03	1
1.1	Electric Motor 3Kw 50/60Hz	EL-00138-02	1
1.2	Coupler Assembly	HI-00046-00	1
1.2.1	Alignment Spider	HI-00006-01	1
1.2.2	Shaft Coupling	HI-00006-02	1
1.2.3	Shaft Coupling	HI-00046-01	1
1.3	Bell Housing for 16 cc Pump	HI-00082	1
	Bell Housing for 18 cc Pump	HI-00005-04	
1.4	Hose Elbow	RA-00177	1
1.5	HYD Pump Assembly 16 cc.	HI-00077	1
	HYD Pump Assembly 18 cc.	HI-00079	
1.6	Street Elbow	RA-00165	1
	Suction Plate for 18 cc Pump	HI-00079-01	
1.7	Ferrule	RA-00166	1
	SAE Flange for 18 cc Pump	RA-00266	
1.8	Nut	RA-00167	1
	Screw for 18 cc Pump	TN-00253	4
1.9	Street Elbow	RA-00176	1
1.10	Thread Reducer	RA-00175	1
1.11	Washer	TN-00040	4
1.12	Lock Washer	TN-00015	4
1.13	Socket Head Cap Screw	TN-00053	4
1.14	Washer	TN-00040	2
1.15	Lock Washer	TN-00015	2
1.16	Socket Head Cap Screw	TN-00060	2
1.17	Adapters Union	RA-00168	1
	O-Ring for 18 cc Pump	OR-00083	
1.18	Cartridge Strainer	HI-00050	1
1.19	Suction Tube	HI-00049	1
1.20	Motor Conduit Connector	EL-00087-00	1
1.21	O-Ring for 18 cc Pump	OR-00084	1



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Ref.	Description	Part Number	Qty.
1.22	Washer (for 18 cc Pump)	TN-00162	4
1.23	Washer (for 18 cc Pump)	TN-00087	4
1.24	Screw (for 18 cc Pump)	TN-00160	4
2	Reservoir Cover Plate (16 cc.)	HI-00040-07	1
	Reservoir Cover Plate (18 cc.)	HI-00039-04D	
3	Reservoir Cover Plate Gasket	HI-00014-03	1
4	Rubber Grommet	HI-00047	1
5	HYD-Oil Filler	HI-00002	1
6	Washer	TN-00024	8
7	Washer	TN-00025	8
8	Socket Head Cap Screw	TN-00026	8
9	Lock washer	TN-00087	4
10	Washer	TN-00162	4
11	Hex Head Cap Screw	TN-00163	4
12	Adapters Bulkhead Union	RA-00059	1
12.1	Adapters Bulkhead Union	RA-00170	1
12.2	Ferule	RA-00169	1
12.3	Nut	RA-00171	1
13	Adapters Bulkhead Union	RA-00060	1
13.1	Ferule	RA-00173	1
13.2	Nut	RA-00174	1
13.3	Adapters Bulkhead Union	RA-00172	1
14	Thermometer and Fluid Level Gauge	HI-00001	1
15	Oil Tank	HI-00037-01	1
16	ULS Screw	TN-00166	6
17	Drain Hose (for 16 cc Pump)	HI-00052	1
	Drain Hose (for 18 cc Pump)	HI-00087	
18	T-Port Hose	HI-00024	1
19	P-Port Hose (for hyd. Pump 16 cc.& 18 cc)	HI-00053-01	1
20	Return Tube	HI-00051	1
21	Return Tube	HI-00010	1
22	O-Ring	OR-00082	1
23	Plug	RA-00022	1
24	Plate Motor	HI-00040-05	1
25	Screw	TN-00206	4

REVERSING SWITCH

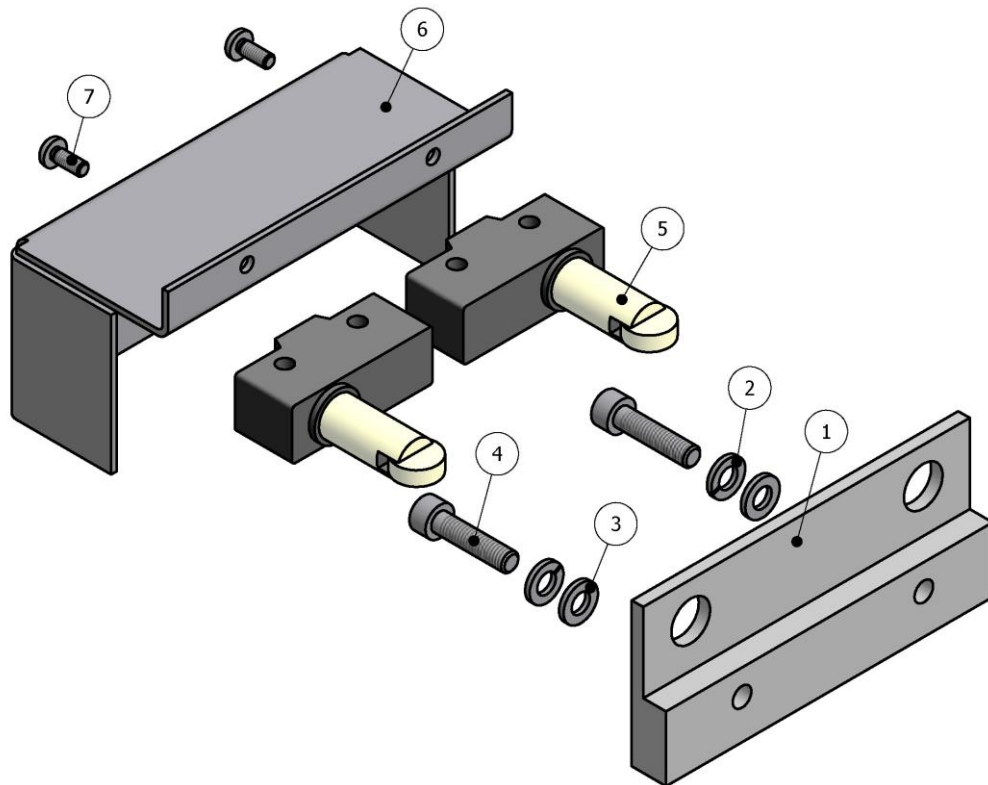


Figure 5. Reversing Switch Assy., Exploded View.

Table 8. Reversing Switch Assy., Parts List

Ref.	Description	Part Number	Qty.
1	Reversing Switch Support	MQ-01005	1
2	Washer	TN-00025	2
3	Lock Washer	TN-00024	2
4	Socket Head Cap Screw	TN-00169	2
5	Pump Reversing Switch	EL-00020	2
6	Reversing Switch Cover	MQ-01006	1
7	ULS Screw	TN-00159	2

LUBE RESERVOIR HOSE ASSEMBLY

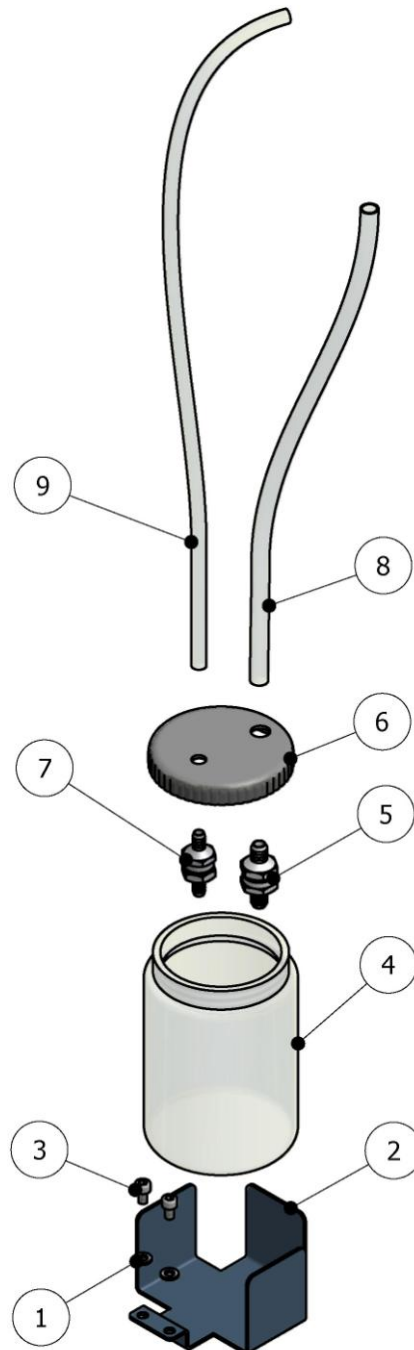


Figure 6. Lube Reservoir Hose Assembly, Exploded View



Table 9. Lube Reservoir Hose Assembly, Parts List

Ref.	Description	Part Number	Qty.
1.1	Washer	TN-00024	2
1.2	Washer	TN-00025	2
2	Lube Reservoir Bracket	MQ-01008	1
3	Socket Head Cap Screw	TN-00248	2
4	Lube Reservoir Bottle	MQ-01009-01	1
5	Lube Reservoir Check Valve for Pipe 12x1	RA-00068	1
6	Lube Reservoir Bottle Cap	MQ-01009-02	1
7	Lube Reservoir Check Valve for Pipe 10x1	RA-00283	1
8	Supply Line	MA-00025	1
9	Return Line	MA-00024	1

N.B.:

When are ordered as spare parts, the references 4 and 6 are not given separately.

