



Parts Manual

Spray Unit

Easy Spray-H

Issue 3.3 22/06/21
Ref. NR-00087-ENG



Before installing the unit and starting it up, please take the time to read all the technical and safety instructions in the Service Manual. It is essential that you follow these instructions carefully so that you can handle and use the unit properly. These instructions are intended to maximize user safety and avoid malfunctions deriving from the incorrect use of the unit.



Parts Identification

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

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- 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.
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Parts Identification

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 unit described in this manual has been designed and manufactured in compliance with the following European Directives and following as application guide the harmonized standards detailed:

Directive 2006/42/EC on machinery

UNE EN 12100:2012

Directive 2014/30/EU on electromagnetic compatibility

UNE EN 55011

UNE EN 55016-2-1; UNE EN 55016-2-3;

UNE EN 55032

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

Directive 2014/68/EU on pressure equipment

UNE EN 809:1999 +A1

Directive 2014/35/EU on electrical safety

UNE EN 60204-1:2019

Directive 2003/10/EC on noise level

UNE EN ISO 3740

UNE EN ISO 3746

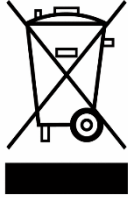
Directive 2011/65/EU and the correction in its Annex II according to Directive 2015/863/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment

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



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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°C or up to +70°C for short periods that do not exceed 24 hours. Also, appropriate means to prevent damage from moisture, vibrations or shocks must be foreseen.

SPRAY UNIT MODEL easy spray - H

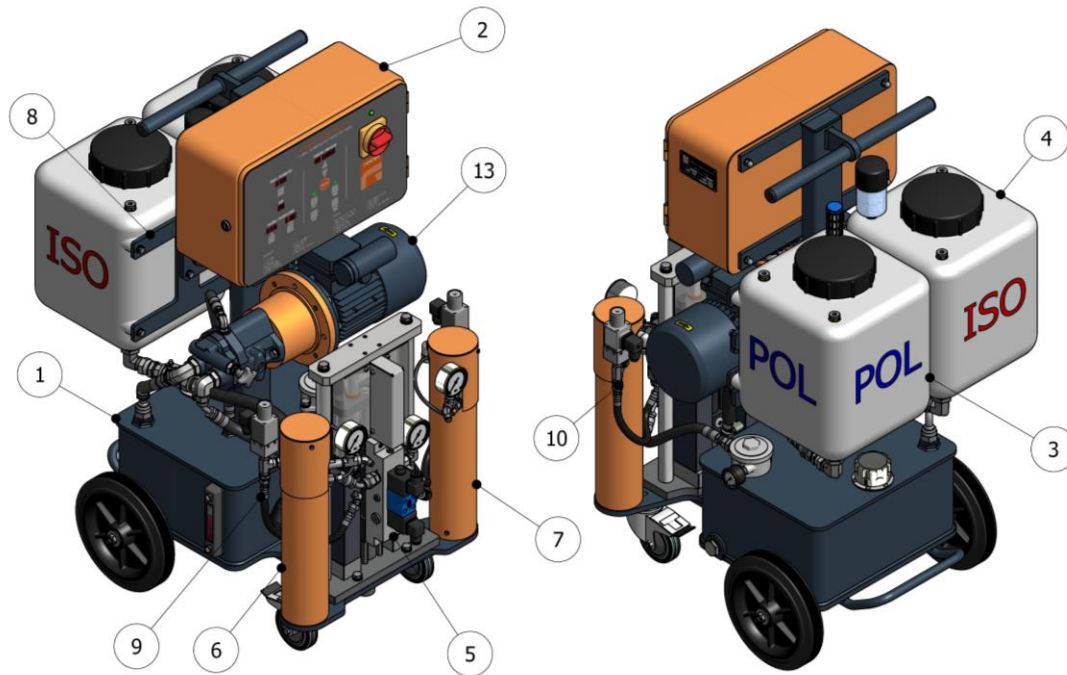


Figure 1. Spray unit model easy spray - H

Table 1. Spray unit parts list
Model: easy spray - H

Pos.	Description	Reference	Qty
1	Frame assembly	MQ-18021-00	1
2	Electrical console assembly	See Table 3	1
3	POL tank assembly	MQ-06012-00	1
4	ISO tank assembly	MQ-06013-00	1
5	Pump assembly	-	1
6	ISO heater assembly	CLH-06003-02	1
7	POL heater assembly	CLH-06004-02	1
8	Tank mounting arms	MQ-18026	1
9	ISO pump-heater hose	MA-00036	1
10	POL pump-heater hose	MA-00036	1
13	Hydraulic motor and pump assembly	-	1



Table 2. Basic configurations

Reference	Description
ES150-425R15	easy spray-H single-phase 230V – Hoses with recirculation gun
ES150-425H15	easy spray-H single-phase 230V – Heated hoses 1.5kW

Table 3. List of references for electrical console

Reference	Description
EL-00231	Electrical console assy. (single-phase 230V) Gun recirculation Version 1
EL-00234	Electrical console assy. (single-phase 230V) Heated 20 m hose Version 2

ELECTRICAL CONSOLE

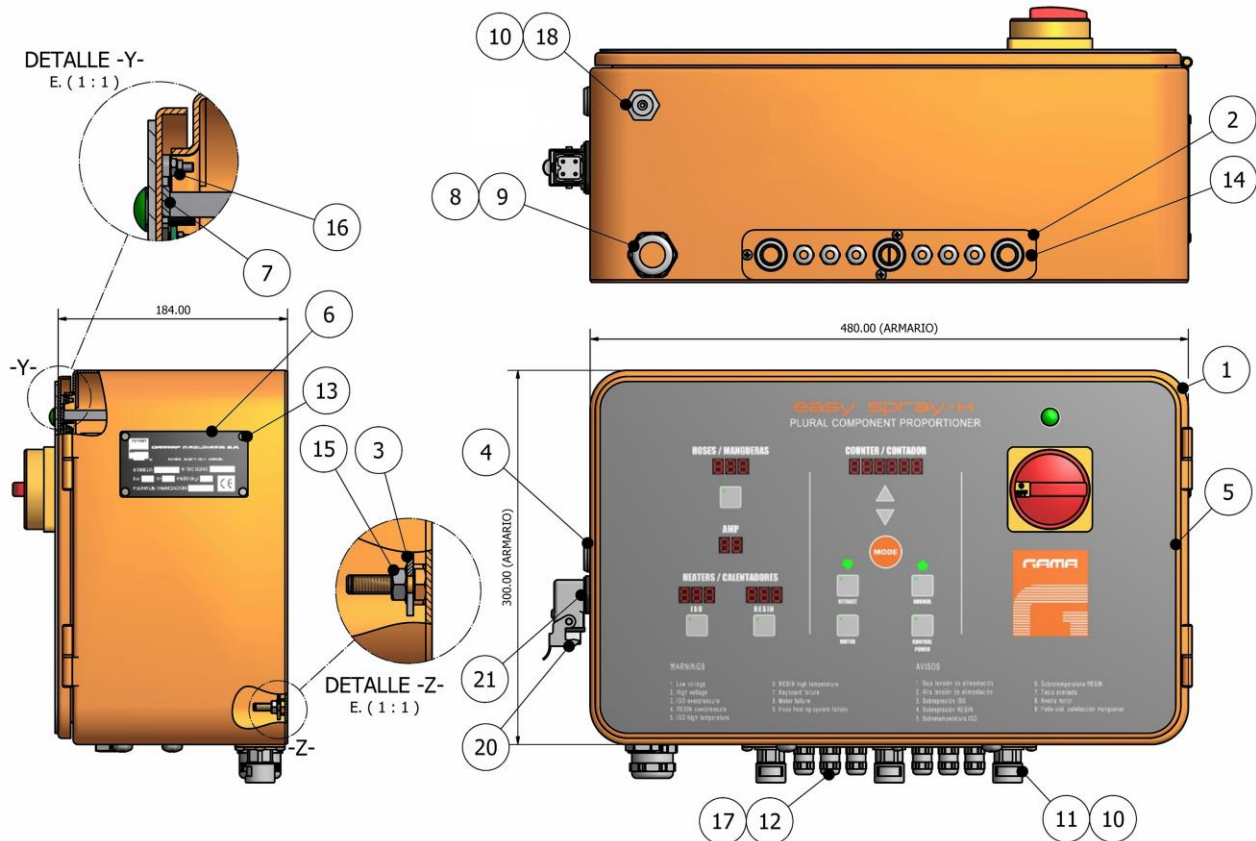


Figure 2. Electrical console for Easy Spray - H

Table 4. List of parts for electrical console for Easy Spray - H

Pos.	Description	Reference	Qty
1	Soldered cabinet assembly	See Table 5	1
2	Lower cabinet cover	EL-00027-01F	1
3	Cabinet back plate	EL-00018-03	1
4	Cabinet lock assy.	EL-00034	1
5	Face panel assembly	See Table 6	1
6	Rating plate	MQ-01010	1
7	Internal reinforcement brace	EL-00145	1
8	Brass nut	EL-00090-03	1



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Pos.	Description	Reference	Qty
9	Cable gland	EL-00088-01	1
10	Brass nut	EL-00090-01	3
11	Cable gland	EL-00087-00	3
12	Cable gland	EL-00088-00	6
13	Blind rivet	TN-00240	4
14	Screw	TN-00031	4
15	Hex nut	TN-00108	4
16	Hex nut	TN-00182	10
17	Brass nut	EL-00090-00	6
18	Plastic cap	EL-00088-08	1
19			
20	Female connector assembly (*)	EL-00096-04/05	1
21	Screw (*)	TN-00421	2

Note: (*) Parts valid only for the heated hose option.

Table 5. List of cabinet variants

	easy spray – H Hoses with recirculation (version 1)	easy spray – H 20 m heated hoses (version 2)
Soldered cabinet assembly	EL-00001-07	EL-00001-12

Table 6. List of parts for Face panel assembly

	GAMA face panel (standard)
Face panel 1x	EL-00232
Circuit 1x	EL-00015-05
Switch 1x	EL-00107-07
Command Switch 1x	EL-00107-06
Spacer 9x	EL-00019-03

HYDRAULIC DRIVE WITH SINGLE-PHASE MOTOR 230V 50/60HZ (VK pump)

