



KLINGELNBERG GmbH

Industriestraße 19  
D-76275 Ettlingen  
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E-mail: info@klingelberg.com

customer : Hero Motors  
location : Indien  
plant designation : SV 300 ES  
Machine no : 433021

manufacturer : Klingelberg GmbH  
typ : Cylindrical gear grinding machine Speed Viper Master

KAIS\_TIM 12.12.2022 freigegeben

			date	04.07.2022	machine type	inventory No.	 KLINGELNBERG	designation / page Cover sheet	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=	
			name	Sche_Kor	Speed Viper 300					+	
			on	19.04.2022	customer KLINGELNBERG	M. no 433021					page 1
modification	date	name	plot	23.11.2022	origin	replac. for					from 3.a

H 2 - 1 V 1 Z

medium
H = hydraulics
P = pneumatics
S = impulse lubrication
C = circulation lubrication
K = Thermal Engineering
W = water cooling

workstation no.
0 = power unit
1 = station 1
... = Station ...


switch path no.
1 = switch path 1
... = Switching path ...

code letter part type according to DIN/ISO 1219-2
P = pump and compressor
A = drive cylinder, swivel drive hydraulic motor
M = electric motor
S = sensor float switch pressure switch temperature switch
V = valves of every description Check valve pressure gauge selector switch
F = filter pressure filter return line filter breather filter
H = hose connection
C = fluid-control-terminal
D = hydrostatic accumulator Pressure vessel. memory blocks
K = heat exchanger
W = subplate manifold block control block
X = measurement connection MINIMESS
Q = Measuring instrument thermometer, manometer
Z = for every other part tank, pump bracket, coupling Drawing container etc.

number of part
1...serially numbered

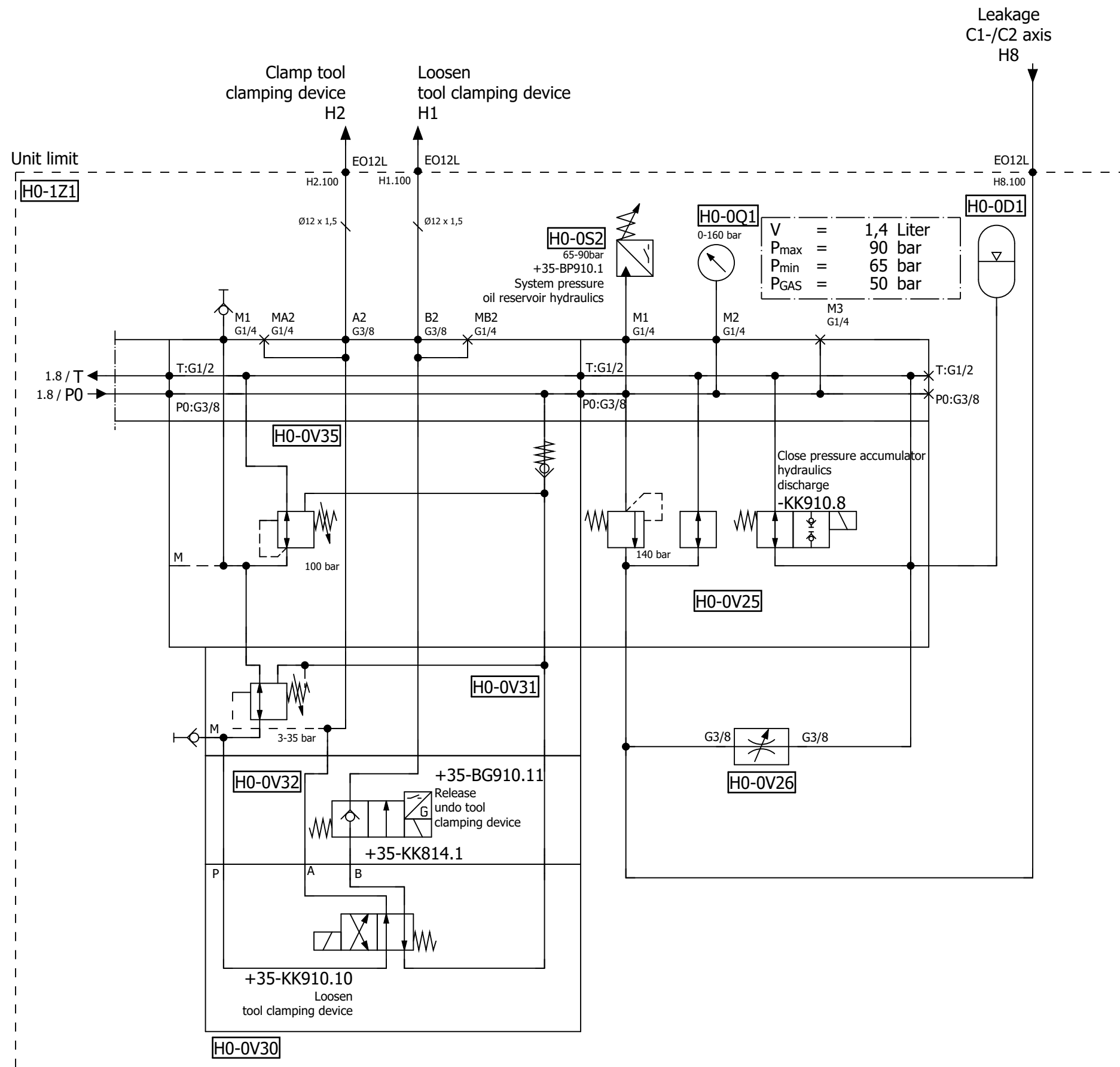
accessories
without accessories
Z = general accessories
S = specific accessories
E = replacement part and repairing set for filter / replacement part for hydraulic cylinder
V = wearing part for hydraulic cylinder
W = maintenance sign