PUMP LINE ASSEMBLY

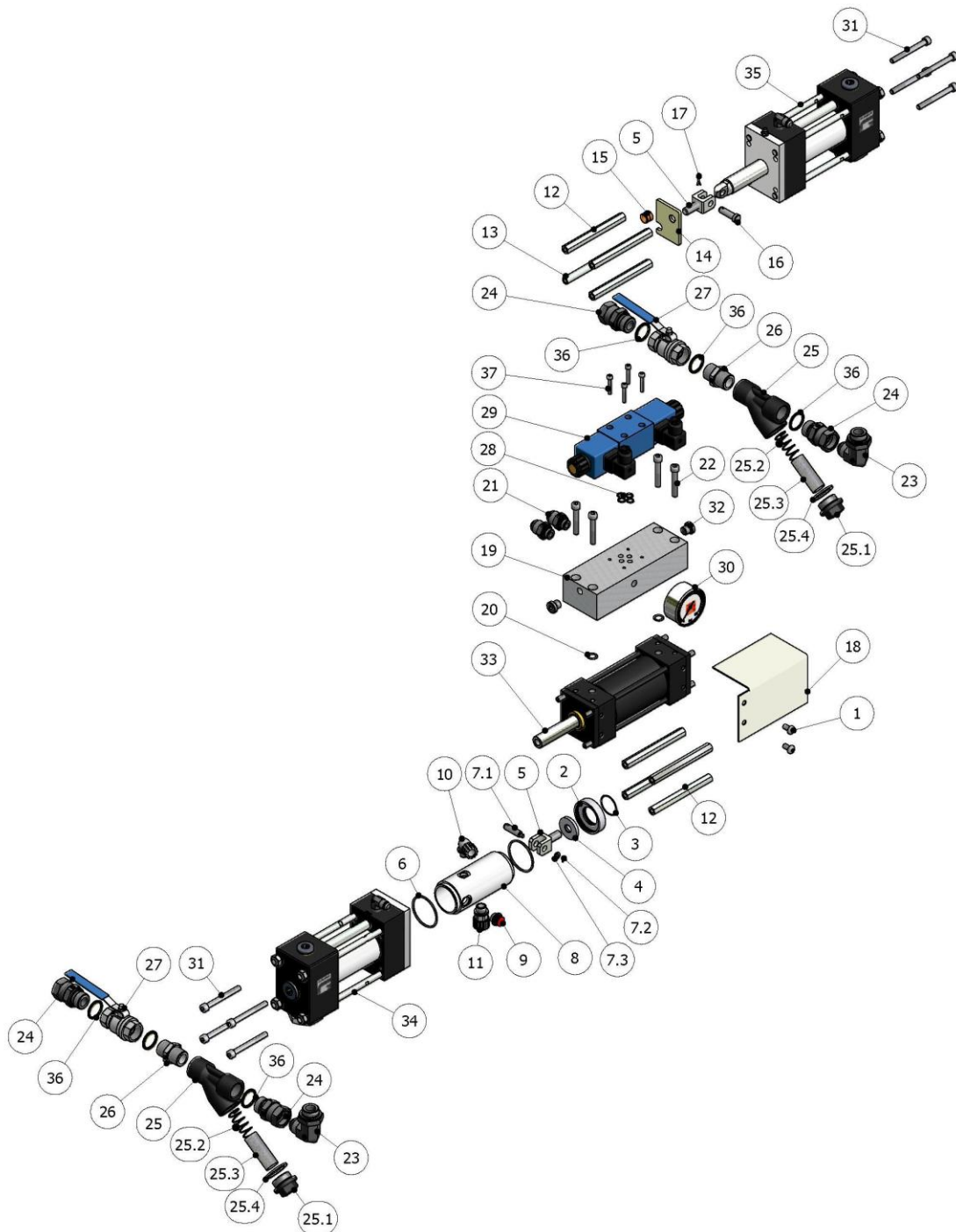


Figure 7. Pump Line Assembly, Exploded View



Table 10. Pump Line Assembly, Parts List

Ref.	Description	Part Number	Qty.
1	Socket Head Cap 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 Ref. 7.1 & 7.2)	PU-01044-00	1
7.1	Clevis Pin (Included in Ref. 7)	PU-01044-01M	1
7.2	Clevis Pin Clip (Included in Ref. 7)	TN-00136	1
7.3	Washer Supplement (Included in Ref. 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	"R" Clevis Pin	PU-01045-01	1
17	Pin	TN-00077	1
	"R" Clevis Pin Assembly (Include Ref. 16+17)	PU-01045-00	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	Street Elbow	RA-00072	2
24	Swivel Union	RA-00073	4
25	Y-Strainer	RA-00074-00	2
25.1	Filter Plug	RA-00074-01	2
25.2	Filter Spring	SP-00017	2



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Ref.	Description	Part Number	Qty.
25.3	Filter	RA-00074-03-30	2
25.4	Filter Gasket	OR-00082	2
26	Hex Nipple	RA-00143	2
27	Ball Valve	RA-00078	2
28	Junta Tórica	OR-00035	4
29	Directional valve	HI-00054	1
30	Hydraulic Gauge	HI-00078	1
31	Socket Head Cap Screw	TN-00125	8
32	Plug	RA-00013	2
33	Hydraulic Cylinder With Spacers	HI-00101	1
34	"A" Proportioning Pump Assembly	See Table 11	1
35	"R" Proportioning Pump Assembly	See Table 11	1
36	Gasket	OR-00082	6
37	Screw	TN-00148	4

Table 11. Proportioning Pump Size, Parts

SIZE	Proportioning Pump Size	
	Ref. 34 (ISO Pump)	Ref. 35 (POL Pump)
1.20 (standard)	PU-01001-012-1	PU-01002-012-1
0.80 (optional)	PU-01001-008-1	PU-01002-008-1

HYDRAULIC CYLINDER WITH SPACERS

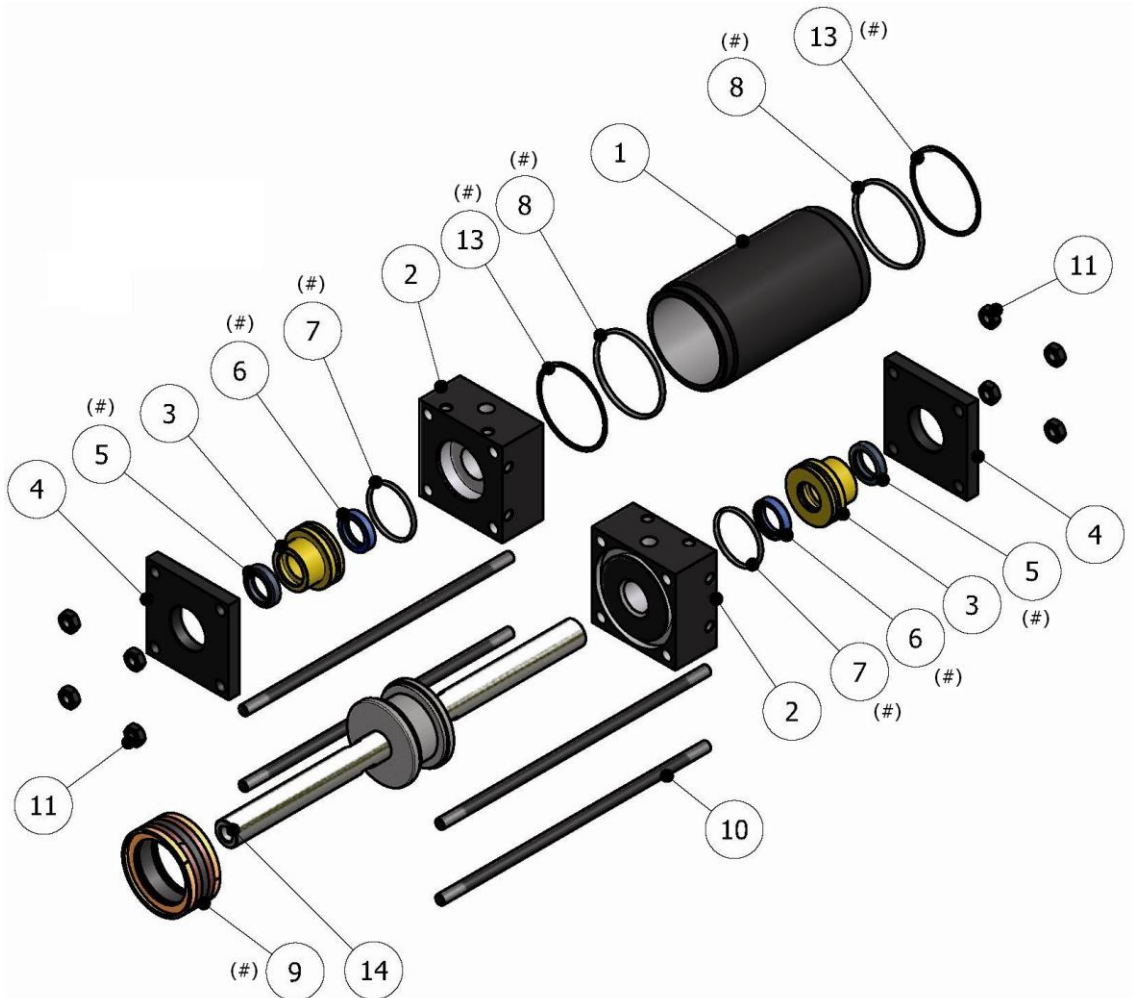


Figure 8. Hydraulic Cylinder with Spacers, Exploded View

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



Table 12. Hydraulic Cylinder with Spacers, Parts List

Ref.	Description	Part Number	Qty.
1	Cylinder Body	HI-00025-05	1
2	Port Block	HI-00101-04	2
3	Rod Bushing	HI-00101-03	2
4	Front Plate	HI-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	HI-00025-06	4
11	Nut (*)	TN-00029	8
13	O-Ring Anti Extrusion	OR-00063	2 (#)
14	Piston	HI-00101-01	1

() 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

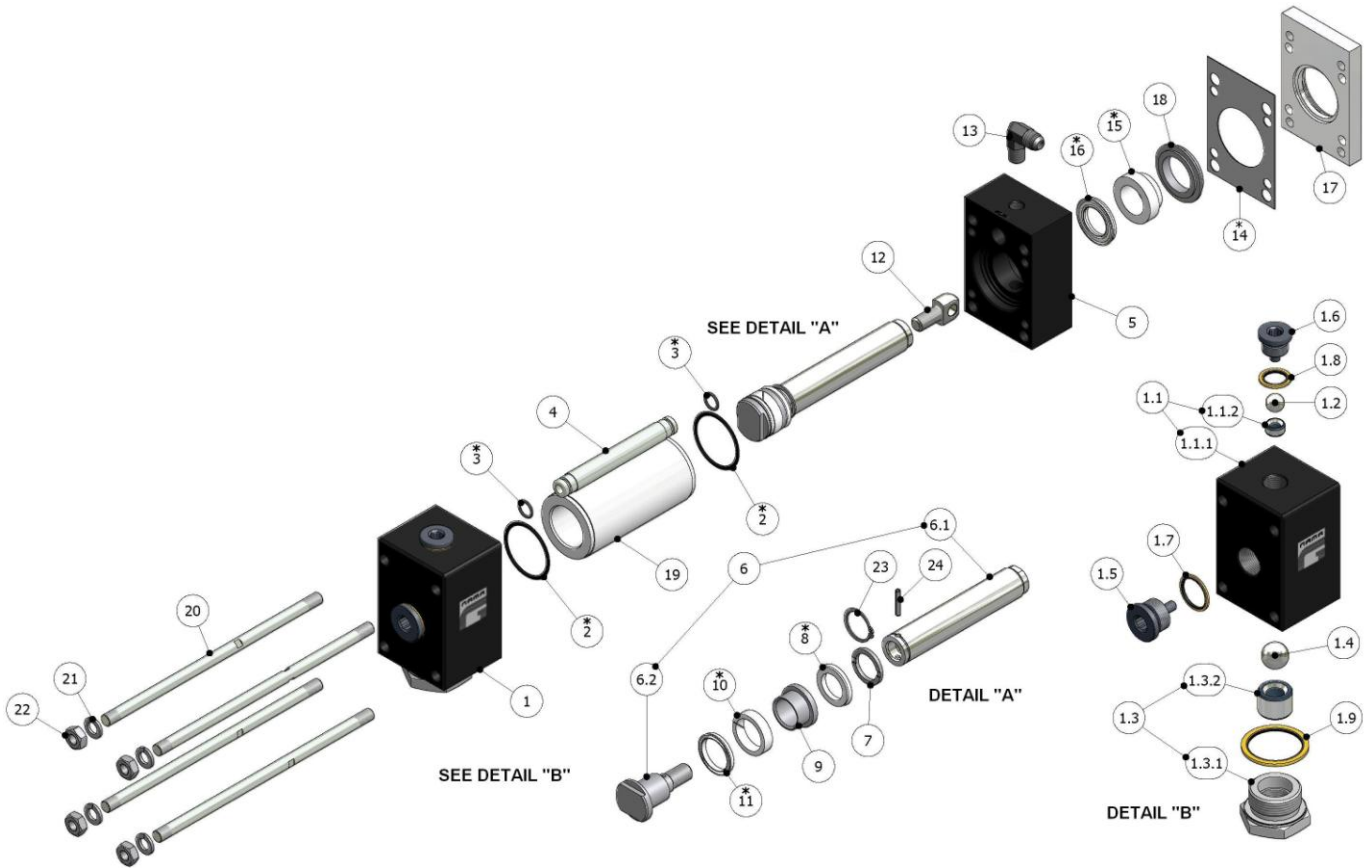


Figure 9. “A” Proportioning Pump Assembly, Exploded View

N.B.: The parts marked with (*), are included in the repair seal kit of “A” pump.