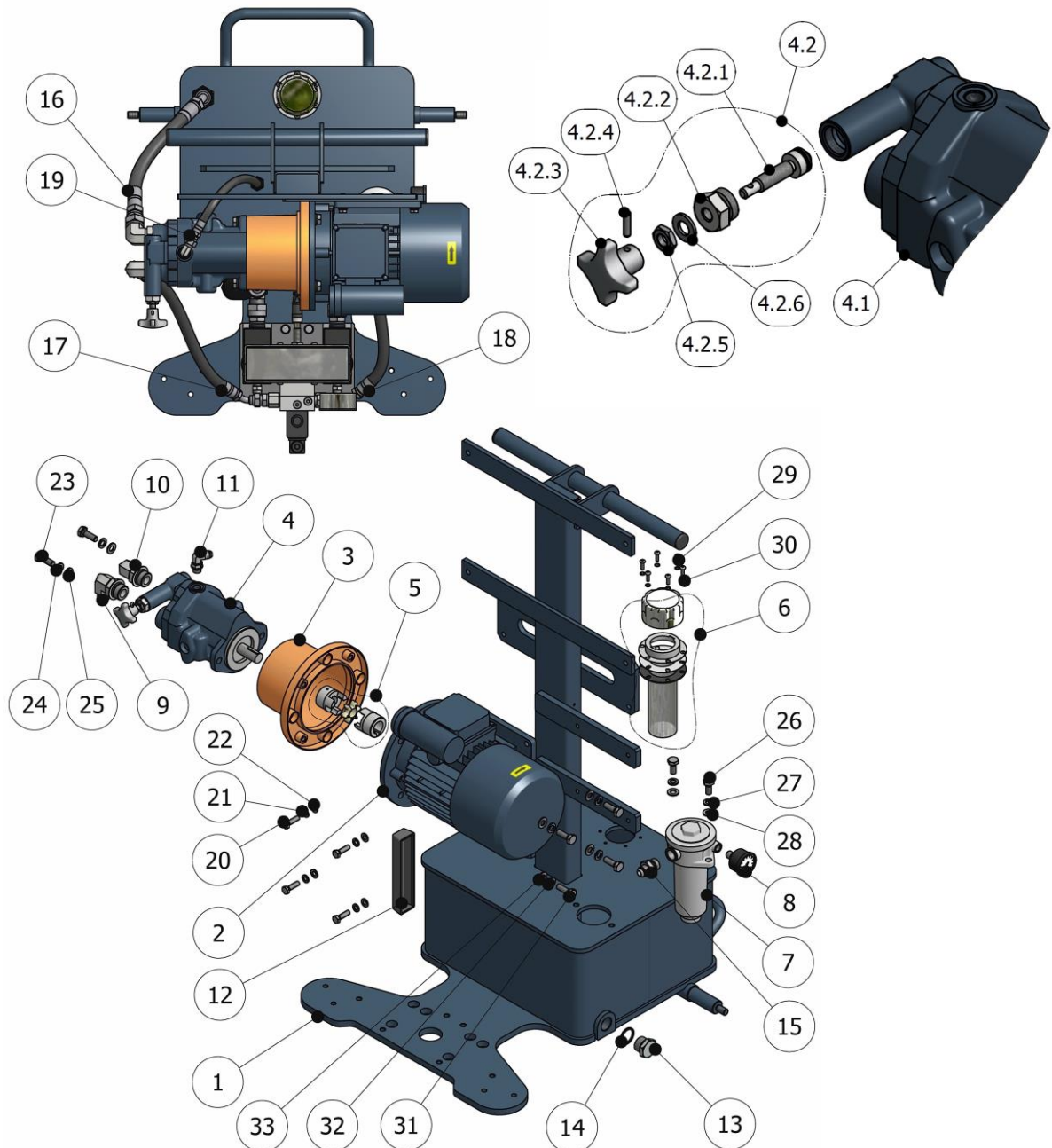


Figure 3. Single-phase hydraulic drive 230V 50/60Hz (with VK pump)



Parts Identification

Table 7. List of parts for Hydraulic Drive with Single-phase Motor 230V 50/60Hz VK Pump

Pos.	Description	Reference	Qty
1	Frame assembly with hydraulic tank	MQ-18021-00	1
2	230V single-phase electric motor	See Table 8	1
3	Hood	HI-00124	1
4	VK pump	HI-00130-ESH	1
4.1	10cc VK Pump	HI-00130	1 (°)
4.2	Limiter Assy VK Pump	HI-00044-00	1 (°)
4.2.1	Control Rod VK Pump	HI-00042	1 (@)
	O-Ring VK Pump	OR-00025	1 (*)
4.2.2	Nut VK Pump	HI-00043	1 (@)
4.2.3	Handle VK Pump	HI-00044	1 (@)
4.2.4	Elastic Pin VK Pump	TN-00042	1 (@)
4.2.5	Lock Nut VK Pump	TN-00105	1 (@)
4.2.6	Washer VK Pump	TN-00162	1 (@)
5	Spidex elastic coupler	HI-00125	1
6	Fill cap assembly	HI-00002	1
7	Return filter assembly	HI-00123-00	1
8	Pressure gauge (included in POS 7)	HI-00123-03	1
9	Elbow coupler 90° (VK)	RA-00433	1
10	Elbow coupler 90° (VK)	RA-00434	1
11	Elbow 90° (VK)	RA-00177	1
12	Thermometer	HI-00001	1
13	Drain cap	RA-00022	1
14	Bi-material gasket	OR-00082	1
15	Nipple	RA-00316	1
16	Intake hose (VK)	HI-00132	1
17	Pressure hose (VK)	HI-00133	1

(*) Parts included in Pos 4.1. (@) Parts included in Pos.4.2

(°) Parts included in Pos 4

Cont. overleaf



Parts Identification

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Pos.	Description	Reference	Qty
18	Return hose	HI-00053-02	1
19	Drain hose (VK)	HI-00131	1
20	Hex screw	TN-00054	4
21	Glower washer	TN-00028	4
22	Flat washer	TN-00119	4
23	Hex screw	TN-00129	2
24	Glower washer	TN-00087	2
25	Flat washer	TN-00162	2
26	Allen Screw	TN-00189	2
27	Glower washer	TN-00087	2
28	Flat washer	TN-00162	2
29	ULS screw	TN-00417	6
30	Glower washer	TN-00109	6
31	Allen screw	TN-00189	4
32	Glower washer	TN-00087	4
33	Flat washer	TN-00162	4

Table 8. Variable of Single-phase Electric Motor

Description	Reference
Single-phase Electric Motor 230 v - 1,8 kW - 1380 rpm - 50 Hz (Standard)	EL-00229
Single-phase Electric Motor 230 v - 1,8 kW - 1660 rpm - 60 Hz (Special)	EL-00275

FRAMEWORK COMPONENTS

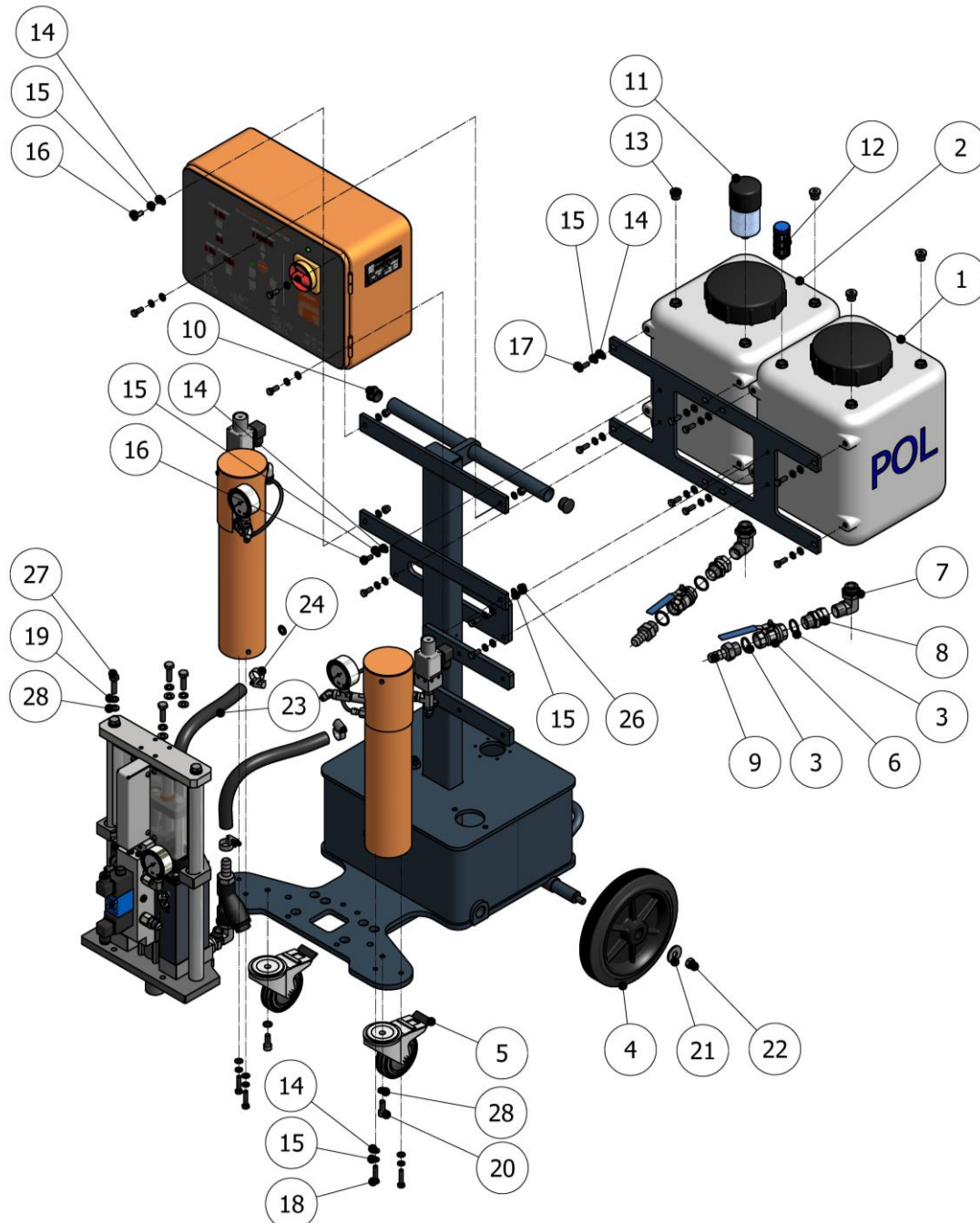


Figure 4. Framework components



Parts Identification

Table 9. List of framework components

Pos.	Description	Reference	Qty
1	POL tank assy.	MQ-06012-00	1
2	ISO tank assy.	MQ-06013-00	1
3	Bi-material gasket	OR-00082	4
4	Wheel	MQ-08112	2
5	Castor with lock	MQ-06021	2
6	Ball valve	RA-00078	2
7	Elbow coupler 90°	RA-00072	2
8	Swivel nut	RA-00073	2
9	Straight coupler with pin	RA-00219	2
10	Handlebar cap	MQ-06017-03	2
11	Dryer filter	NE-00045	1 (*)
12	Silencer	NE-00056	1 (#)
13	Flanged cap	RA-00049	2 (*) 2 (#)
14	Flat washer	TN-00119	20
15	Glomer washer	TN-00028	24
16	Hex screw	TN-00187	8
17	Hex screw	TN-00146	8
18	Hex screw	TN-00399	4
19	Glomer washer	TN-00087	4
20	Allen screw	TN-00189	2
21	Washer	TN-00271	2
22	Locking nut	TN-00030	2
23	Hose	MA-00058	1 m
24	Mikalor clamp	TN-00364	4
25	Hose reinforcement spring (not shown)	SP-00019	1 m
26	Nut	TN-00029	4
27	Hex. Screw	TN-00163	4
28	Washer	TN-00162	6

(*) Items included in ISO Tank Assy Ref. 2

(#) Items included in POL Tank Assy Ref. 1.

Ref. Tank only with Cover; MQ-06012-01 (common for ISO & POL).