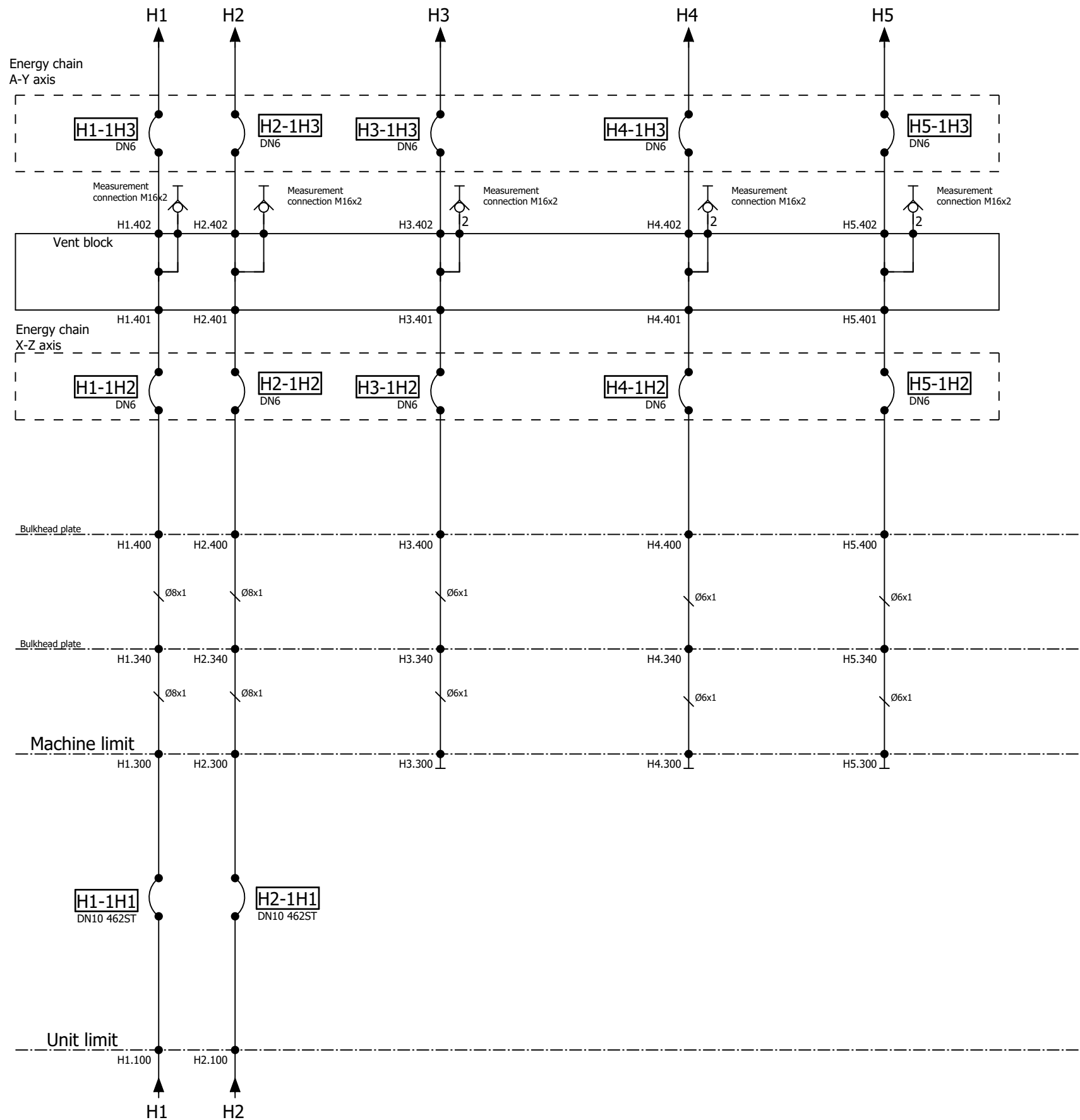
			date	04.07.2022	machine type	inventory No.		designation / page device tag according to DIN/ISO 1219-2	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=	
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/2					device tag according to DIN/ISO 1219-2					structure identifier overview			19.04.2022		Sche_Kor				
/3					Table of contents					Table of contents			06.07.2022		Sche_Kor				
/3.a					Table of contents					Table of contents			06.07.2022		Sche_Kor				
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=HYDRAULIK/2					Schematic hydraulic unit Hydac					circuit diagram fluid			06.07.2022		Sche_Kor				