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Table 13. "A" Proportioning Pump Assembly, Parts List

Ref.	Description	Part Number	Qty.
1	"A"/"R" Pump Base Assembly	PU-01003-00	1
1.1	Pump Base with Check Valve Assembly	PU-01003-0K	1
1.1.1	Pump Base	PU-01003-0A	1
1.1.2	Check Valve Seat	PU-01003-0C	1
1.2	Valve Ball	TN-00012	1
1.3	Inlet Ball Seat Assembly	PU-01003-0J	1
1.3.1	Check Valve Seat	PU-01003-0D	1
1.3.2	Inlet Ball Seat	PU-01003-0B	1
1.4	Valve Ball	TN-00013	1
1.5	Plug	PU-01003-0E	1
1.6	Plug	PU-01003-0F	1
1.7	Seal	OR-00082	1
1.8	Seal	OR-00023	1
1.9	Seal	OR-00088	1
2	O-Ring	OR-00007	2 (*)
3	O-Ring Crossover Tube	OR-00011	2 (*)
4	Crossover Tube	PU-01011	1
5	"A"/"R" Outlet Pump Flange	See Table 14	1
6	Piston Rod Assembly (Only Ref. 6.1 & 6.2)	See Table 14	1
6.1	Piston Rod (Included in Ref. 6) #	See Table 14	1
6.2	Piston Head (Included in Ref.. 6) #	See Table 14	1
7	Piston Support Washer	See Table 14	1
8	Piston Seal	See Table 15	1 (*)
9	Piston Seal Support	See Table 15	1
10	Piston Support Washer	See Table 15	1 (*)
11	Piston Seal Wiper Ring	See Table 15	1 (*)
12	Pump Clevis	See Table 14	1
13	Male Elbow	RA-00044	1
14	Gasket	PU-01013	1 (*)
15	Bearing	See Table 16	1 (*)
16	Cylinder Seal	See Table 16	1 (*)



Ref.	Description	Part Number	Qty.
17	Packing Retainer Flange	PU-01001-A00	1
18	Flange Adaptor Ring	See Table 14	1
19	Pump Cylinder	See Table 14	1
20	Tie Rod	PU-01030	4
21	Lock Washer	TN-00087	4
22	Nut	TN-00105	4
23	Retainer Ring	See Table 14	1
24	Dowel Pin	See Table 14	1

N.B.:

The indicated parts (), are included in the repair seal kit of “A” pump (see Table 17).*

The indicated parts (#), are not supplied separately.

Table 14. “A” Proportioning Pump Assembly, Parts List

SIZE	Ref. 5	Ref. 6	(#) Ref. 6.1	(#) Ref. 6.2
1.20	PU-01005-012	PU-01006-012	PU-01007-012	PU-01008-012
0.80	PU-01005-008	PU-01006-008	PU-01007-008	PU-01008-008

SIZE	Ref. 7	Ref. 12	Ref. 18	Ref. 19
1.20	PU-01010-012	PU-01042	PU-01001-E12	PU-01004-012
0.80	PU-01010-008	PU-01042	PU-01001-C08	PU-01004-008

SIZE	23	24
1.20	TN-00070	TN-00086
0.80	TN-00067	TN-00085

Table 15. Piston Seals

SIZE	Ref. 8	Ref. 9	Ref. 10	Ref. 11
1.20	PU-01016-012	PU-01009-012	PU-01014-012	PU-01015-012
0.80	PU-01016-008	PU-01009-008	PU-01014-008	PU-01015-008



Table 16. Pump Retainer Flange Seals

SIZE	Ref. 15	Ref. 16
1.20	PU-01001-D12	PU-01017-012
0.80	PU-01001-B08	PU-01017-008

Table 17. Repair Seal Kit "A" Pump

SIZE	Ref.
1.20	KT-00093
0.80	KT-00017-008

N.B.: The repair seal kit include the stated parts (*) of the Table 13.

“R” PROPORTIONING PUMP ASSEMBLY

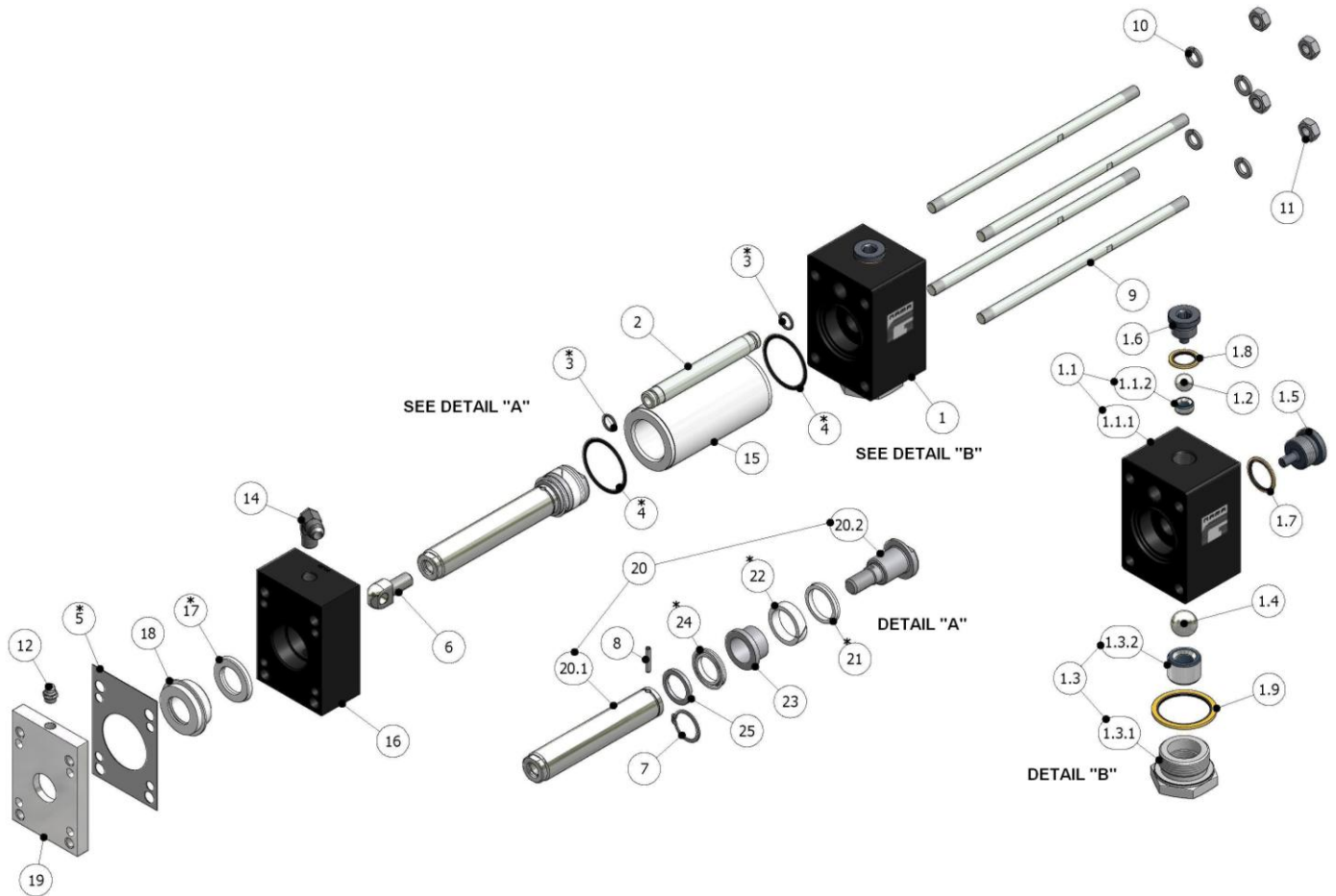


Figure 10. “R” Proportioning Pump Assembly, Exploded View

N.B.: The parts marked with (*), are included in the repair seal kit of “R” pump.



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Table 18. "R" Proportioning Pump Assembly, Parts List

Ref.	Description	Part Number	Qty.
1	"A"/"R" Pump Base Assembly	PU-01003-00	1
1.1	Pump Base with Check Valve Assembly	PU-01003-0K	1
1.1.1	Pump Base	PU-01003-0A	1
1.1.2	Check Valve Seat	PU-01003-0C	1
1.2	Valve Ball	TN-00012	1
1.3	Inlet Ball Seat Assembly	PU-01003-0J	1
1.3.1	Check Valve Seat	PU-01003-0D	1
1.3.2	Inlet Ball Seat	PU-01003-0B	1
1.4	Valve Ball	TN-00013	1
1.5	Plug	PU-01003-0E	1
1.6	Plug	PU-01003-0F	1
1.7	Seal	OR-00082	1
1.8	Seal	OR-00023	1
1.9	Seal	OR-00088	1
2	Crossover Tube	PU-01011	1
3	O-Ring Crossover Tube	OR-00011	2 (*)
4	O-Ring	OR-00007	2 (*)
5	Gasket	PU-01013	1 (*)
6	Pump Clevis	See Table 19	1
7	Retainer Ring	See Table 19	1
8	Dowel Pin	See Table 19	1
9	Tie Rod	PU-01030	4
10	Lock Washer	TN-00087	4
11	Nut	TN-00105	4
12	Grease FTG	TN-00073	1
13	Pipe Plug	RA-00004	1
14	Male Elbow	RA-00044	1
15	Pump Cylinder	See Table 19	1
16	"A"/"R" Outlet Pump Flange	See Table 19	1
17	Cylinder Seal	See Table 21	1 (*)
18	Grease Bushing	See Table 21	1 (*)
19	Retainer Flange	See Table 19	1



Ref.	Description	Part Number	Qty.
20	Piston Rod Assembly (Only Ref. 20.1 & 20.2)	See Table 19	1
20.1	Piston Rod (Included in Ref. 20) #	See Table 19	1
20.2	Piston Head (Included in Ref. 20) #	See Table 19	1
21	Piston Seal Wiper Ring	See Table 20	1 (*)
22	Piston Seal	See Table 20	1 (*)
23	Piston Seal Support	See Table 20	1
24	Piston Seal	See Table 20	1 (*)
25	Piston Support Washer	See Table 19	1

N.B.:

The indicated parts (), are included in the repair seal kit of "R" pump (see Table 22).*

The indicated parts (#), are not supplied separately

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

SIZE	Ref. 6	Ref. 7	Ref. 8	Ref. 15
1.20	PU-01042	TN-00070	TN-00086	PU-01004-012
0.80	PU-01042	TN-00067	TN-00085	PU-01004-008

SIZE	Ref. 16	Ref. 19	Ref. 20	(#) Ref. 20.1
1.20	PU-01005-012	PU-01002-A12	PU-01006-012	PU-01007-012
0.80	PU-01005-008	PU-01002-A08	PU-01006-008	PU-01007-008

SIZE	(#) Ref. 20.2	Ref. 25
1.20	PU-01008-012	PU-01010-012
0.80	PU-01008-008	PU-01010-008

Table 20. Piston Seals

SIZE	Ref. 21	Ref. 22	Ref. 23	Ref. 24
1.20	PU-01015-012	PU-01014-012	PU-01009-012	PU-01016-012
0.80	PU-01015-008	PU-01014-008	PU-01009-008	PU-01016-008



Table 21. Pump Retainer Flange Seals

SIZE	Ref. 17	Ref. 18
1.20	PU-01017-012	PU-01002-B12
0.80	PU-01017-008	PU-01002-B08

Table 22. Repair Seal Kit "R" Pump

SIZE	Ref.
1.20	KT-00016-012
0.80	KT-00018-008

N.B.: The repair seal kit include the parts market (*) with the Table 18.