PROPORTIONING PUMP ASSEMBLY

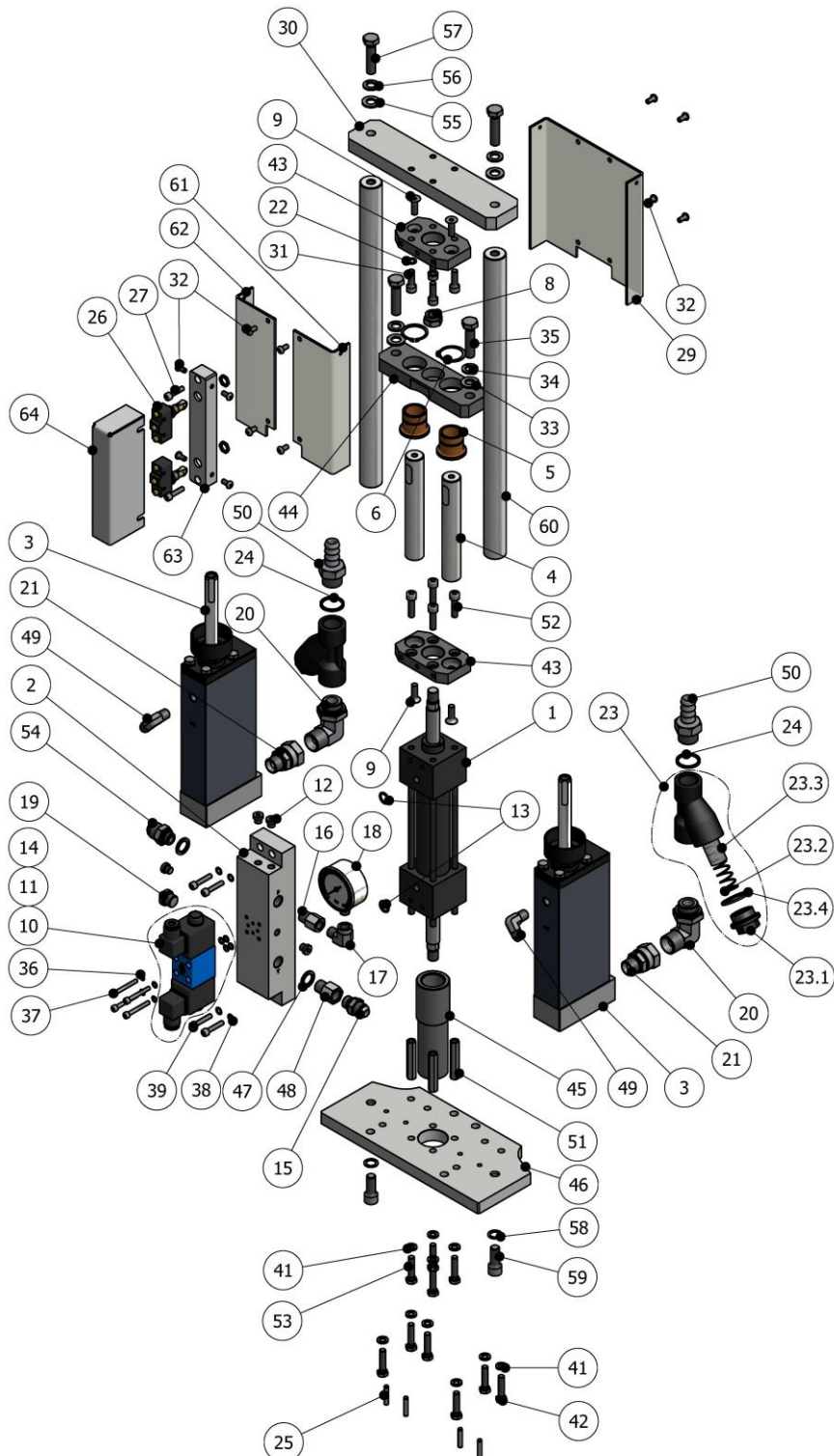


Figure 5. Proportioning pump assembly



Parts Identification

Table 10. List of parts for proportioning pump assembly

Pos.	Description	Reference	Qty
1	Hydraulic cylinder	HI-00127	1
2	Hydraulic distributor block	MQ-18001	1
3.A	ISO proportioning pump	See Table11	1
3.R	POL proportioning pump	See Table11	1
4	Guide column	MQ-18006	2
5	Guide bush	TN-00314	2
6	Seeger ring	TN-00070	2
7			
8	Hex nut	TN-00415	1
9	Countersunk screw	TN-00191	4
10	Solenoid valve assy. NG4 C.A.	HI-00126	1
11	O-ring (included in "POS".10)	OR-00024	3
12	1/8" BSPP flanged cap	RA-00211	6
13	O-ring	OR-00143	2
14	O-ring (included in "POS".10)	OR-00057	1
15	Nipple	RA-00388	1
16	Adapter	RA-00436	1
17	Elbow 90°	RA-00021	1
18	Pressure gauge 160 bar	HI-00015	1
19	Flanged cap	RA-00049	1
20	Adjustable elbow 90°	RA-00072	2
21	Swivel nut adapter	RA-00141	2
22	AET Washer	TN-00038	4
23	30 mesh filter assy.	RA-00074-00	2
23.1	Filter cap (Included in POS.23) (*)	RA-00074-01	1
23.2	Filter spring (included in POS.23) (*)	SP-00017	1
23.3	30 Mesh filter (included in POS.23) (*)	RA-00074-03-30	1
23.4	Bi-material gasket (included in POS.23) (*)	OR-00061	1
24	Bi-material gasket	OR-00082	2

(*) Quantities per filter.

Cont. overleaf.



Parts Identification

/ cont.

Pos.	Description	Reference	Qty
25	Pin DIN 7979	TN-00055	4
26	Mechanical Switch (with nuts)	EL-00020	2
27	Allen Screw	TN-00169	2
28	Nut (included in POS.26) (*)		2
29	Polycarbonate protective casing	MQ-18014	1
30	Upper Plate	MQ-18033	1
31	Screw	TN-00027	4
32	Screw	TN-00170	12
33	Flat washer	TN-00040	2
34	Glomer washer	TN-00039	2
35	Hex screw	TN-00037	2
36	AET washer	TN-00017	4
37	Allen screw	TN-00198	4
38	AET washer	TN-00048	4
39	Allen screw	TN-00014	4
40			
41	AET washer	TN-00038	10
42	Hex screw	TN-00399	6
43	Column base plate	MQ-18004-MIC	2
44	Puma yoke	MQ-18005-MIC	1
45	Spacer	MQ-18002	1
46	Pump base plate	MQ-18035	1
47	Bi-material gasket	OR-00018	2
48	Extension nozzle	RA-00438	1
49	Nipple	RA-00044	2
50	Coupler with pin M3/4"BSPP-pin 19mm	RA-00219	2
51	Hex. Spacer	MQ-18030	4
52	Allen screw	TN-00429	4
53	Hex. Screw	TN-00428	4
54	Nipple	RA-00062	1

(*) Quantities per assembly

Cont. overleaf.



Parts Identification

/ cont.

Pos.	Description	Reference	Qty
55	Flat Washer	TN-00040	2
56	AET Washer	TN-00015	2
57	Hex. Screew	TN-00037	2
58	AET Washer	TN-00015	2
59	Allen Screew	TN-00043	2
60	Column	MQ-18037	2
61	Front RH Cover	MQ-18048	1
62	Front LH Cover	MQ-18049	1
63	Mechanical Switch Support	MQ-18045	1
64	Switch Cover	MQ-18047	1

Table11. List of parts per proportioning pump size, easy spray-H

Size of proportioning pump	Description	Reference
4.5	ISO / POL proportioning pump	PU-02001-ESG

Note:*The isocyanate and polyol pumps are identical.*

PROPORTIONING PUMP

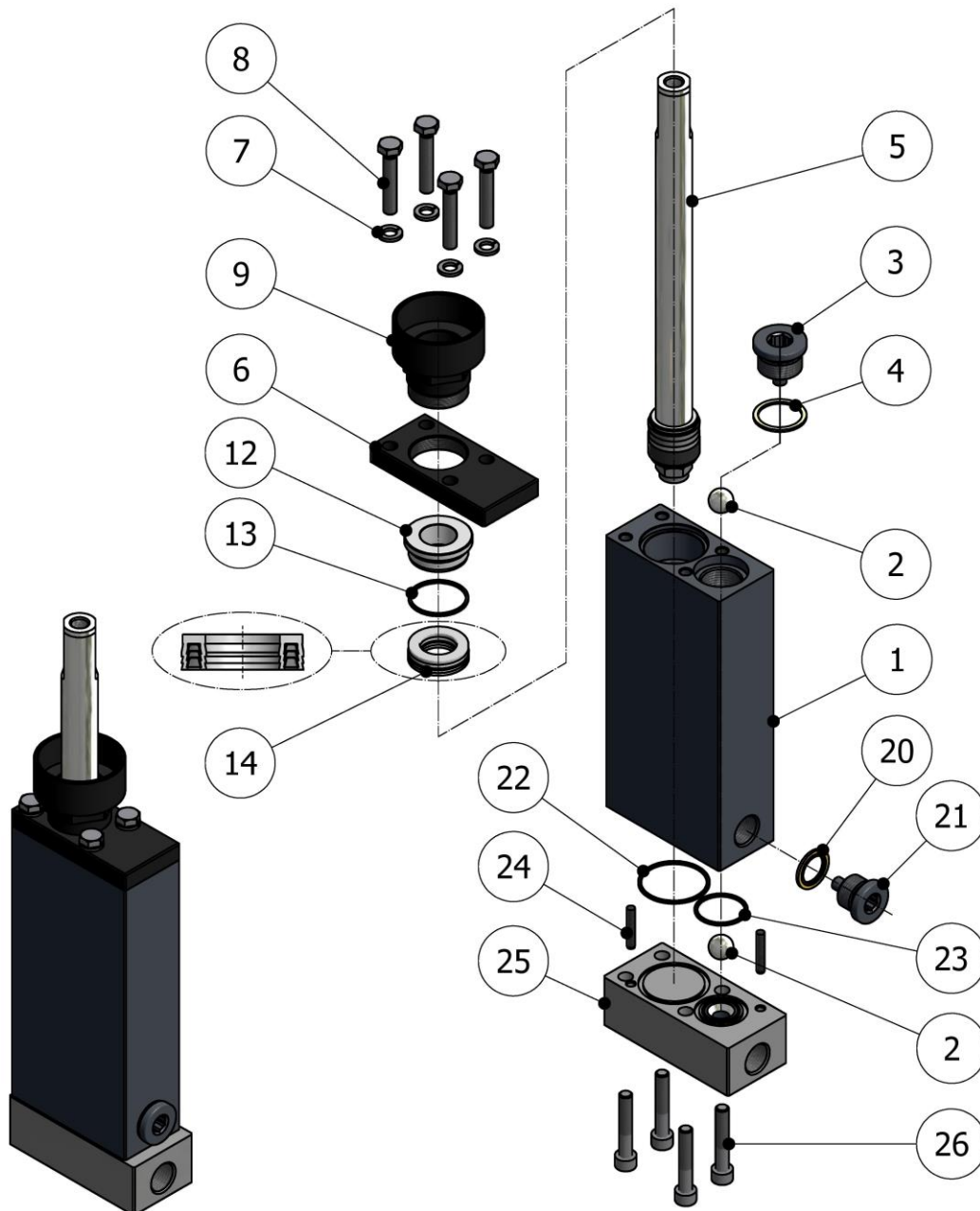


Figure 6. Proportioning pump



Parts Identification

Table12. List of parts for proportioning pump assembly

Pos.	Description	Reference	Qty
1	Pump and upper bushing assy.	PU-02001-02A	1
1.1	Pump housing	PU-02001-02	1
1.2	Ball seat bushing	PU-02000-09	1
2	Chrome-plated steel ball	TN-00012	2
3	Upper ball stopper	PU-02000-21	1
4	Stopper gasket	PU-02000-27	1
5	Shaft assy.	See page 21	1
6	Pump yoke	PU-02000-03	1
7	Locking washer	TN-00028	4
8	Hex head screw	TN-00051	4
9	Packing nut	PU-02001-31	1
12	Guide bush (#)	PU-02001-30G	1
13	O-ring (#)	OR-00125	1
14	Retainer (#)	OR-00117G	1
20	Gasket	OR-00023	1
21	Lower ball stopper	PU-02000-10	1
22	O-ring	OR-00013	1
23	O-ring	OR-00014	1
24	Pin	TN-00042	2
25	Base plate and bush assy.	PU-02000-01A	1
25.1	Ball seat bushing	PU-02000-09	1
25.2	Pump base plate	PU-02000-01	1
26	Cylindrical head screw	TN-00046	4
27	Gasket kit (not shown in drawing)	See Table 14	1

Notes:

The isocyanate and polyol pumps are identical.

The quantities indicated are for one pump.

(#) Parts included in gasket kit Pos. 27. (Includes replacement parts for 1 pump).