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=HYDRAULIK/4					circuit diagram of hydraulic					circuit diagram fluid			06.07.2022		Sche_Kor				
=HYDRAULIK/5					STL hydraulics					PARTS LIST			06.07.2022		Sche_Kor				
=HYDRAULIK/5.a					STL hydraulics					PARTS LIST			06.07.2022		Sche_Kor				
=IMPULSSCHMIERUNG/1					circuit diagram of impulse lubrication unit					circuit diagram fluid			05.07.2022		Sche_Kor				
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=IMPULSSCHMIERUNG/5					STL pulse lubrication					PARTS LIST			06.07.2022		Sche_Kor				
=PNEUMATIK/1					valve terminal					circuit diagram fluid			04.07.2022		Sche_Kor				
=PNEUMATIK/2					circuit diagram of pneumatic unit					circuit diagram fluid			06.07.2022		Sche_Kor				
=PNEUMATIK/3					circuit diagram of pneumatic unit					circuit diagram fluid			04.07.2022		Sche_Kor				
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=PNEUMATIK/14					circuit diagram of pneumatic					circuit diagram fluid			05.07.2022		Sche_Kor				
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=PNEUMATIK/19.a					STL pneumatics					PARTS LIST			06.07.2022		Sche_Kor				
=PROZESSKUEHLUNG/1					PCS unit filter system Hoffmann					circuit diagram fluid			06.07.2022		Sche_Kor				
=PROZESSKUEHLUNG/2					Cooling oil circuit diagram					circuit diagram fluid			06.07.2022		Sche_Kor				
			date	04.07.2022	machine type		inventory No.				designation / page Table of contents			We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences				=	
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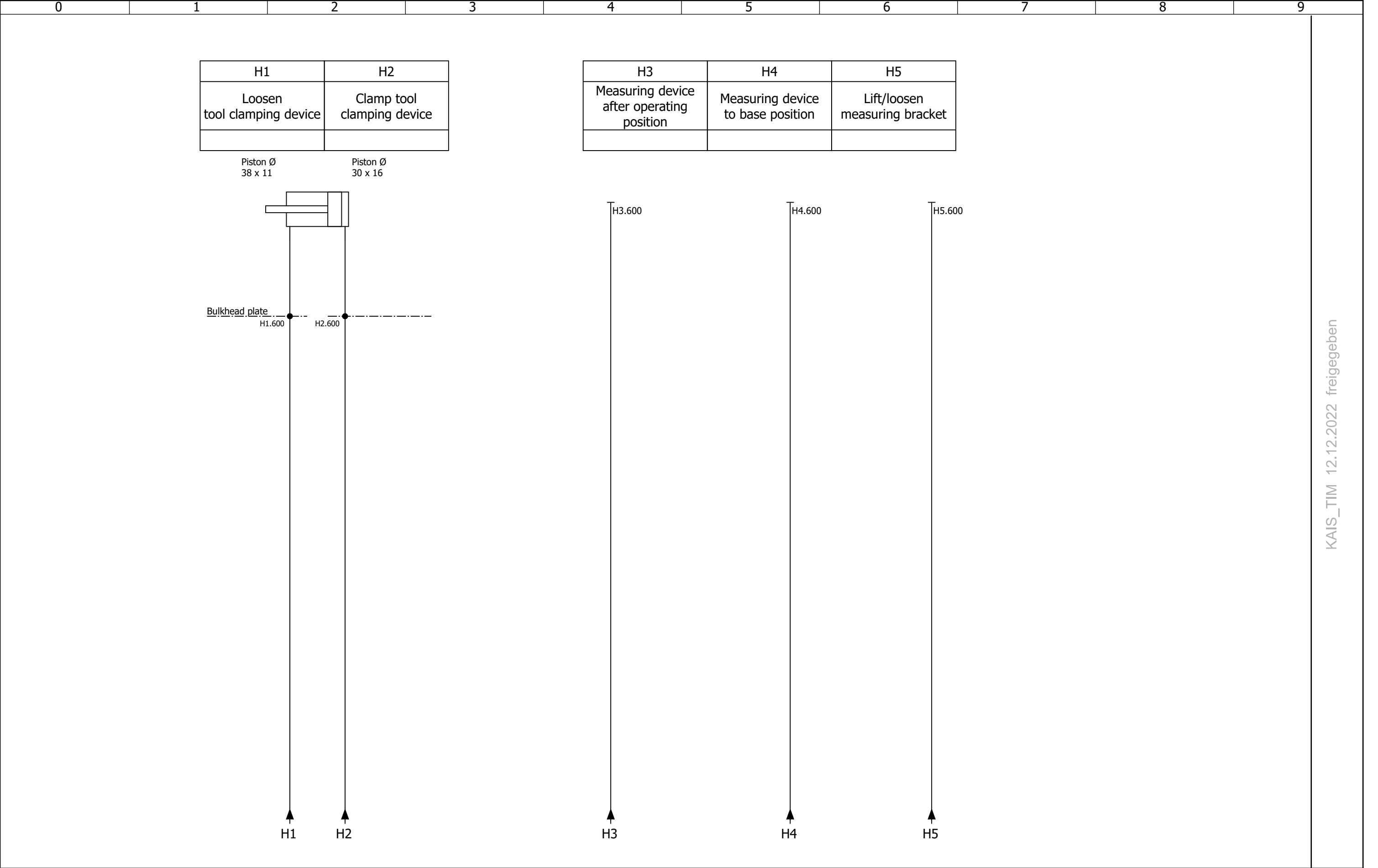
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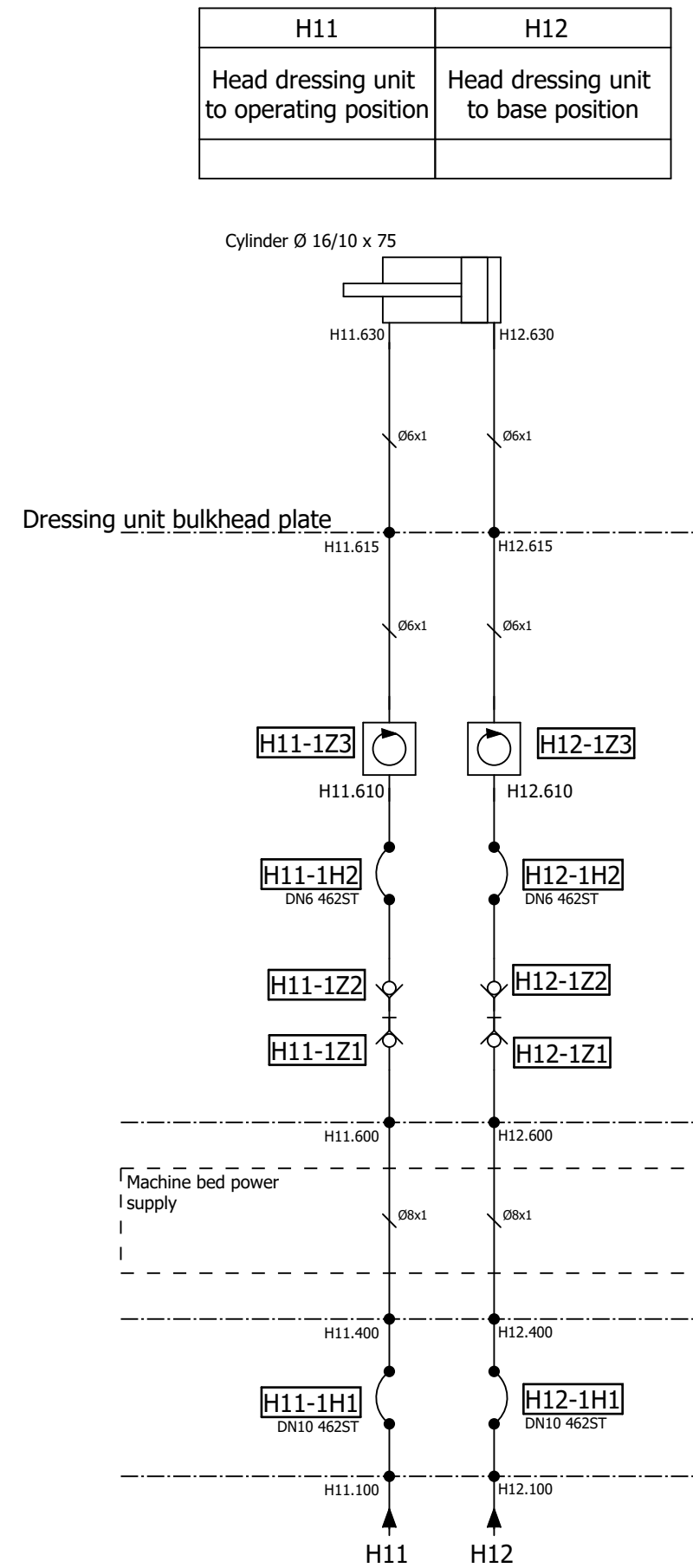
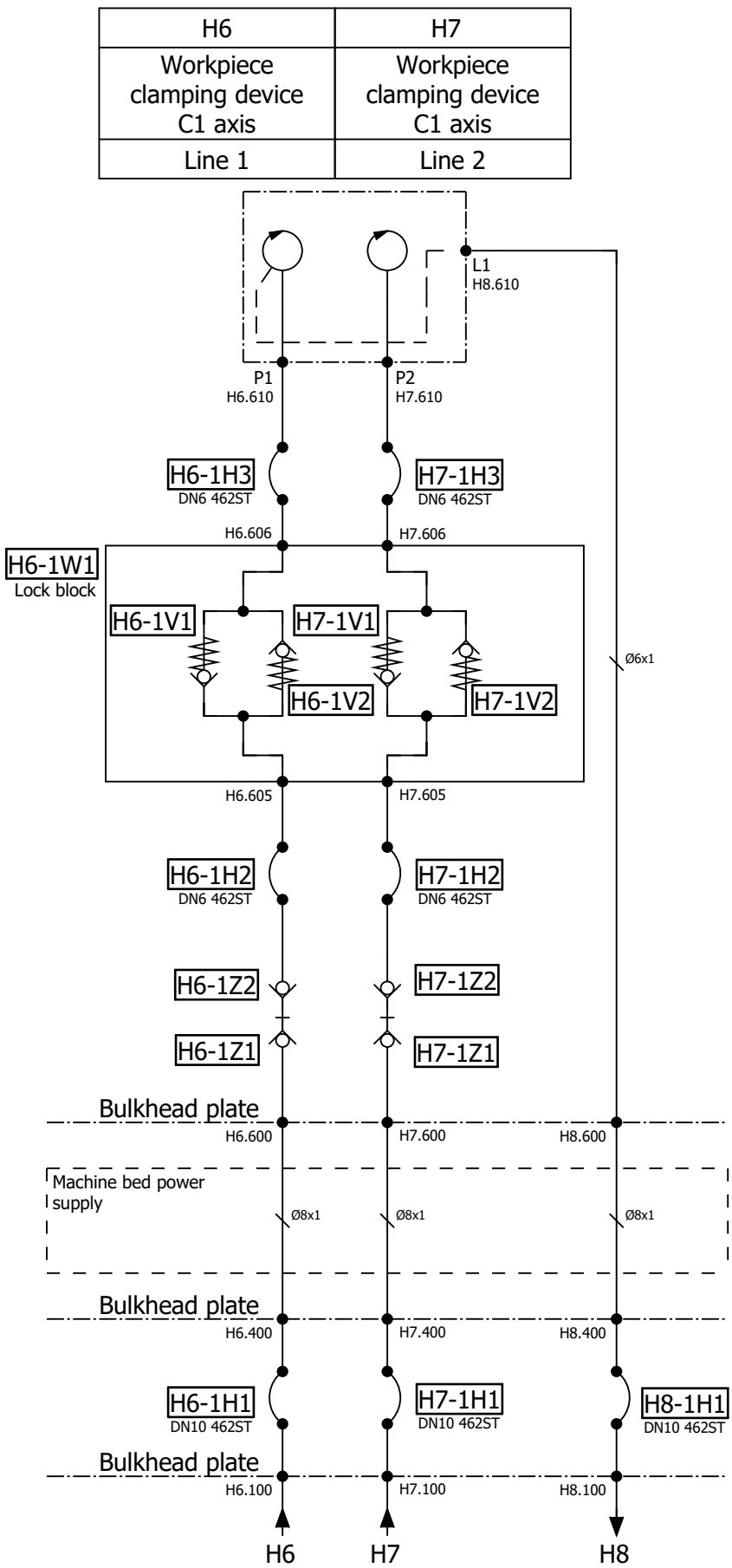