“A” STANDARD PRIMARY HEATER

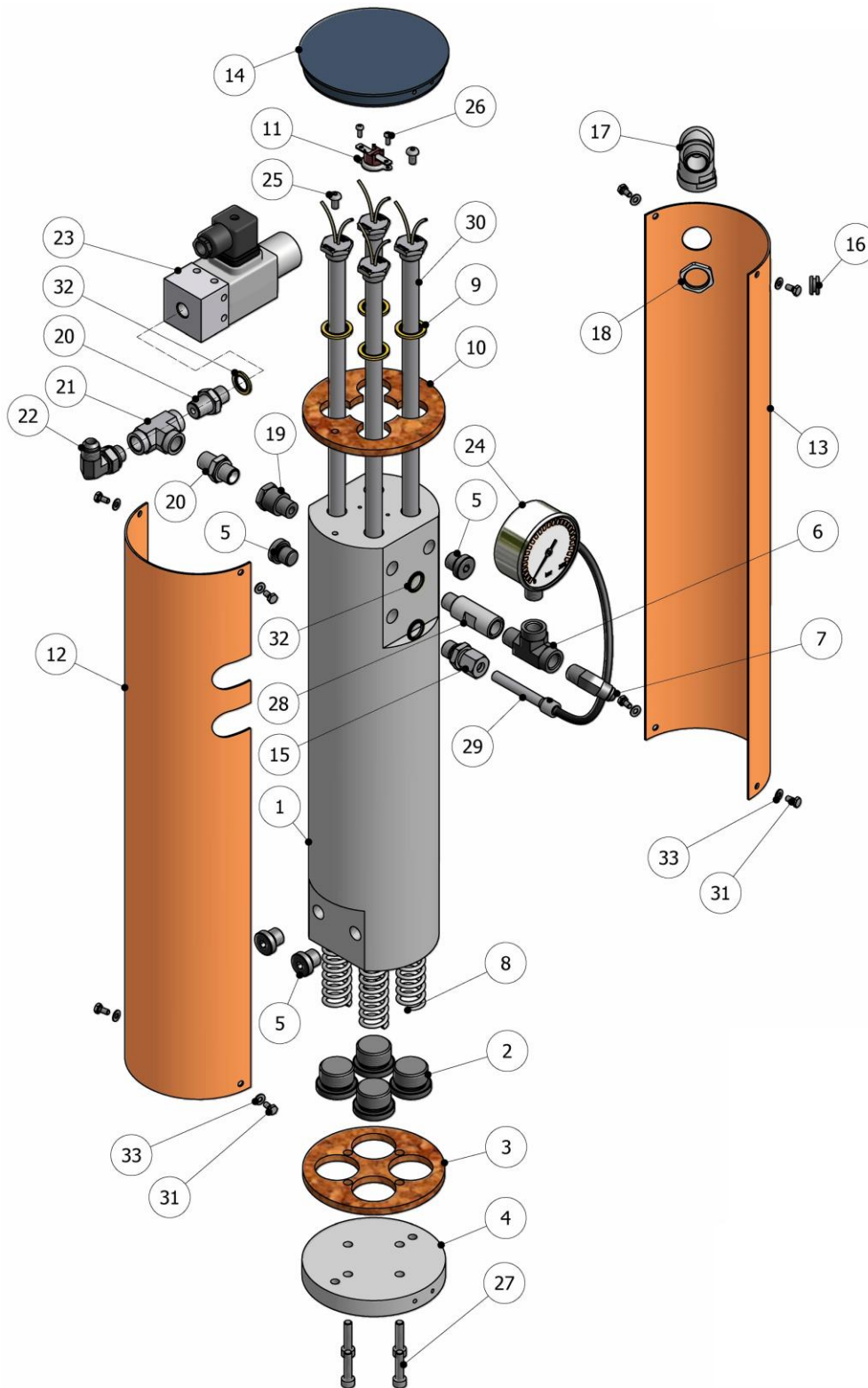


Figure 11. “A” Standard Primary Heater, Exploded View



Parts Manual

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

Ref.	Description	Part Number	Qty.
1	Heat Block	CL-02001-01A	1
2	Pipe Plug	RA-00012	4
3	Bottom Insulate Plate	CL-02001-03	1
4	Heater Plate	CL-02001-02	1
5	Pipe Plug	RA-00013	4
6	Pipe Tee	RA-00018	1
7	Hose Nipple	RA-00017	1
8	Spring	SP-00009	4
9	Seal	OR-00018	4
10	Top Insulate Plate	CL-02001-04	1
11	Thermal Limit Switch	EL-00006	1
12	Heater Cover	CL-02001-06	1
13	Heater Cover	CL-02001-05	1
14	Top Cap	CL-02001-07	1
15	Thermocouple Nipple	RA-00231	1
16	Rubber Grommet	EL-00095-00	1
17	Conduit Connector	EL-00087-01	1
18	Nut	EL-00090-01	1
19	Swivel Union	RA-00077	1
20	Adapters Union	See Table 24	2
21	Pipe Tee	See Table 24	1
22	Elbow Fitting	RA-00050	1
23	Pressure Switch	HI-00021	1
24	Liquid Fill Gauge	See Table 24	1
25	Screw	TN-00166	2
26	Socket Head Cap Screw	TN-00128	2
27	Socket Head Cap Screw	TN-00169	4
28	Adapter	RA-00100	1
29	Thermocouple	EL-00146-00	1
30	Heat Resistance	EL-00189	4
31	Screw	TN-00317	8
32	Seal	See Table 24	
33	Washer	TN-00104	8

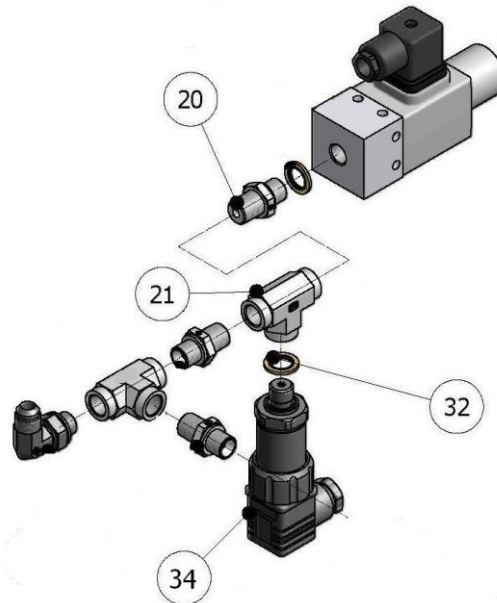


Figure 12. "A" Standard Primary Heater, Exploded View

Table 24. Parts List of Variable Components for "A" Primary heater

Ref.	Description	1.2 Pump Size		0.8 Pump Size	
		With Logger (optional)	Without Logger (standard)	With Logger (optional)	Without Logger (optional)
		CL-03001-00GT	CL-03001-00G	CL-03001-00HT	CL-03001-00H
20	Adapters Union	3x RA-00138	2x RA-00138	3x RA-00138	2x RA-00138
21	Pipe Tee	2x RA-00053	1x RA-00053	2x RA-00053	1x RA-00053
24	Liquid Fill Gauge	1x HI-00019	1x HI-00019	1x HI-00035	1x HI-00035
32	Seal	4x OR-00054	3x OR-00054	4x OR-00054	3x OR-00054
34	Transducer	1x HI-00033	-	1x HI-00033	-

“R” STANDARD PRIMARY HEATER

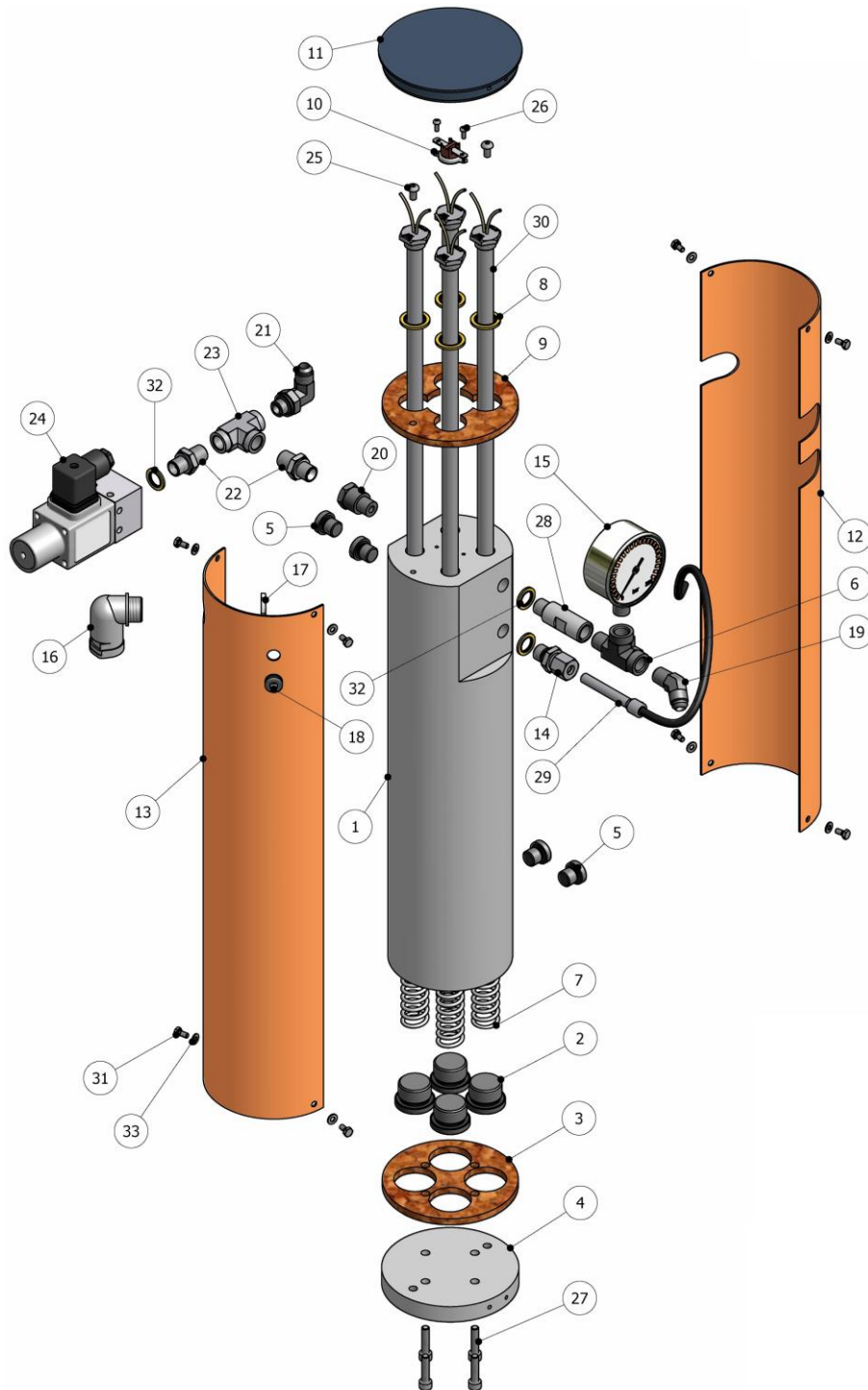


Figure 13. “R” Standard Primary Heater



Table 25. "R" Standard Primary Heater, Parts List

Ref.	Description	Part Number	Qty.
1	Heat Block	CL-02001-01A	1
2	Pipe Plug	RA-00012	4
3	Bottom Insulate Plate	CL-02001-03	1
4	Heater Plate	CL-02001-02	1
5	Pipe Plug	RA-00013	4
6	Pipe Tee	RA-00018	1
7	Spring	SP-00009	4
8	Seal	OR-00018	4
9	Top Insulate Plate	CL-02001-04	1
10	Thermal Limit Switch	EL-00006	1
11	Top Cap	CL-02001-07	1
12	Heater Cover	CL-02002-06	1
13	Heater Cover	CL-02002-05	1
14	Thermocouple Nipple	RA-00231	1
15	PSI Liquid Fill Gauge	See Table 26	1
16	Conduit Connector	EL-00087-01	1
17	Nut	EL-00090-01	1
18	Rubber Grommet	EL-00095-00	1
19	Hose Nipple	RA-00043	1
20	Swivel Union	RA-00077	1
21	Elbow Fitting	RA-00050	1
22	Adapters Union	See Table 26	2
23	Pipe Tee	See Table 26	1
24	Pressure Switch	HI-00021	1
25	Screw	TN-00166	2
26	Socket Head Cap Screw	TN-00128	2
27	Socket Head Cap Screw	TN-00169	4
28	Adapter	RA-00100	1
29	Thermocouple	EL-00146-00	1
30	Heat Resistance	EL-00189	4
31	Screw	TN-00317	8
32	Seal	See Table 26	
33	Washer	TN-00104	8

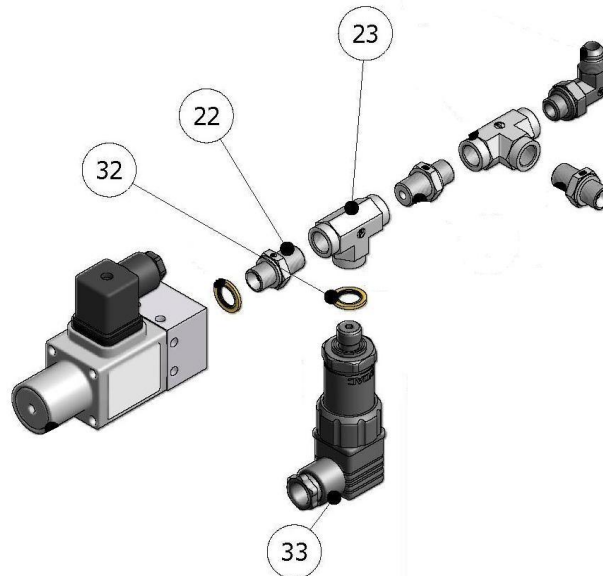


Figure 14. "R" Standard Primary Heater, Exploded View

Table 26. Parts List of Variable Components for "R" Primary heater

Ref.	Description	1.2 Pump Size		0.8 Pump Size	
		With Logger (optional)	Without Logger (standard)	With Logger (optional)	Without Logger (optional)
		CL-03002-00GT	CL-03002-00G	CL-03002-00HT	CL-03002-00H
22	Adapters Union	3x RA-00138	2x RA-00138	3x RA-00138	2x RA-00138
23	Pipe Tee	2x RA-00053	1x RA-00053	2x RA-00053	1x RA-00053
15	Liquid Fill Gauge	1x HI-00019	1x HI-00019	1x HI-00035	1x HI-00035
32	Seal	4x OR-00054	3x OR-00054	4x OR-00054	3x OR-00054
34	Transducer	1x HI-00033	-	1x HI-00033	-