PROPORTIONING PUMP PISTON

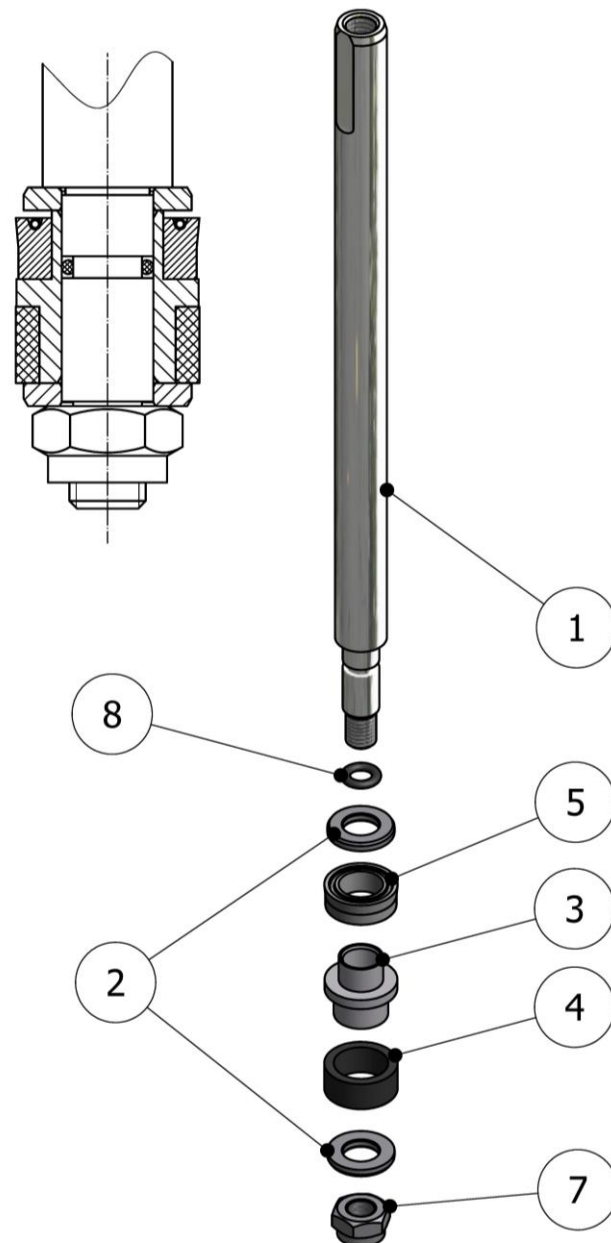


Figure 7. Proportioning pump piston, exploded view



Parts Identification

Table13. List of components of proportioning pump piston

Pos.	Description	Reference	Qty
1	Pump shank	PU-02001-06	1
2	Washer	PU-02001-08	2
3	Pump rod	PU-02001-07R	1
4	Rod guide (#)	OR-00050	1
5	Rod gasket (#)	OR-00151	1
6			
7	Self-locking nut	TN-00165	1
8	O-ring (#)	OR-00049	1
9	Gasket kit	See Table 14	1

Note:**Quantities per pump.****(#) Parts included in gasket kit Pos. 9. (Includes replacement parts for 1 pump).****Table 14. Seal Kit, Parts List**

Reference	Description
KT-00153	#4.5 Pump Seal Kit

PRIMARY HEATER

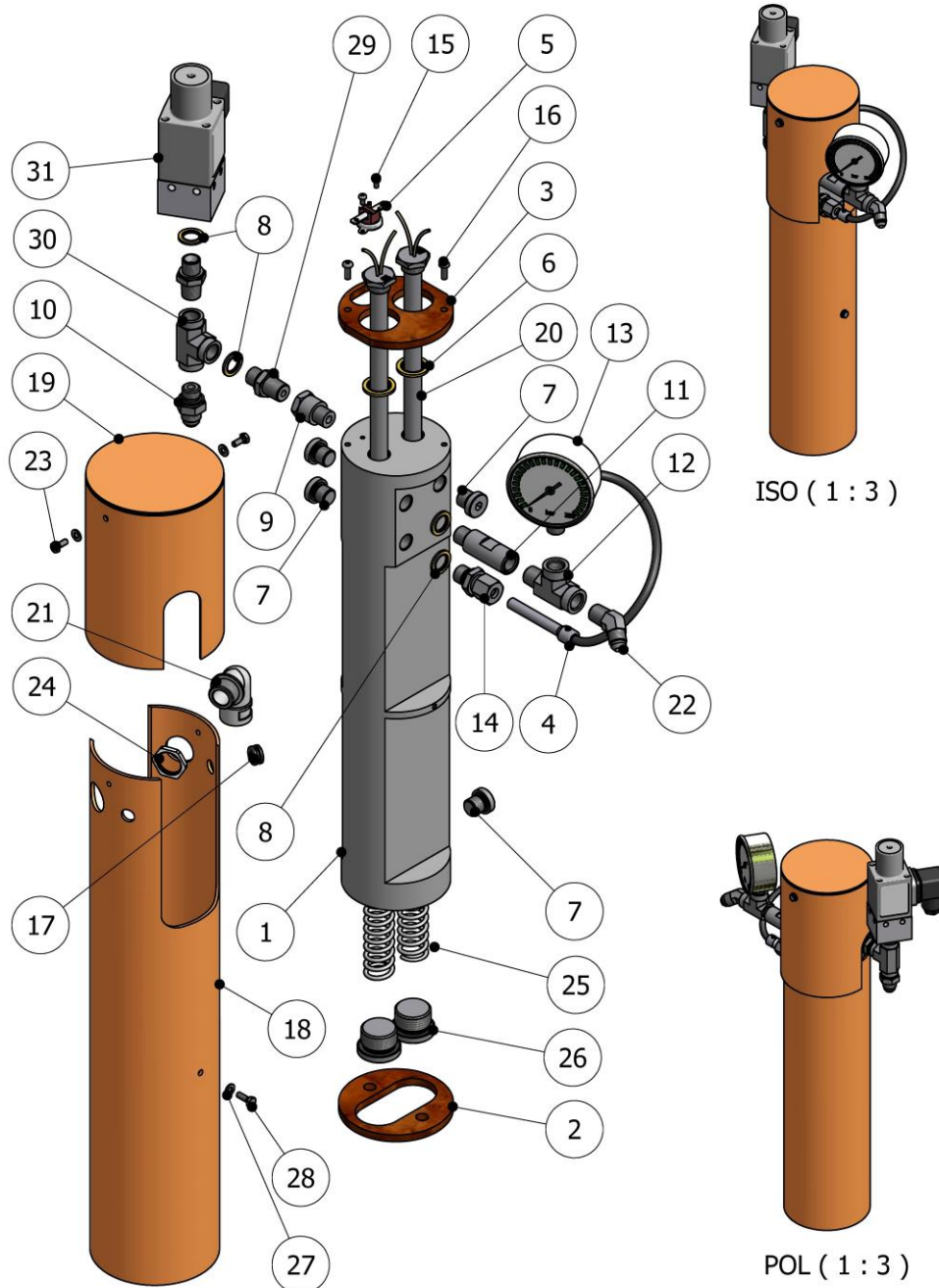


Figure 8. Primary heater

Note: The heaters for isocyanate and polyol are the same, except for outlet coupling POS.22, cover POS.19 and the assembly of the parts.



Parts Identification

Table 15. List of parts Primary heater

Pos.	Description	Reference	Qty
1	Heater block	CLH-06001-01	1
2	Bottom insulating plate	CL-06001-03	1
3	Top insulating plate	CL-06001-02	1
4	Thermocouple	EL-00146-00	1
5	Thermal limit switch	EL-00006	1
6	Gasket	OR-00018	2
7	Cap	RA-00013	4
8	Gasket	OR-00054	4
9	Extension nozzle	RA-00077	1
10	Straight coupler	RA-00145	1
11	Male extension nozzle	RA-00100	1
12	"T" connector	RA-00018	1
13	Pressure gauge	HI-00019	1
14	Straight coupler for tube	RA-00231	1
15	Screw	TN-00128	2
16	Screw	TN-00143	2
17	Grommet	EL-00095-00	1
18	Heater casing	CL-06001-05	1
19	Heater cap	See Table 16	1
20	Element	EL-00155	2
21	Elbow coupler for tube	EL-00087-01	1
22	45° elbow coupler	See Table 16	1
23	Screw	TN-00317	2
24	Nut	EL-00090-01	1
25	Spring	SP-00009	2
26	Cap	RA-00012	2
27	Washer	TN-00104	3
28	Screw	TN-00324	1
29	Nipple	RA-00138	2
30	"T" connector	RA-00053	1
31	Pressure switch	HI-00020	1

Note: The heaters for isocyanate and polyol are the same, except for outlet coupling POS.22, cover POS.19 and the assembly of the parts.



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Table 16. List of parts specific to heater models

Reference	Description	POS. 19	POS. 22
CLH-06003-02	Isocyanate heater	CL-06001-06	RA-00017
CLH-06004-02	Polyol heater	CL-06002-06	RA-00043



Parts Identification

Table 17. List of components of Inlet Bypass kit

Pos.	Description	Reference	Qty
1	3 Way "L" Ball Valve	RA-00458	2
2	Nipple	RA-00142	2
3	Swivel nut adapter	RA-00073	2
4	Elbow 90° Swivel nut	RA-00338	2
5	Metal-Ring	OR-00082	4

Other parts of the drawing according to standard assembly.

The quantities reflected in the table correspond to the total units included in the kit for two Product Pumps.

RECIRCULATION KIT REF. KT-00059-90

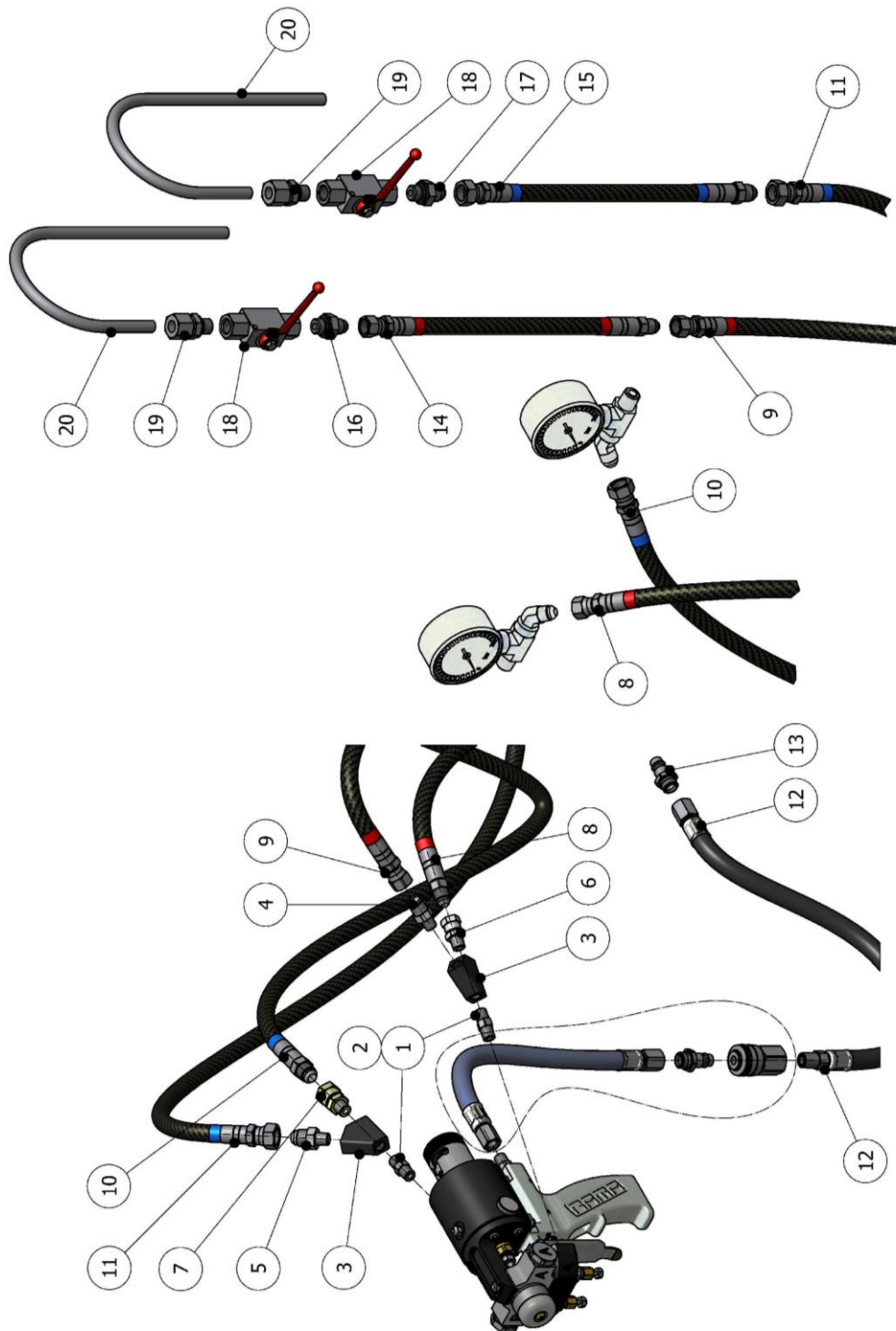


Figure 10. Recirculation kit Ref. KT-00059-90



Parts Identification

Table 18. List of components of recirculation kit

Item.	Description	Part Number	Qty.
1	Nipple	RA-00112	2
2	Elbow	RA-00205	2
3	Manifold	RA-00464	2
4	Nipple	RA-00238	1
5	Nipple	RA-00237	1
6	Swivel (*)	RA-00005	1
7	Swivel (*)	RA-00006	1
8	Flex 10000 mm Supply ISO	MA-00060-3	1
9	Flex 10000 mm Recirculation ISO	MA-00060-2	1
10	Flex 10000 mm Supply POL	MA-00059-3	1
11	Flex 10000 mm Recirculation POL	MA-00059-2	1
12	Air Hose	MA-00031	1
13	Air Coupler	RA-00110	1
14	Flex 1000 mm Recirculation Extended ISO	MA-00177	1
15	Flex 1000 mm Recirculation Extended POL	MA-00178	1
16	Nipple	RA-00144	1
17	Nipple	RA-00145	1
18	Ball Valve	RA-00217	2
19	Swivel	RA-00218	2
20	Tube	MQ-06016	2
	Hose Cover 10000 mm	MA-00123	
	Insulating Cover 10000 mm	MA-00099	
	Insulating Cover 8000 mm	MA-00099-1	

This kit is included with the standard unit version 1.

ADDITIONAL TRANSFORMER (OPTIONAL)

For heated hoses of 38 to 48 m

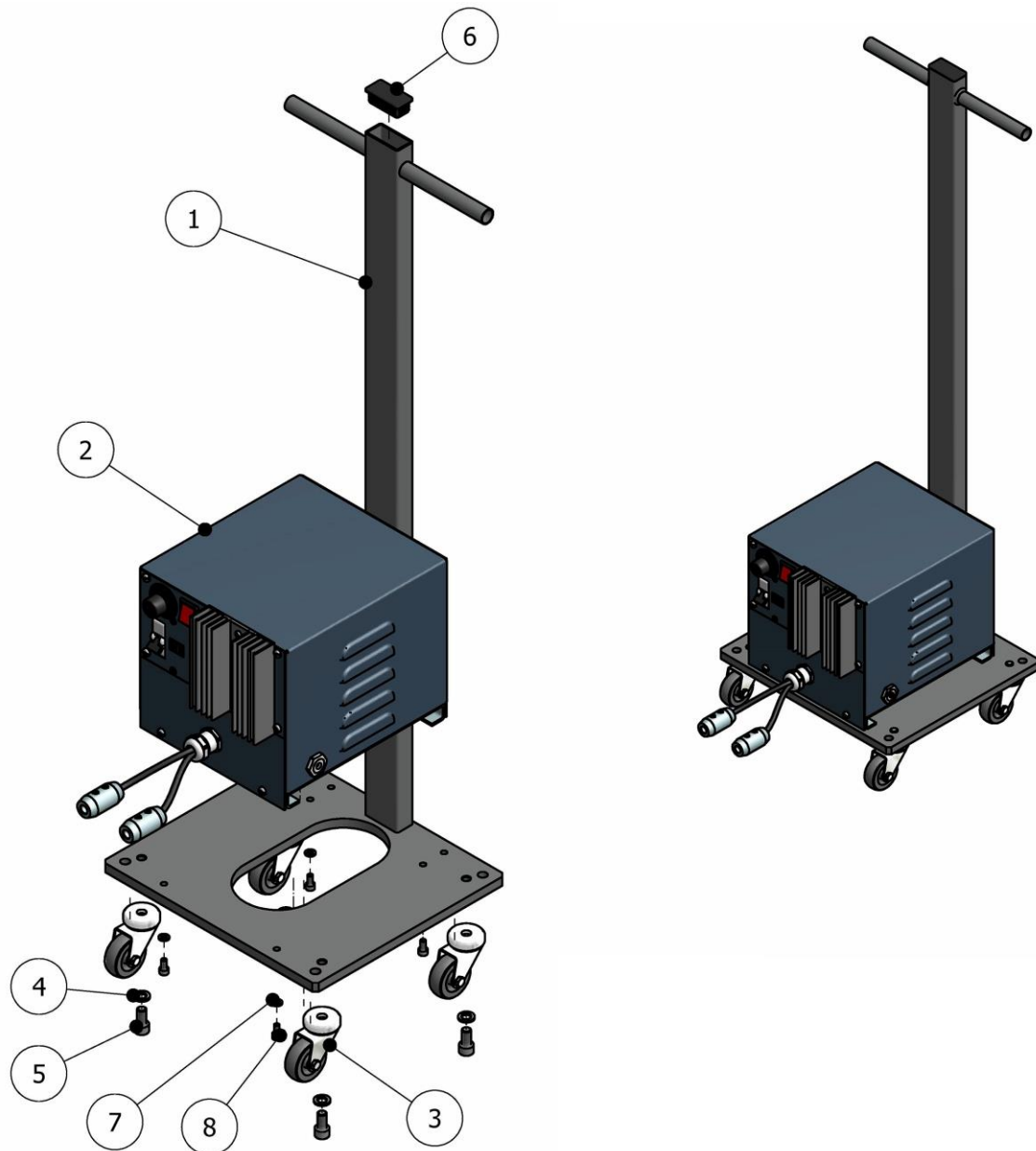


Figure 11. Additional transformer (optional)
Ref. MQ-18022



easy spray - H

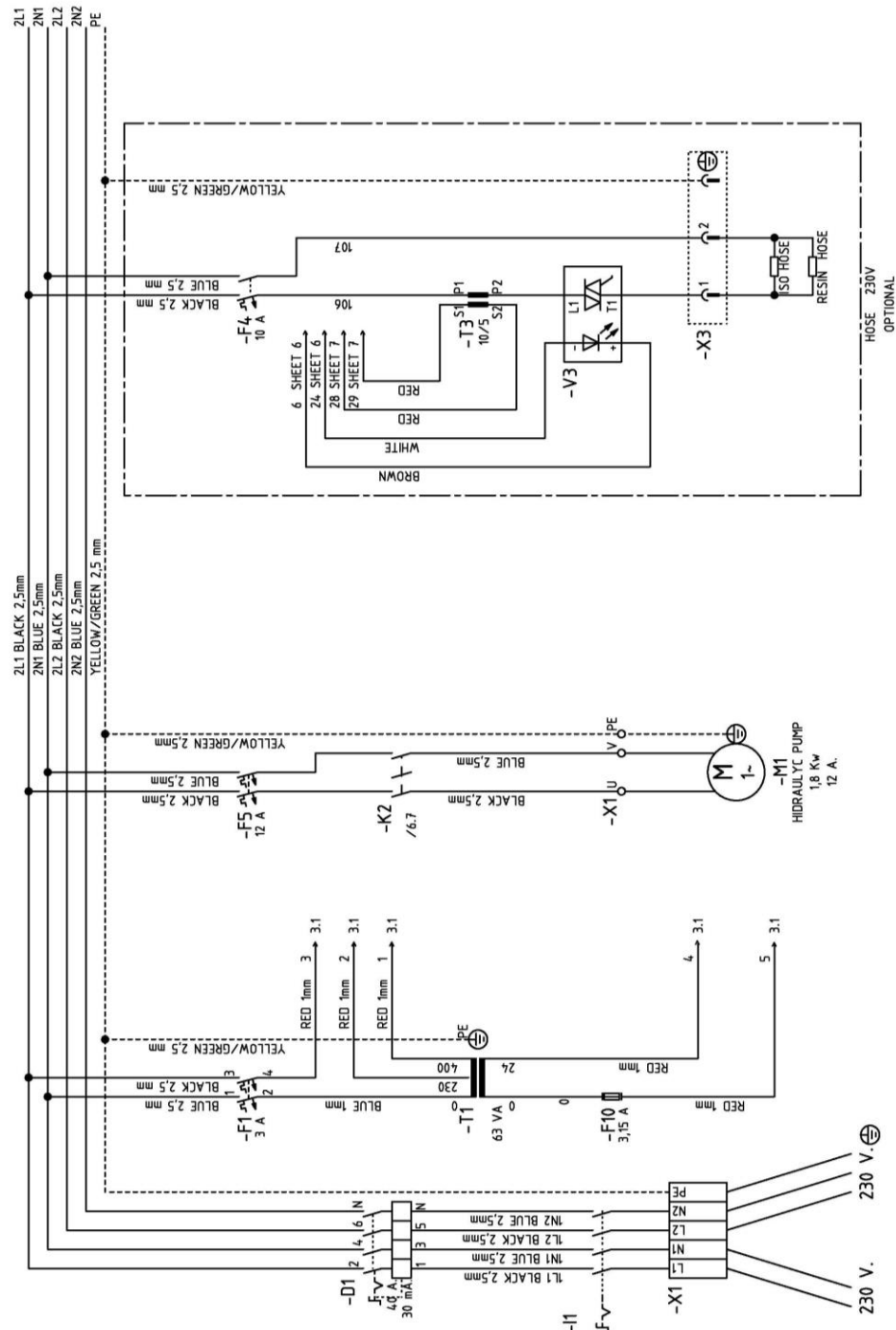
Parts Identification

Table 19. List of components of additional transformer (optional)
Ref. MQ-18022

Pos.	Description	Reference	Qty
1	Transformer cart	MQ-18022-00	1
2	Transformer	EL-00127-08	1
3	Castor	MQ-07010	4
4	Glomer washer	TN-00087	4
5	Allen screw	TN-00206	4
6	Tube cap	-	-
7	Glomer washer	TN-00025	4
8	Allen screw	TN-00409	4