RECIRCULATION KIT P#: KT-00038

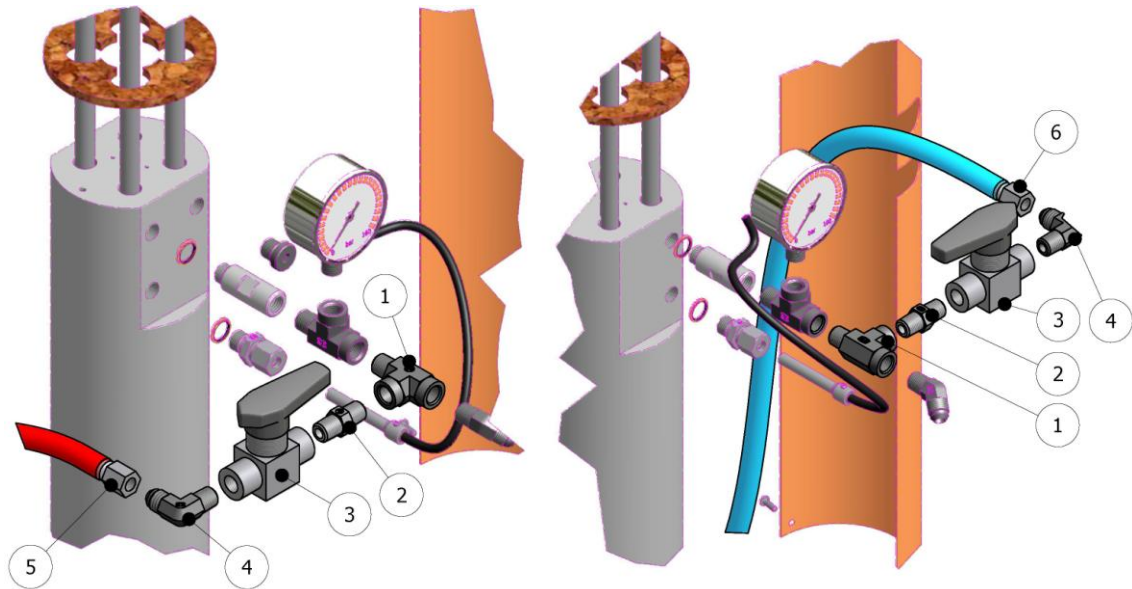


Figure 15. Recirculation Kit P#: KT-00038, Exploded View

Table 27. Recirculation Kit evolution, Parts List

Ref.	Description	Part Number	Qty.
1	Pipe Tee	RA-00018	2
2	Swivel Union	RA-00188	2
3	Ball Valve	RA-00189	2
4	Elbow ISO	RA-00254	1
	Elbow POL	RA-00044	1
5	A-Hose	MA-00050-01	1
6	R-Hose	MA-00050-00	1

RECIRCULATION KIT P#: KT-00038-01

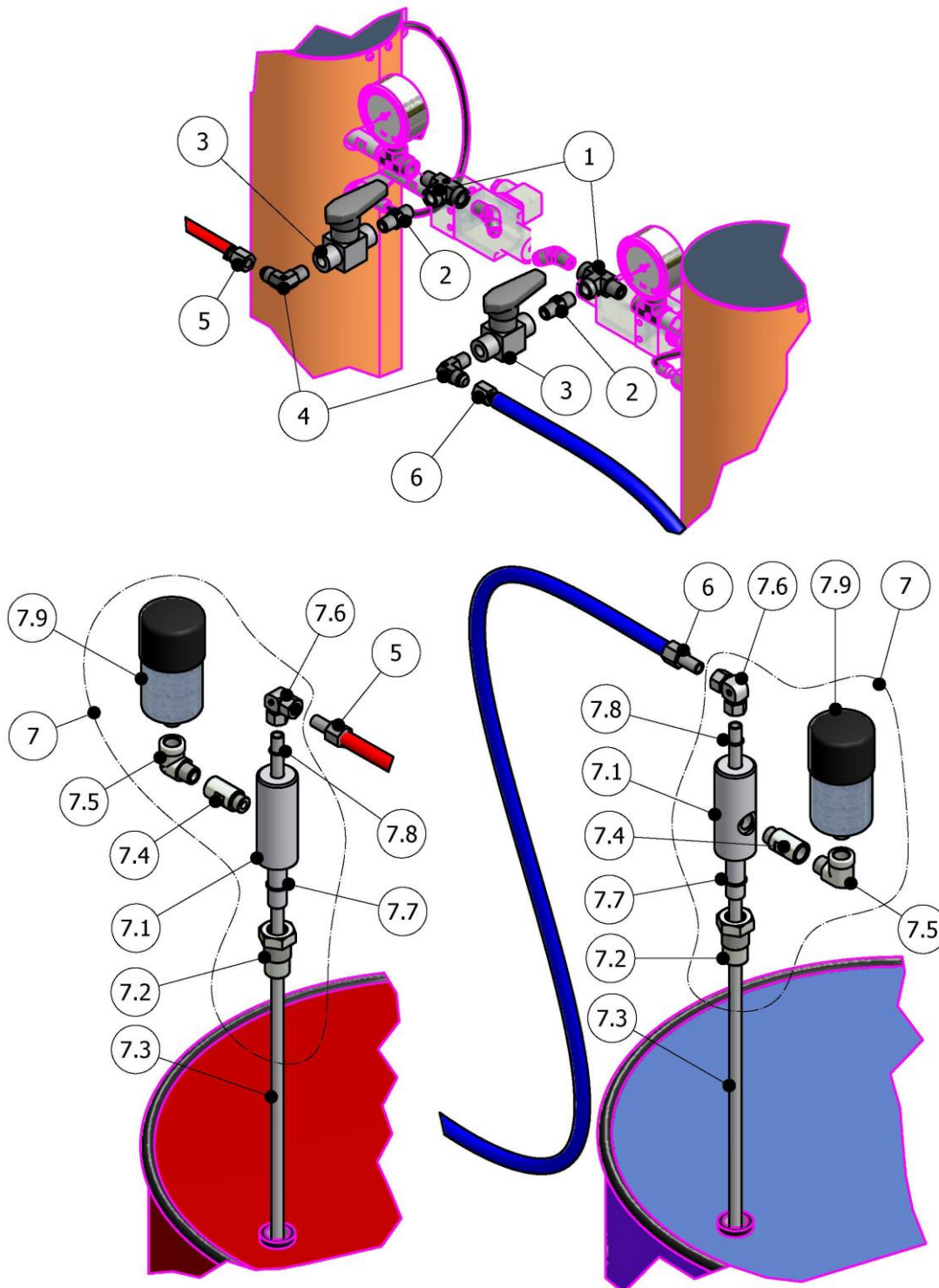


Figure 16. Recirculation Kit P#: KT-00038-01, Exploded View



Table 28. Recirculation Kit #KT-00038-01, Parts List

Ref.	Description	Part Number	Qty.
1	Pipe Tee	RA-00018	2
2	Swivel Union	RA-00188	2
3	Ball Valve	RA-00189	2
4	Elbow ISO	RA-00254	1
	Elbow POL	RA-00044	1
5	A-Hose	MA-00050-01	1
6	R-Hose	MA-00050-00	1
7	Assy. Connection to Tank with Filter	MQ-05009-00	2
7.1	Body Connection	MQ-05010	1 (*)
7.2	Connection Tank	MQ-05009	1 (*)
7.3	Pipe	HI-00075	1 (*)
7.4	Extension	RA-00256	1 (*)
7.5	Elbow	RA-00257	1 (*)
7.6	Elbow for Pipe	RA-00200	1 (*)
7.7	O-Ring	OR-00055	2(*)
7.8	O-Ring	OR-00011	1 (*)
7.9	Dehumidifier Filter	NE-00045	1 (*)

N.B.:

(*) Unitary Quantities included in 1 set POS.7

RECIRCULATION KIT P#: KT-00038-03

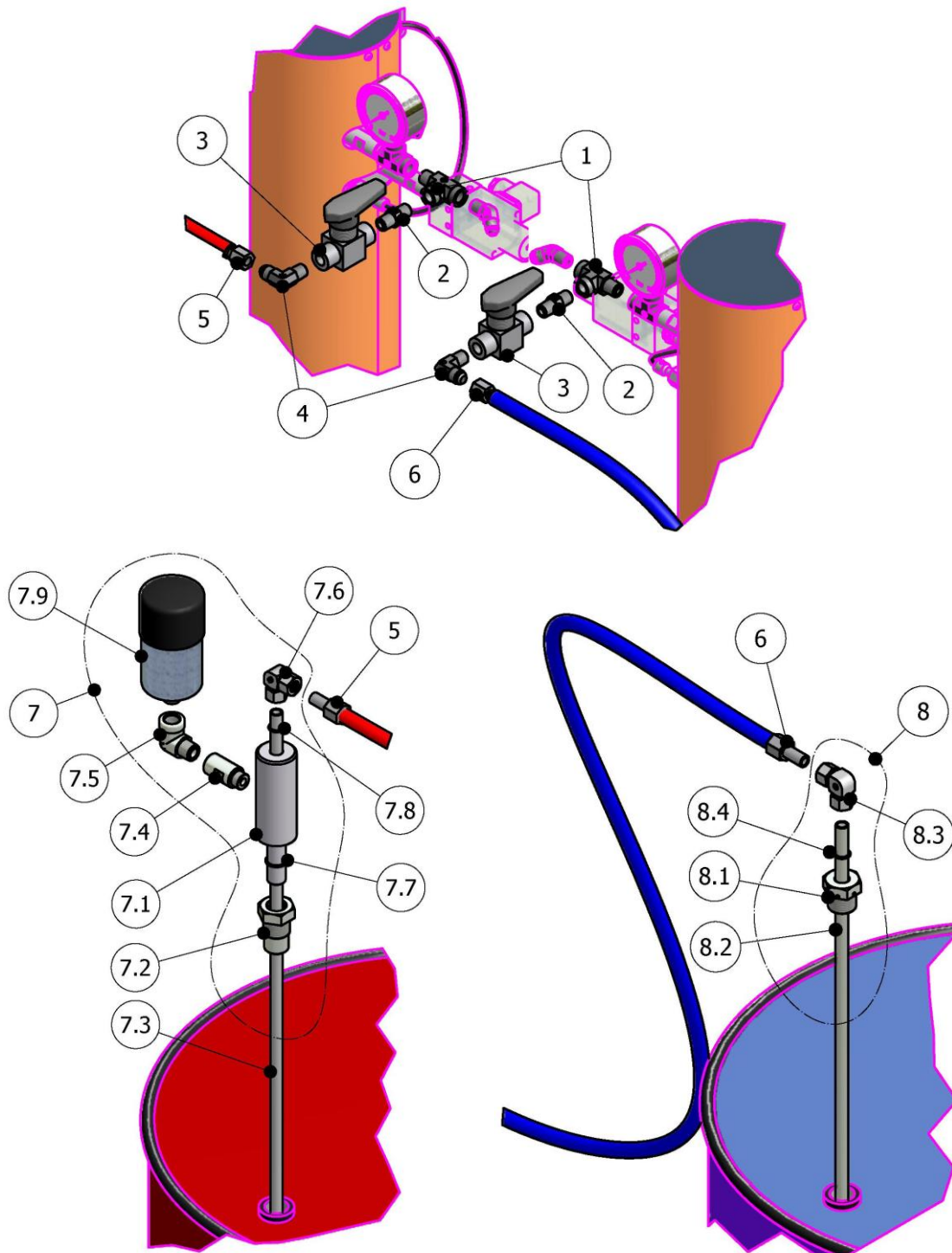


Figure 17. Recirculation Kit P#: KT-00038-03, Exploded View



Table 29. Recirculation Kit #KT-00038-03, Parts List

Ref.	Description	Part Number	Qty.
1	Pipe Tee	RA-00018	2
2	Swivel Union	RA-00188	2
3	Ball Valve	RA-00189	2
4	Elbow ISO	RA-00254	1
	Elbow POL	RA-00044	1
5	A-Hose	MA-00050-01	1
6	R-Hose	MA-00050-00	1
7	Assy. Connection to Tank with Filter	MQ-05009-00	1
7.1	Body Connection	MQ-05010	1 (*)
7.2	Connection Tank	MQ-05009	1 (*)
7.3	Pipe	HI-00075	1 (*)
7.4	Extension	RA-00256	1 (*)
7.5	Elbow	RA-00257	1 (*)
7.6	Elbow for Pipe	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	Assy. Connection to Tank without Filter	MQ-05010-00	1
8.1	Connection Tank	MQ-05009-A	1 (#)
8.2	Pipe	HI-00075	1 (#)
8.3	Elbow for Pipe	RA-00200	1 (#)
8.4	O-Ring	OR-00011	1 (#)