For heated hoses of 38 to 48 m

CIRCUIT DIAGRAM: 2X 1NPE~230V 50/60HZ



<http://www.gamapur.com/>

Parts Identification

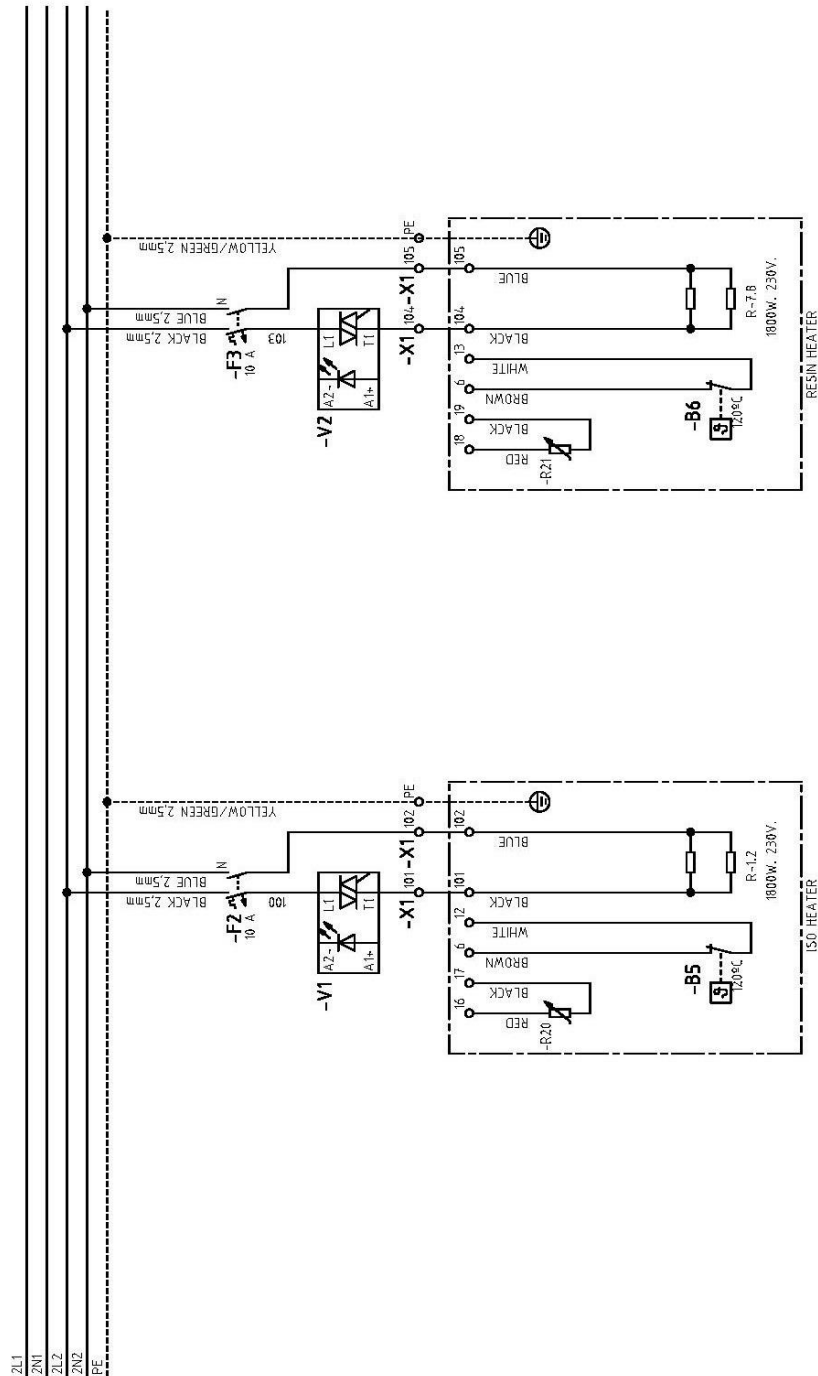
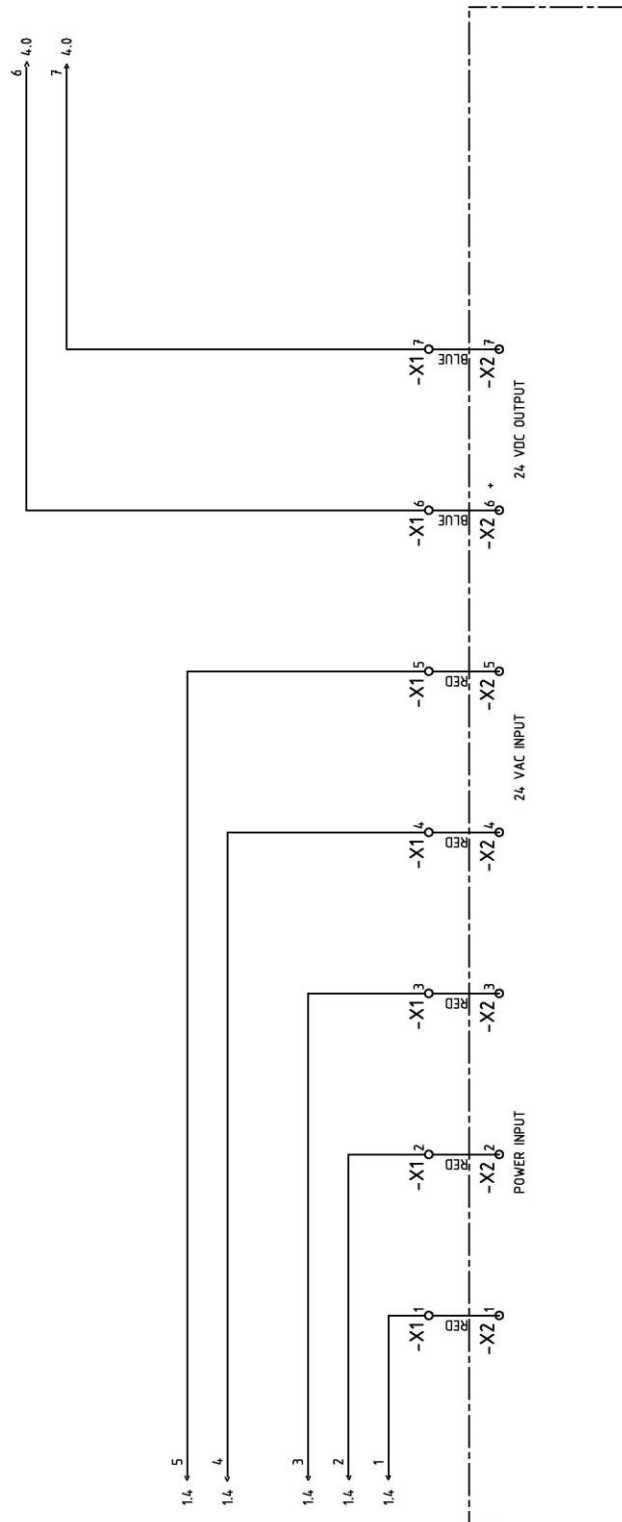


Figure 13. Circuit diagram: 2x 1NPE~230V 50/60Hz standard version (page 2/7)



ID: A99997 ENG

Parts Identification

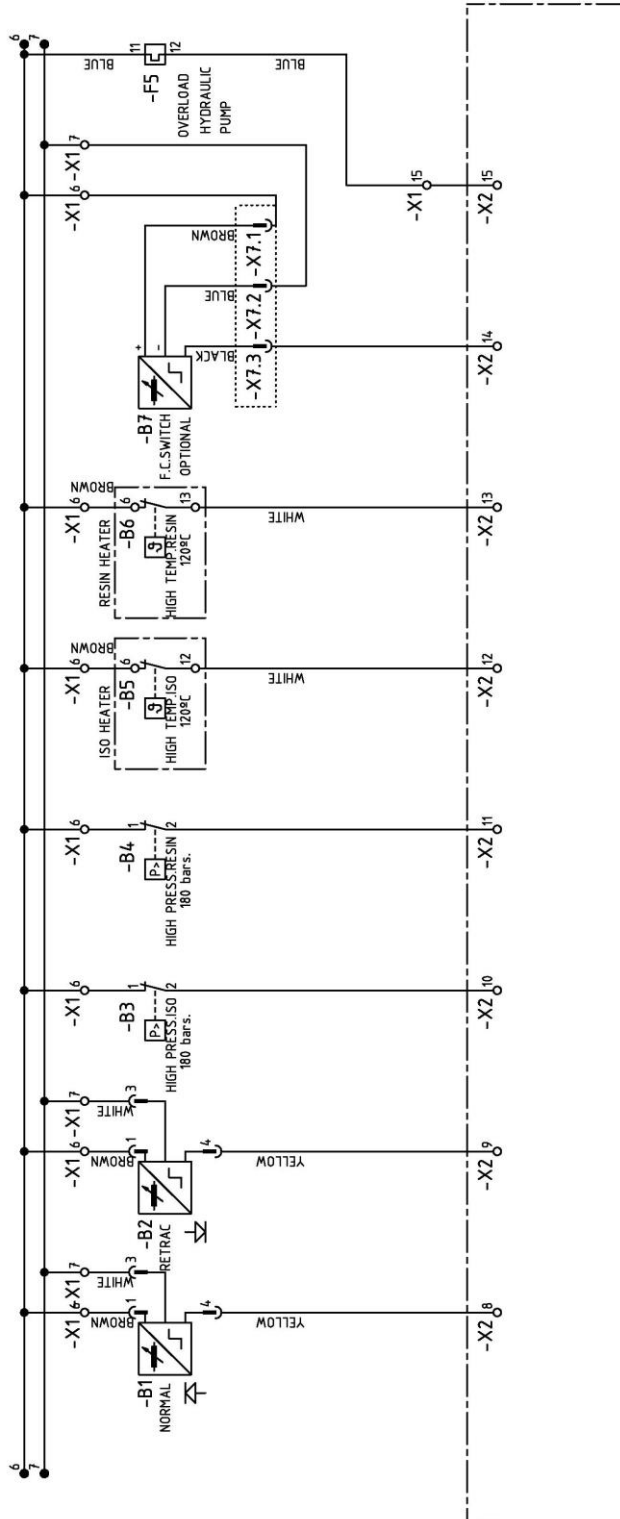


Figure 15. Circuit diagram: 2x 1NPE~230V 50/60Hz standard version (page 4/7)



Parts Identification

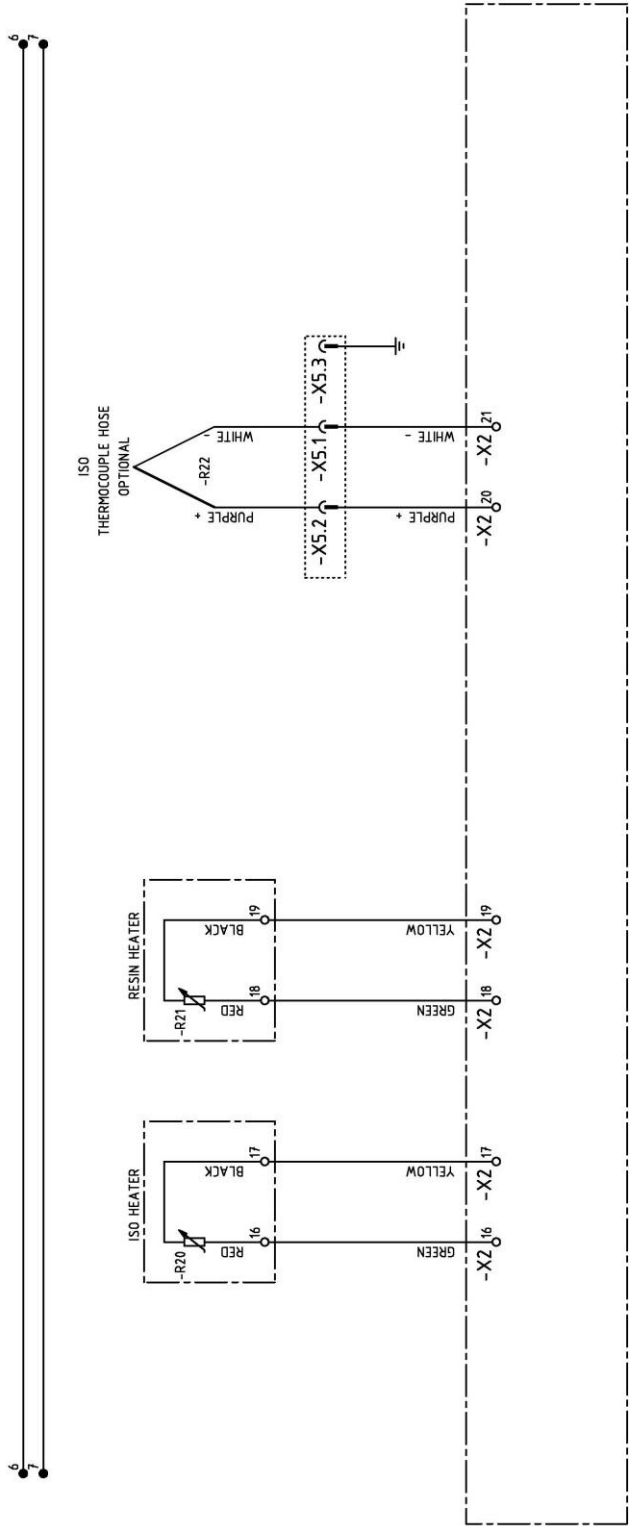


Figure 16. Circuit diagram: 2x 1NPE~230V 50/60Hz standard version (page 5/7)