N.B.:

(*) Unitary Quantities included in 1 set POS.7

(#) Unitary Quantities included in 1 set POS.8



ELECTRICAL SCHEMATIC DIAGRAM 3x400v. -NEUTRAL 50/60Hz STANDARD VERSION

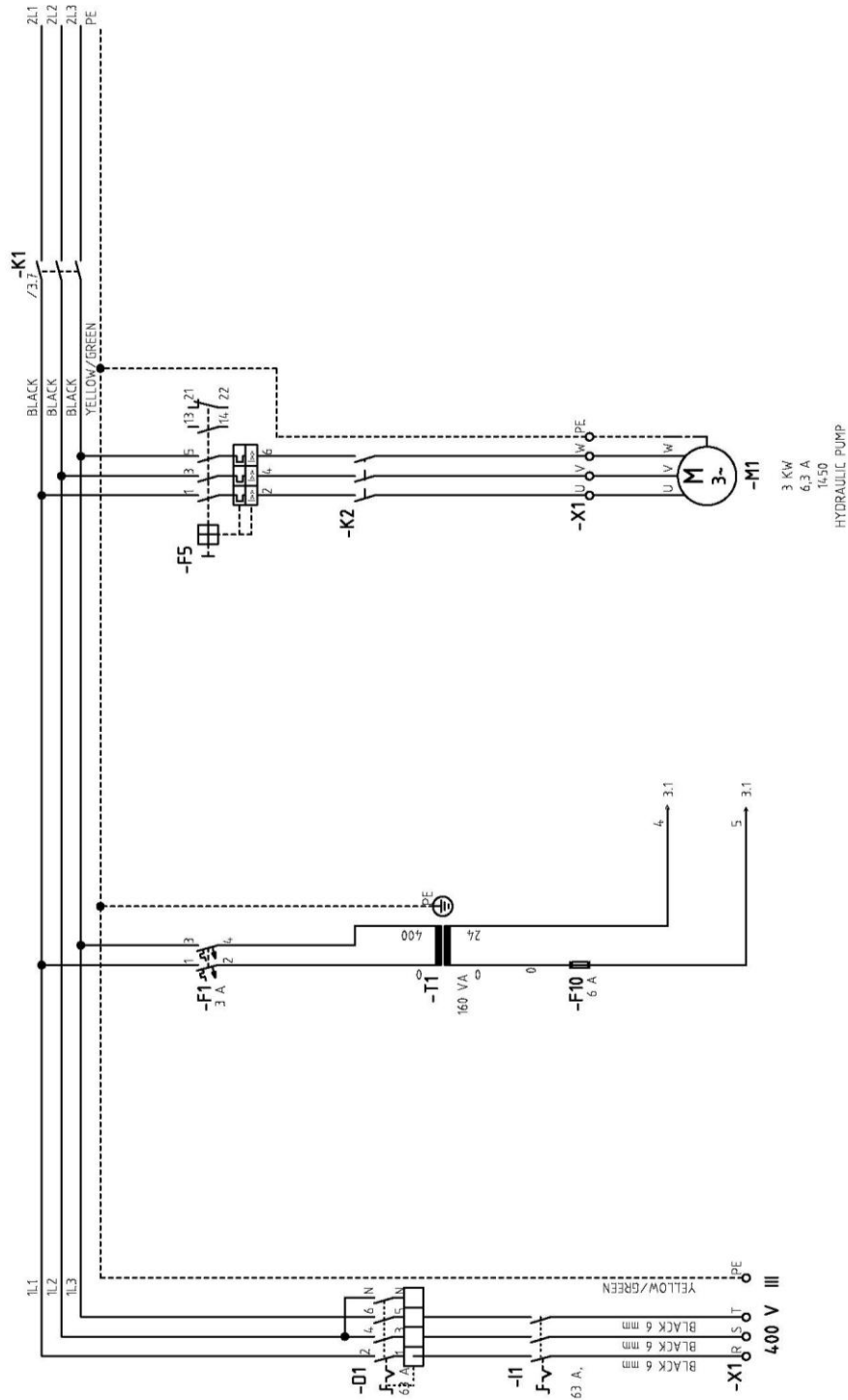


Figure 18. Elec. Schem. 3x400v –N - 50/60Hz Standard Version (Sheet 1/7)

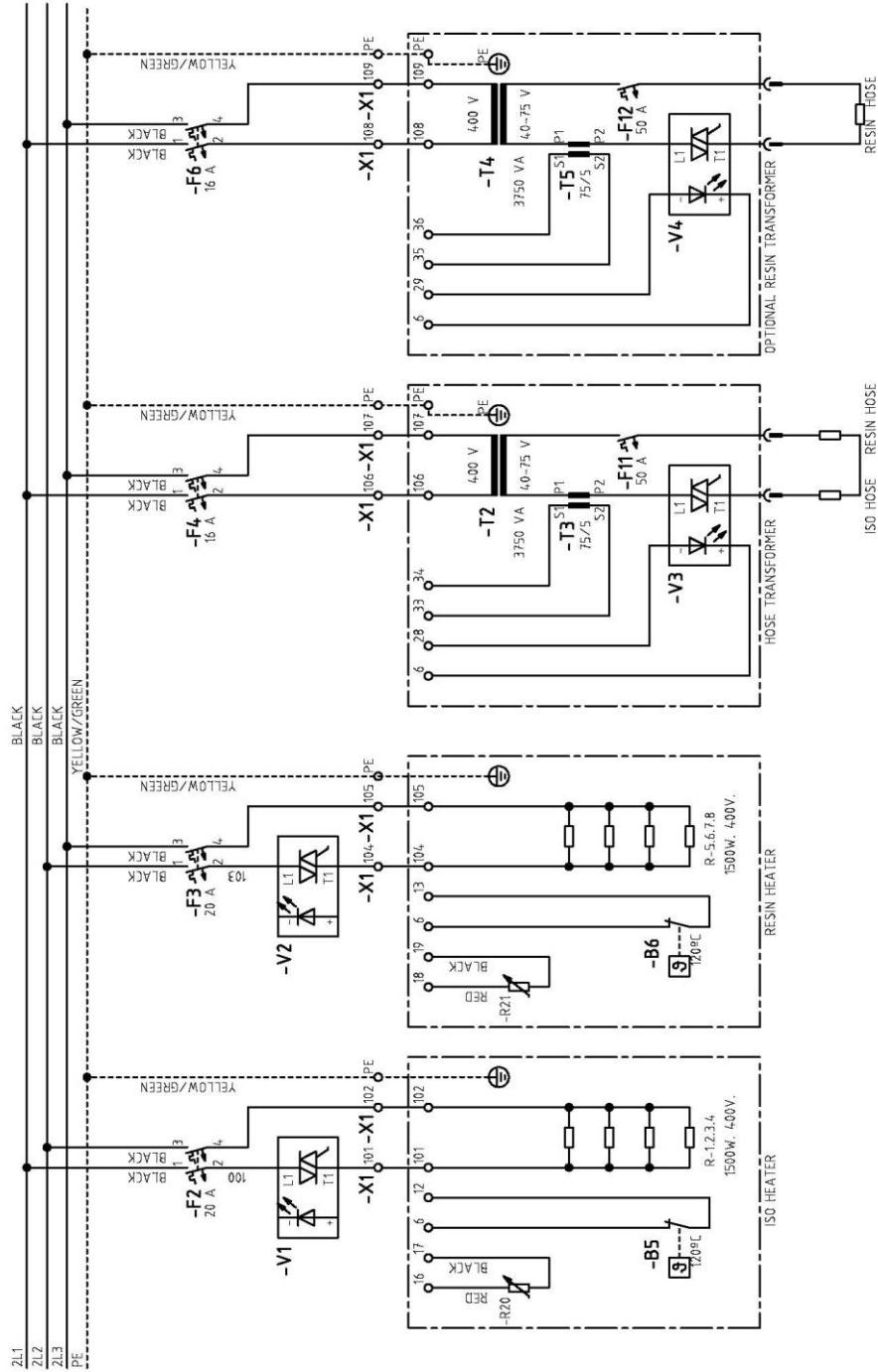


Figure 19. Elec. Schem. 3x400v -N - 50/60Hz Standard Version (Sheet 2/7)

Parts Manual

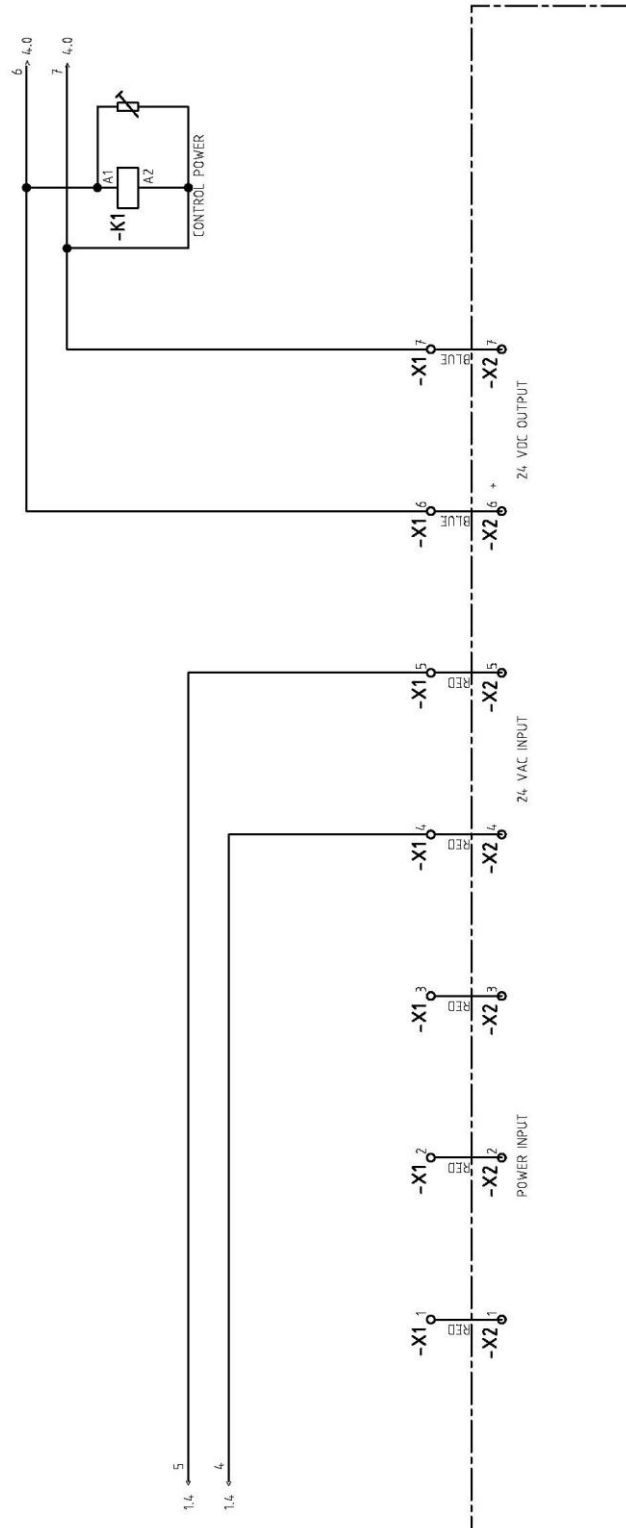


Figure 20. Elec. Schem. 3x400v -N - 50/60Hz Standard Version (Sheet 3/7)

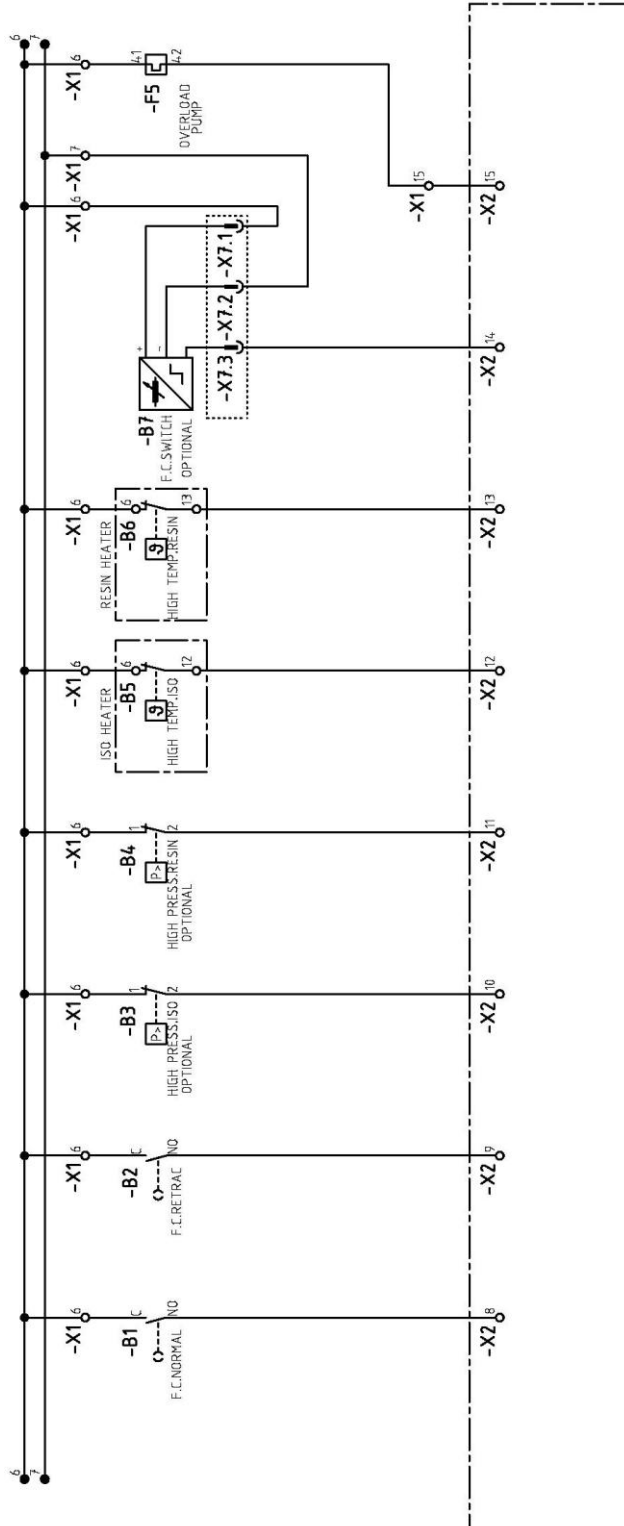


Figure 21. Elec. Schem. 3x400v -N - 50/60Hz Standard Version (Sheet 4/7)

Parts Manual

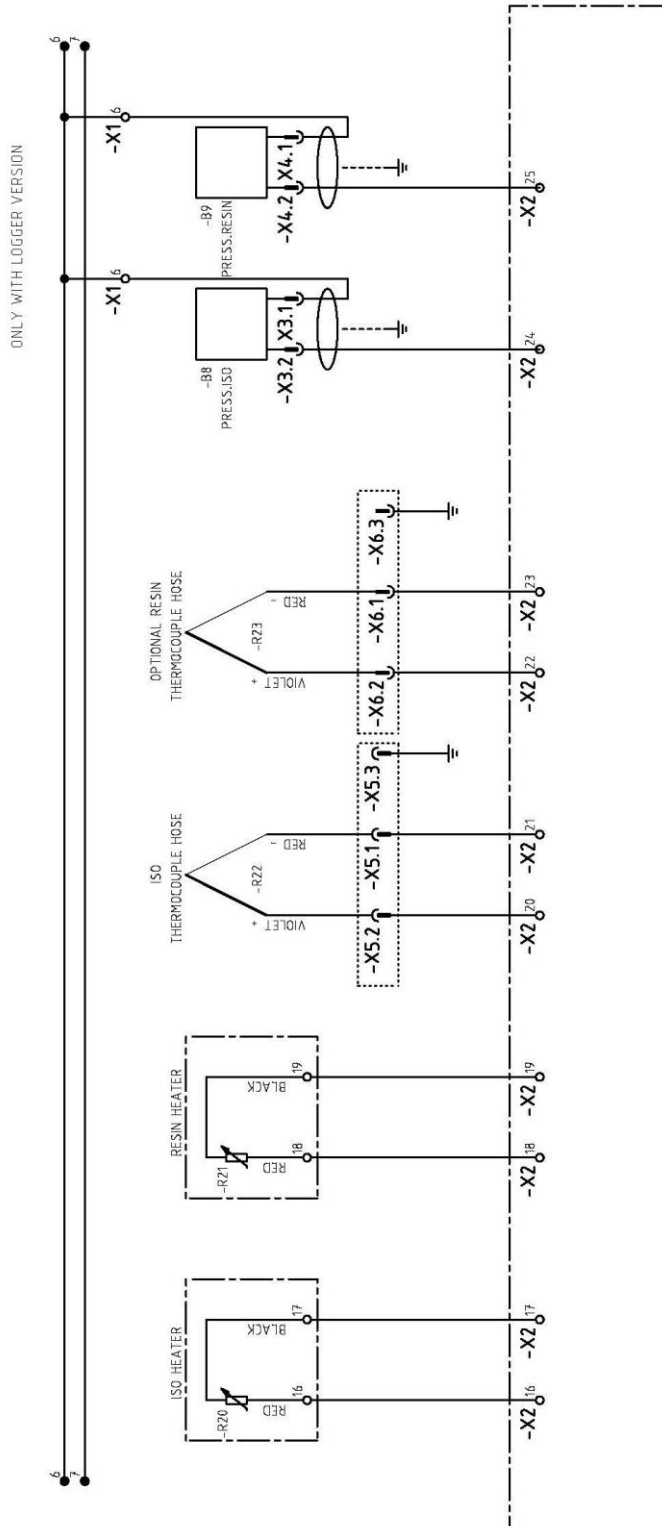


Figure 22. Elec. Schem. 3x400v -N - 50/60Hz Standard Version (Sheet 5/7)

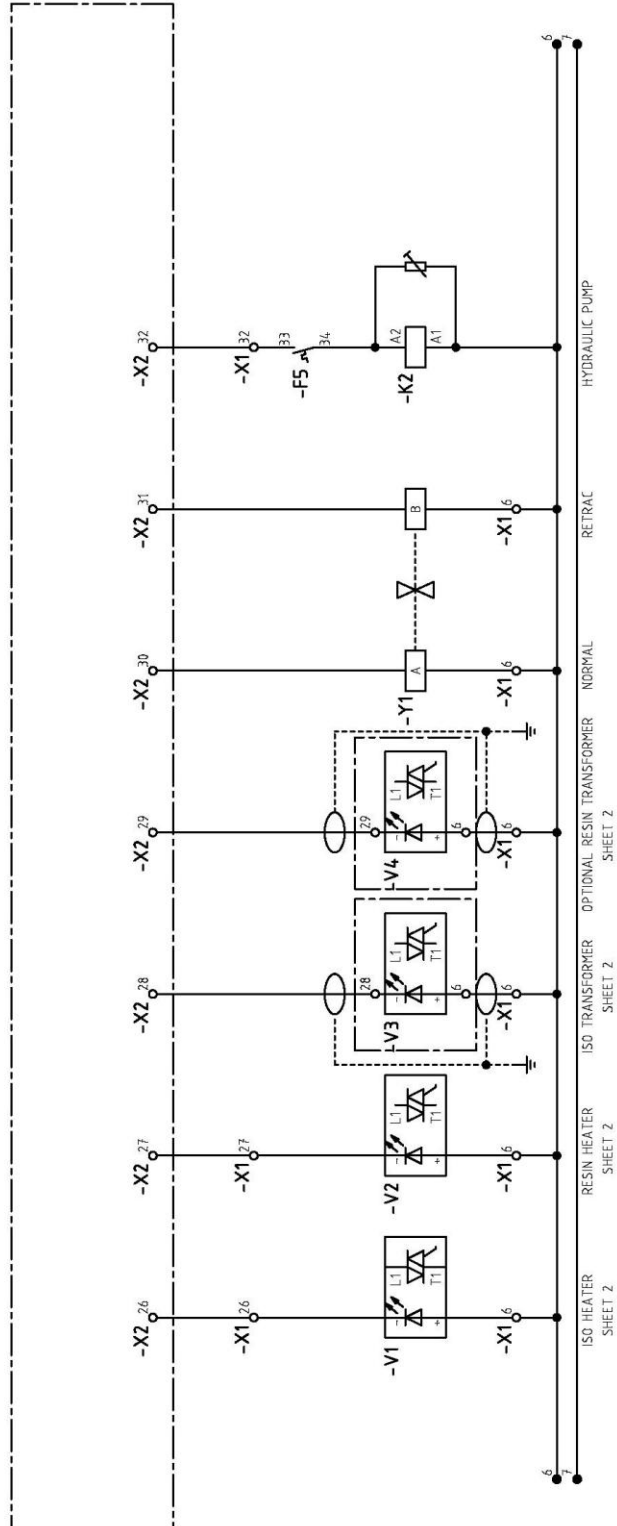


Figure 23. Elec. Schem. 3x400v -N - 50/60Hz Standard Version (Sheet 6/7)

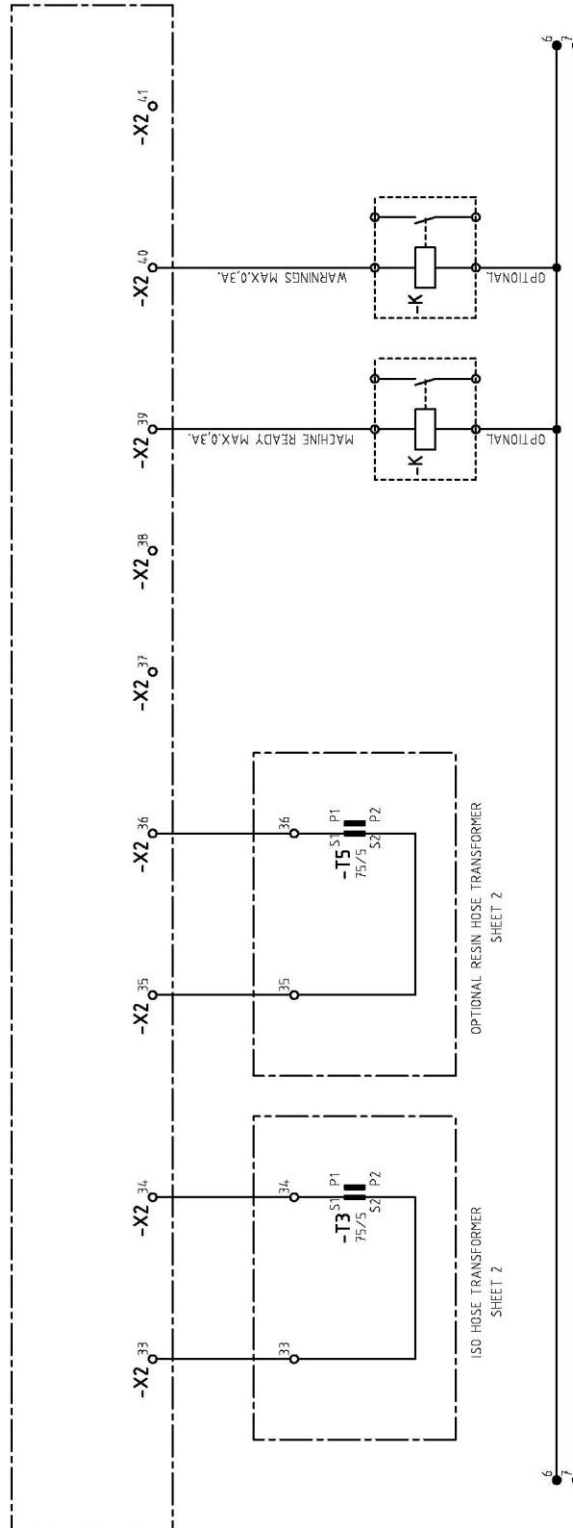


Figure 24. Elec. Schem. 3x400v -N - 50/60Hz Standard Version (Sheet 7/7)