Parts Identification

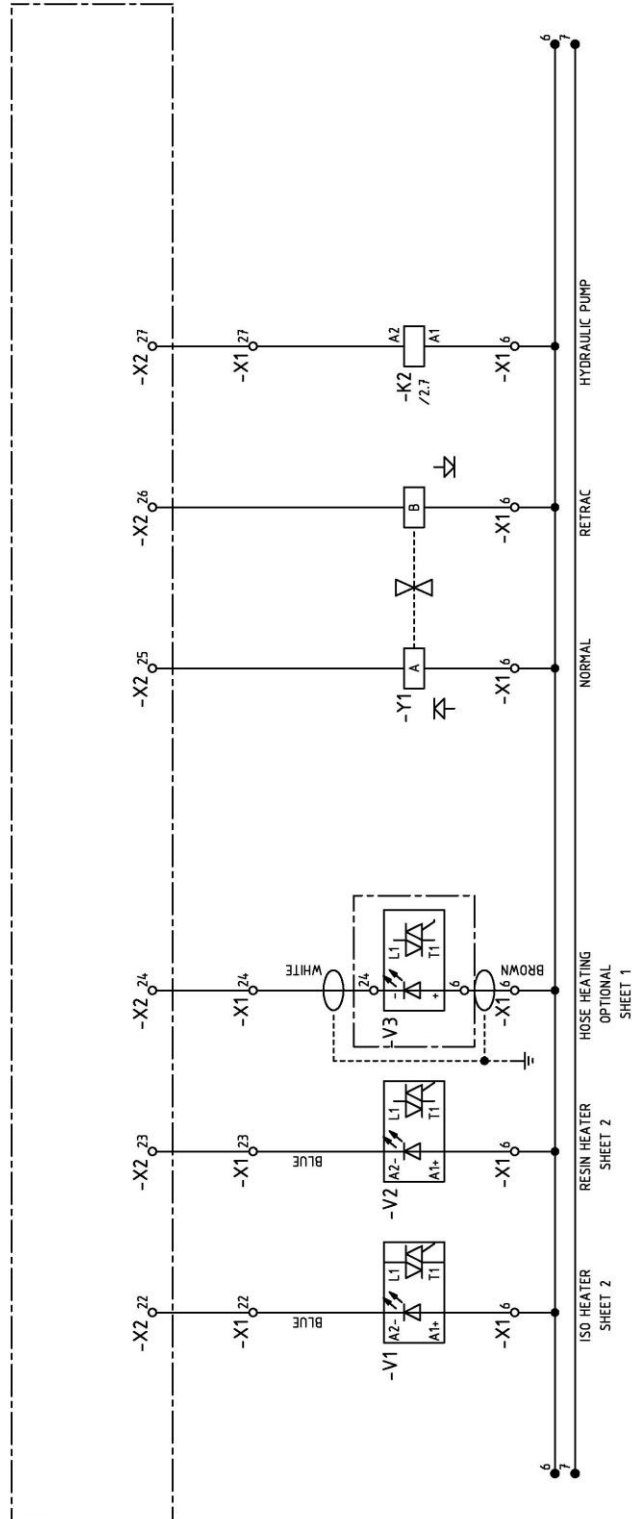


Figure 17. Circuit diagram: 2x 1NPE~230V 50/60Hz standard version (page 6/7)

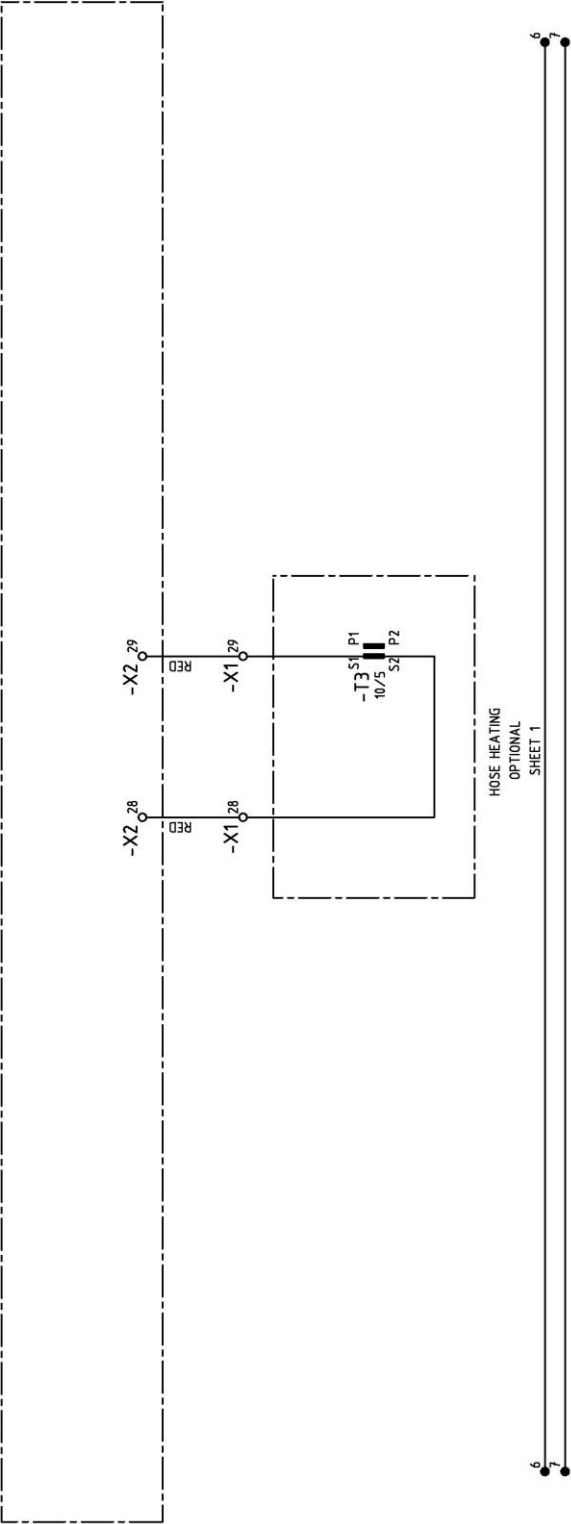


Figure 18. Circuit diagram: 2x 1NPE~230V 50/60Hz standard version (page 7/7)



Parts Identification

Table 20. List of parts for distribution board 2x 1NPE~230V 50/60Hz version 1, hoses with recirculation.

Pos.	Description	Reference	Qty
X1	Terminal Block.	EL-00105-12	1
I1	Main Switch 63 A	EL-00107-07	1
	Control Switch	EL-00107-06	1
D1	Differential Circuit Breaker 40 A, 30 mA	EL-00108-00	1
F1	Auto Switch 1P+N, 3 A	EL-00109-04	1
F2, F3	Auto Switch 1P+N, 10 A	EL-00111-04	2
F5	Auto Switch 1P+N, 12 A	EL-00119-11	1
	Auto Switch Base Connection	EL-00119-10	2
F10	Fuse Terminal	EL-00104-13	1
	Fuse 3,15 A	EL-00128-02	2
T1	Transformer 63 VA, 230/400 – 24 V	EL-00127-01	1
V1, V2	Solid Relay 12 A, 600 V	EL-00126-09	2
K2	Contactor 7,5 KW, 24 VDC	EL-00121-02	1

Table 21. List of parts for variant distribution board 2x 1NPE~230V 50/60Hz version 2, heated hoses.

Pos.	Description	Reference	Qty
F4	Auto Switch 1P+N, 10 A	EL-00111-06	1
T3	Intensity Transformer 10/5 A	EL-00127-18	1
V3	Solid Relay	EL-00126-10	1