**Table 30. Electrical Schematic 3x400v –N - 50/60Hz Standard Version,
Parts List**

Ref.	Description	Reference	Qty
F10	Fusible point	EL-00104-13	1
F10	Fuse	EL-00128-03	2
I1	Switch	EL-00107-07	1
I1	Control Red Yellow	EL-00107-06	1
T1	Transformer	EL-00127-02	1
D1	Differential Switch	EL-00108-04	1
F1	Circuit Breaker	EL-00109-04	1
F2	Circuit Breaker	EL-00113-04	1
F3	Circuit Breaker	EL-00113-04	1
F4	Circuit Breaker	EL-00112-04	1
F5	Circuit Breaker	EL-00119-06	1
F5	Auxiliary Contactor	EL-00119-03	1
T3	Intensity Transformer	EL-00127-03	1
V1	Static Relay	EL-00126-03	1
V2	Static Relay	EL-00126-03	1
V3	Triac	EL-00126-02	1
K1	Contactor	EL-00123-02	1
K2	Contactor	EL-00121-02	1
K2	Varistor	EL-00120-03	1
X1	Terminal Strip	EL-00105-06	1
X5	Cable with Male Connector TSU (ISO)	EL-00142-00	1
X5	Hood	EL-00096-21	1

PNEUMATIC SCHEMATIC DIAGRAM

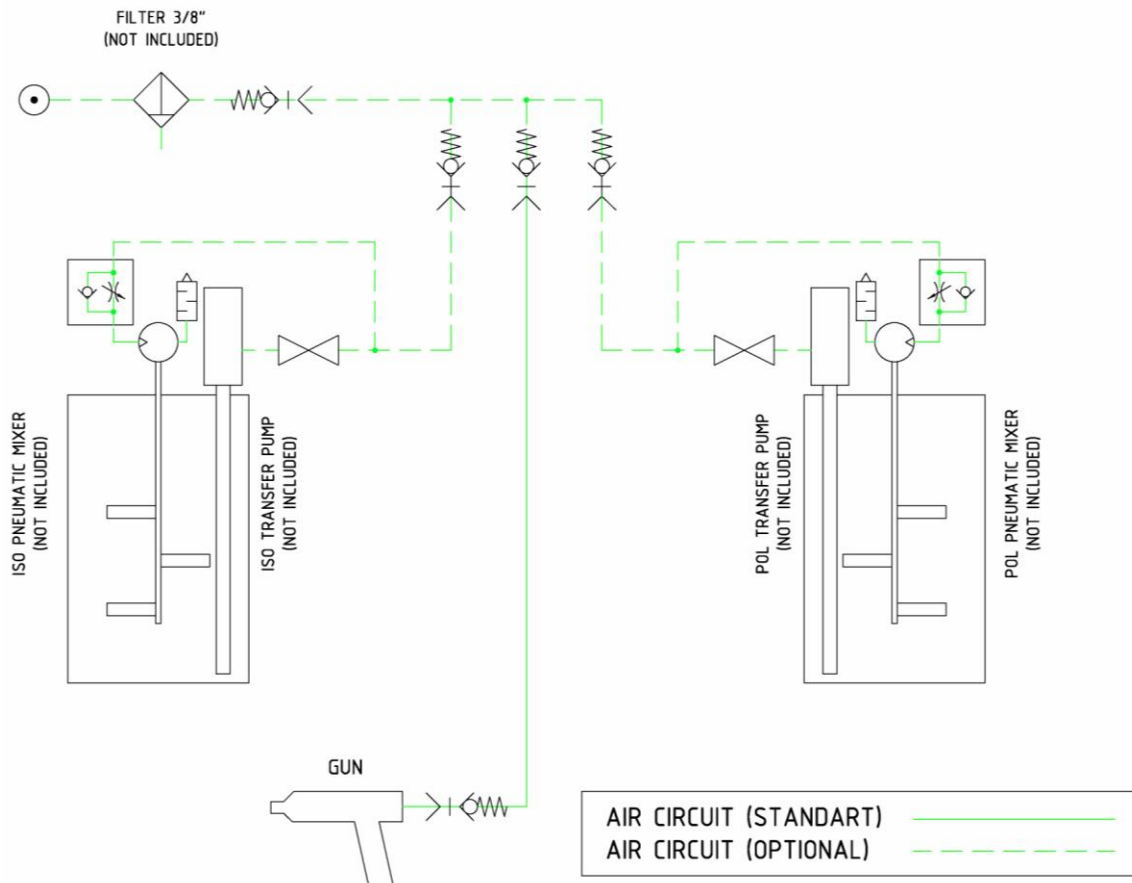


Figure 25. Pneumatic Schematic Diagram

HYDRAULIC SCHEMATIC DIAGRAM

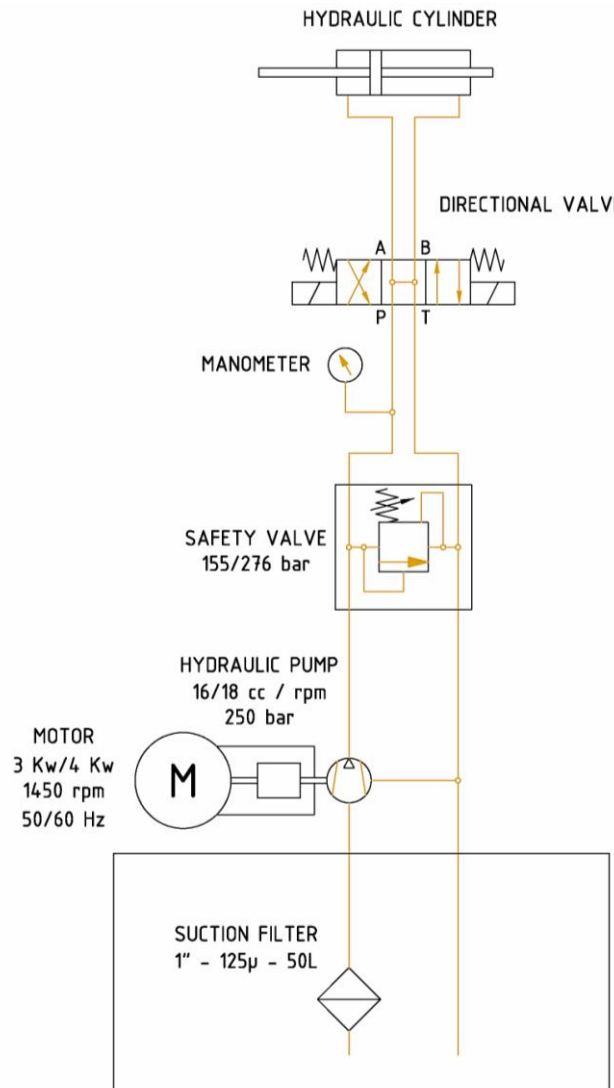


Figure 26. Hydraulic Schematic Diagram

FUNCTIONING SCHEMATIC DIAGRAM

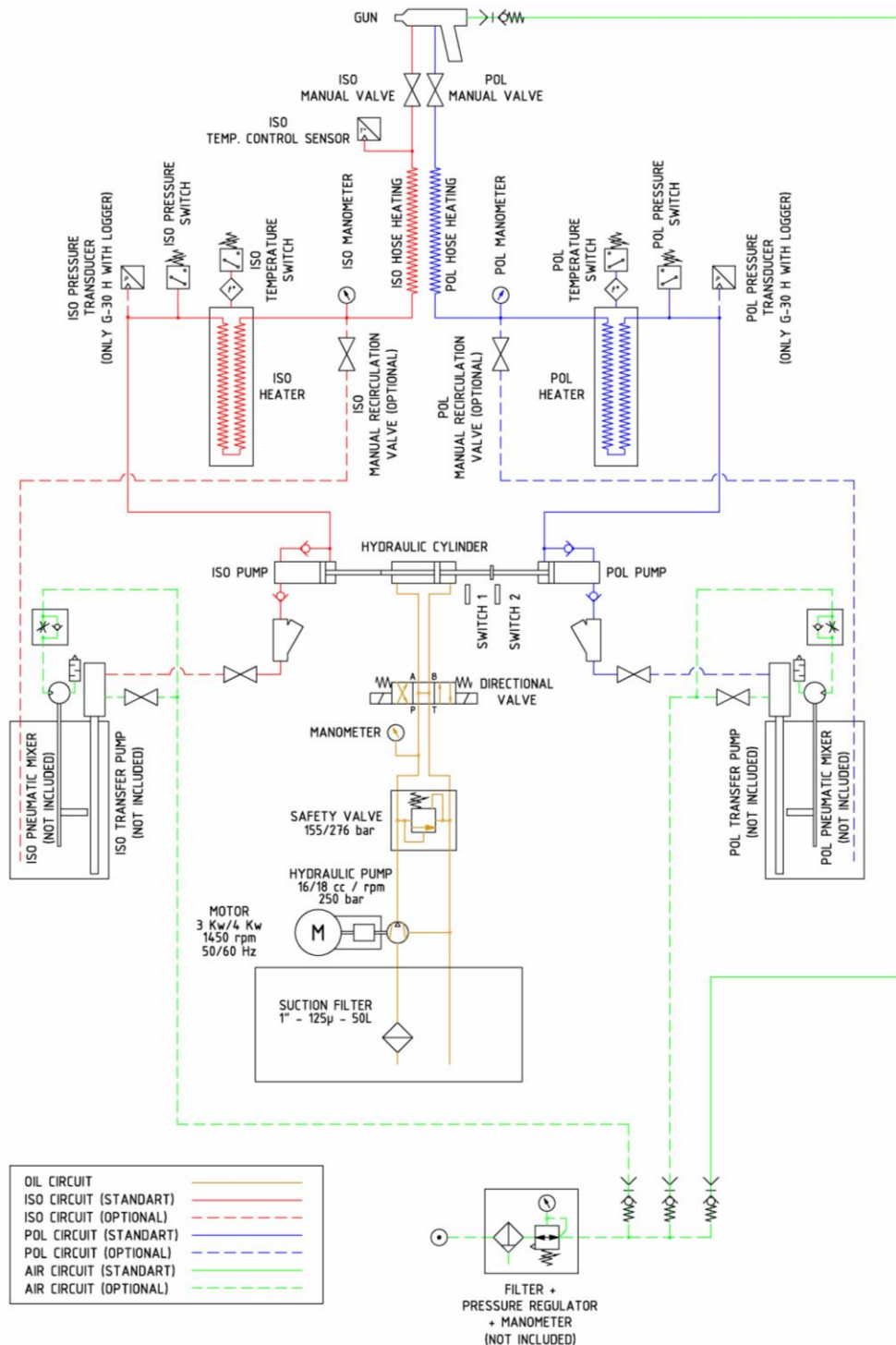


Figure 27. Functioning Schematic Diagram



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