Parts Identification

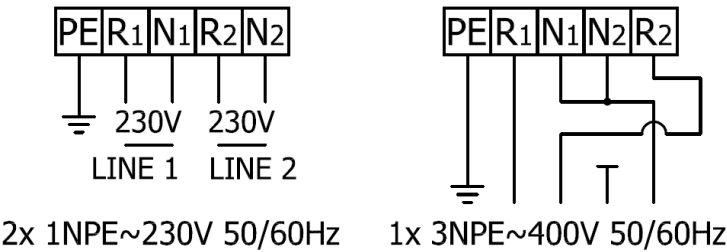


Figure 19. Optional Connections

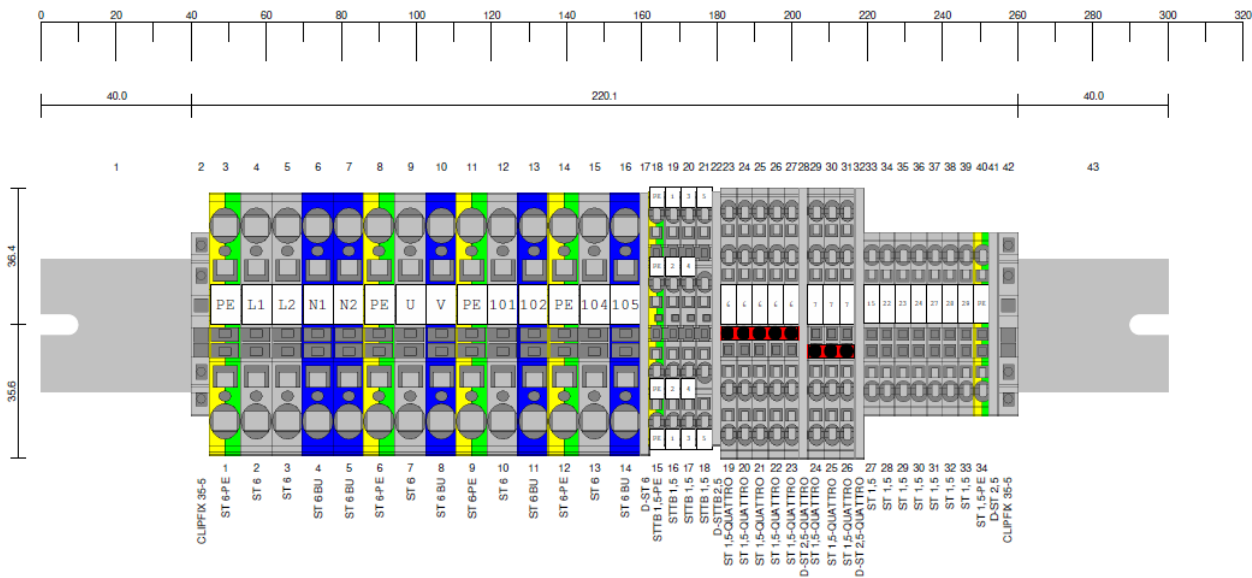


Figure 20. Distribution board 2x 1NPE~230V 50/60Hz

PNEUMATIC CIRCUIT

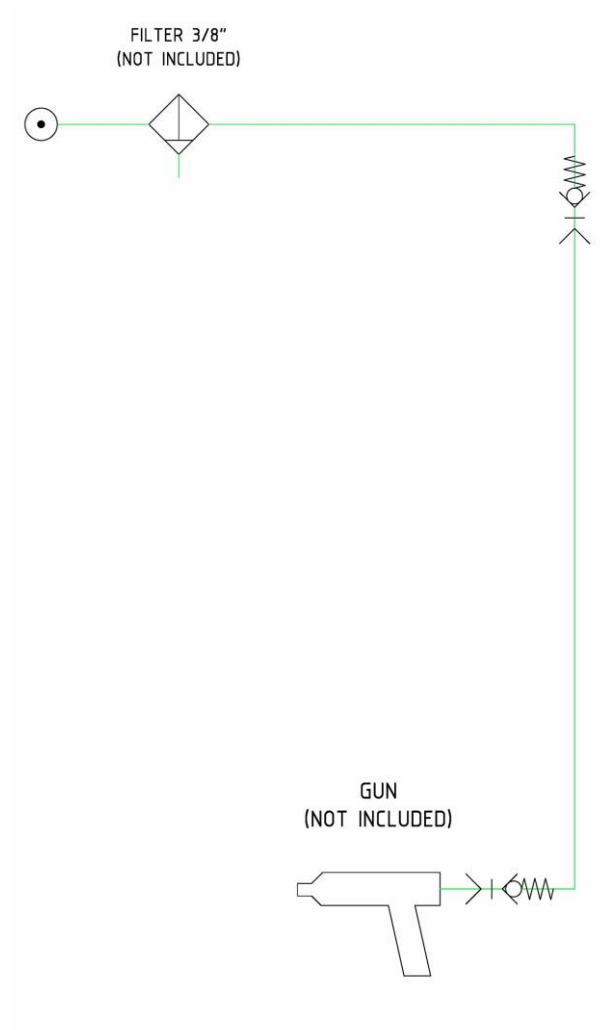


Figure 21. Pneumatic circuit

HYDRAULIC CIRCUIT

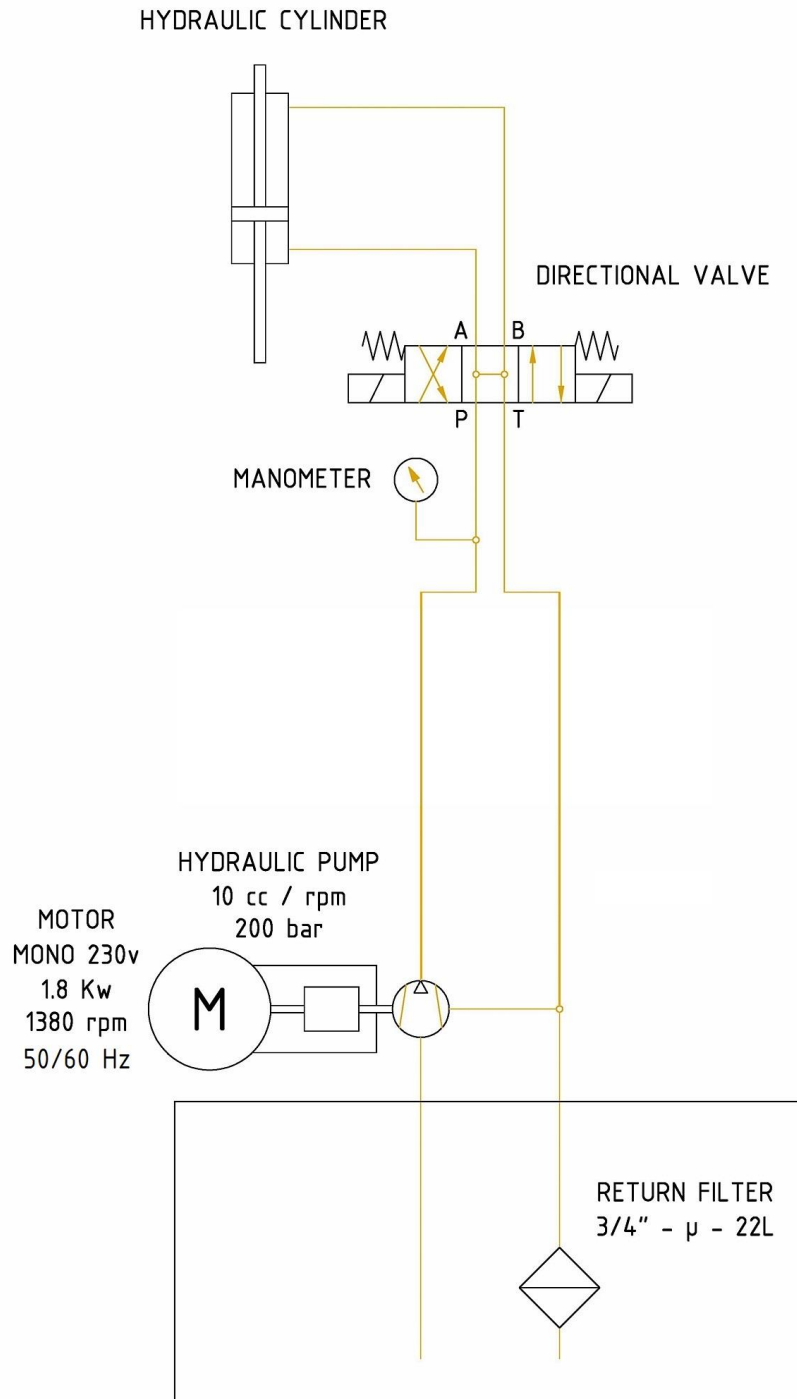


Figure 22. Hydraulic circuit

FUNCTIONAL DIAGRAM STANDARD MODEL

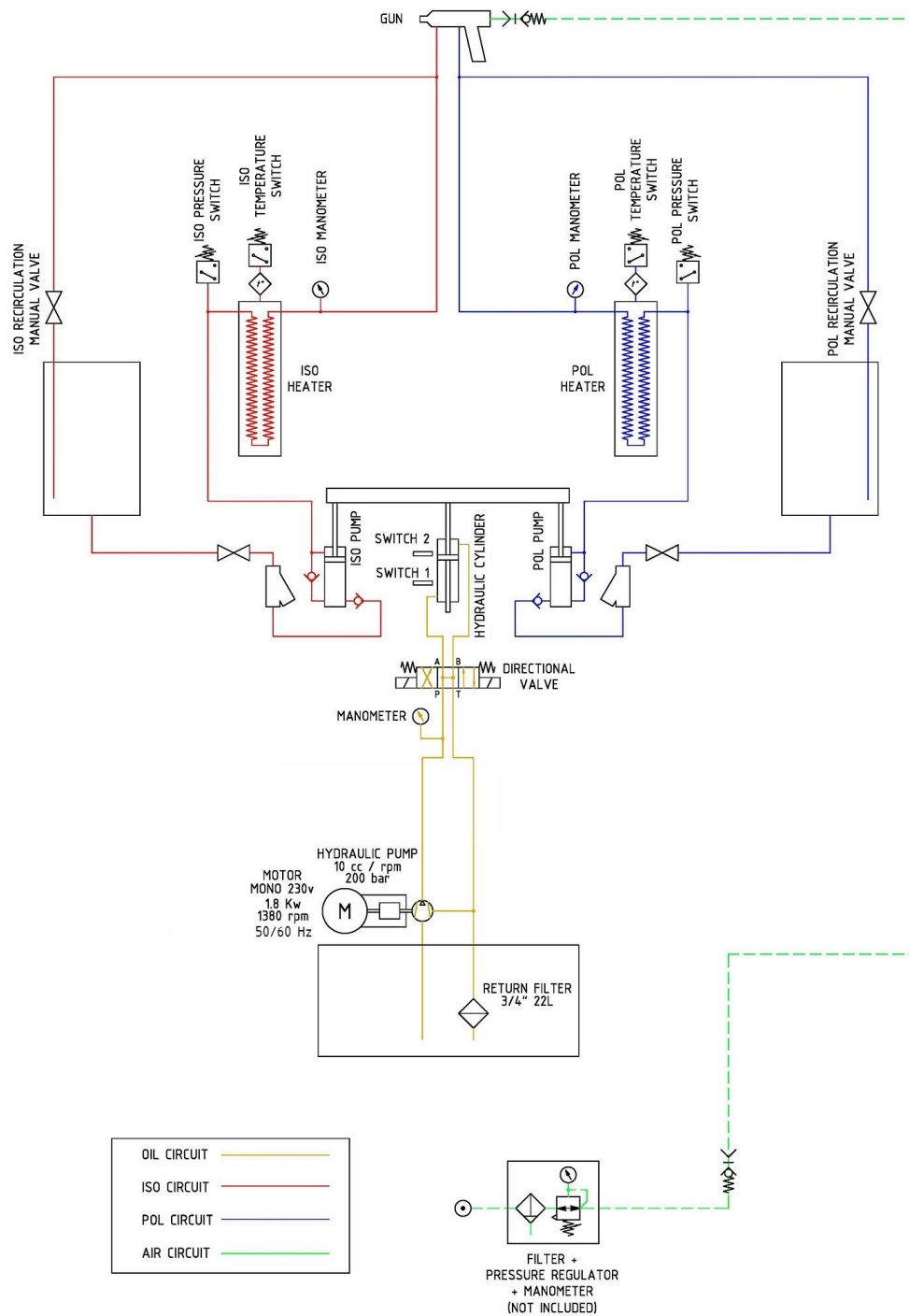


Figure 23. Functional diagram standard model

FUNCTIONAL DIAGRAM HEATED HOSE MODEL

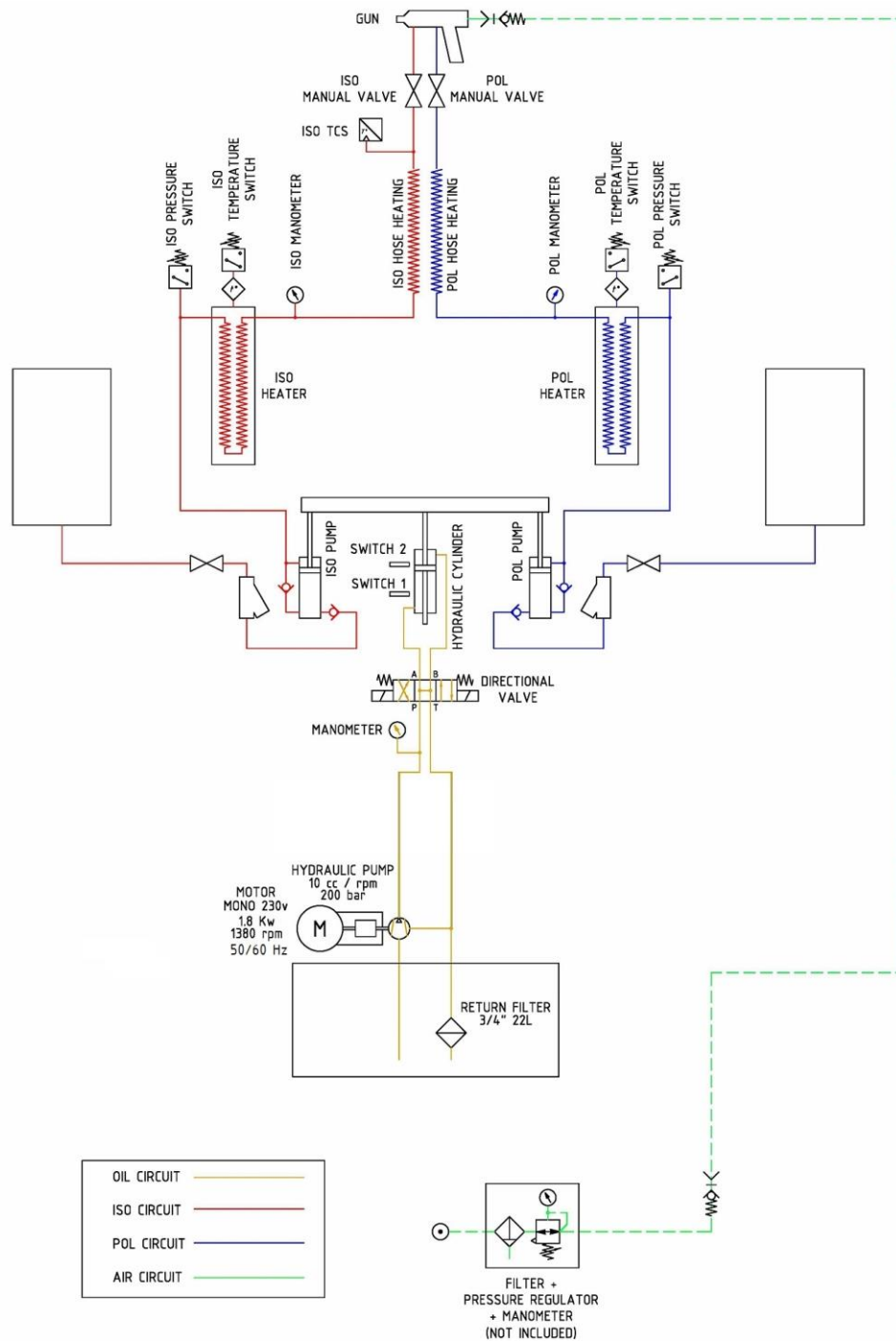


Figure 24. Functional diagram heated hose model



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