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parts list

equipment sign	electric equipment sign	part no.	designation	designation 2	designation 3	manufacturer
H0-0Q2	+35-BP910.4	1265422-HYDAC	Dynamic pressure display VR2LZ.1/-BO			HYDAC
H0-0D1		3041945-HYDAC	Diaphragm accumulator 1,4 l	SBO140-1,4E1/112U-140AK		HYDAC
H0-0F1	-BP910.4	1276953-HYDAC	return line filter RFN BN/HC63BC10A1.0			HYDAC
H0-0F2		1278798-HYDAC	Filling and ventilation filter	ELF P30 F3 W1.0		HYDAC
H0-0M1	+35-MA36	6194440-HYDAC	Electric motor .IMB5 BG 90S- 1,10 KW-1500 U	Aluminum case		SIEMENS
H0-0M1	+35-GP36	3510531-HYDAC	External gear pump	PGE 101-315-RBQ1-N-3700		HYDAC
H0-0Q1		606766-HYDAC	pressure gauge HN60-01-A 63/160 / G1 / 4B			HYDAC
H0-0S1	+35-BL910.2	392644A	LEVEL SWITCH ENS 3000 * HYDAC	CAPACITIVE LEVEL SENSOR BAR LENGTH: 250MM,	RANGE: 170MM, CONNECTION: M12x1 / 8 WAY	HYDAC
H0-0S2	+35-BP910.1	459550A	Pressure switch EDS 824-F31-0250-000	0-250bar; G 1/4", 10-21V DC PNP, IP67	IO link interface / freely configurable	HYDAC
H0-0S3	+35-BP910.5	924790-HYDAC	Electronic pressure switch	EDS 824-F30-0100-000		HYDAC
H0-0S4	+35-BP910.14	924790-HYDAC	Electronic pressure switch	EDS 824-F30-0100-000		HYDAC
H0-0V1	+35-KK910.7	562881-HYDAC	2/2-directional control valve, pilot-controlled UNF	WS08Y-01M-C-N-0		HYDAC
H0-0V2		551093-HYDAC_1	Low pressure ball valve KHNVS-Rp1 / 2-2233-12X			HYDAC
H0-0V5	+35-KK850.1	3915984-HYDAC	Double function module with pressure control valve	HL-2FD2-0-xx-0-RV4-WVE-0-xx-RV14_xxxxx		HYDAC
H0-0V6	+35-KK910.9	3796836-HYDAC	4/3 way solenoid valve NG 6 directly controlled	4WE6JS08-24DG/N		HYDAC
H0-0V12	+35-KK?	3361705-HYDAC	2/2-way solenoid valve UNF directly controlled	WS08Z-01E-C-N-24DG		HYDAC
H0-0V13	+35-KK?	3761174-HYDAC	4/2 directional control valve 4WE6DS08-24DG/N/8Watt			HYDAC
H0-0V25		3923023-HYDAC	Function module	HL-FS1-xx-0-DV-xx		HYDAC
H0-0V26		710300-HYDAC	Flow control valve	DV5E-01X		HYDAC
H0-0V30	+35-KK910.10	3761174-HYDAC	4/2 directional control valve 4WE6DS08-24DG/N/8Watt			HYDAC
H0-0V31		6082098-HYDAC	Sandwich plate pressure reducing valve NG 6	ZW-DM06-01-PA 035V-N		HYDAC
H0-0V32	+35-KK814.1	3361705-HYDAC	2/2-way solenoid valve UNF directly controlled	WS08Z-01E-C-N-24DG		HYDAC
H0-0V35		3905741-HYDAC	Function module NG6	HL-FD2-0-x-0-R4-#1-x		HYDAC
H0-0Z1		631152-HYDAC	Oil tank assembly NG 44 without stand	ALU		HYDAC
H0-1Z1		491494A	hydraulic unit SV V1 O3 ES180/300	- OPTION 3: CLAMP/RELEASE TOOL	- MOTOREN: IE3, 230/400/690 V, 50 HZ / 460V 6	HYDAC
H1-1H1		443937A	super high pressure hose DN10/462ST-6X1110	super high pressure hose DN10/462ST-6X1110	FITTING 1CA46-12-6 / 1CA46-12-6 * FA.PARKER	PARKER HCD
H1-1H2		454771A	ultra-high pressure hose DN 6/462ST- 4X 2730	FITTING 1CA46-8-4 / 1CA46-8-4 * FA.PARKER		PARKER HCD
H1-1H3		454772A	ultra-high pressure hose DN 6/462ST- 4X 2490	FITTING 1CA46-8-4 / 1CA46-8-4 * FA.PARKER		PARKER HCD
H2-1H1		443937A	super high pressure hose DN10/462ST-6X1110	super high pressure hose DN10/462ST-6X1110	FITTING 1CA46-12-6 / 1CA46-12-6 * FA.PARKER	PARKER HCD
H2-1H2		454773A	ultra-high pressure hose DN 6/462ST- 4X 2760	FITTING 1CA46-8-4 / 1CA46-8-4 * FA.PARKER		PARKER HCD
H2-1H3		454774A	ultra-high pressure hose DN 6/462ST- 4X 2540	FITTING 1CA46-8-4 / 1CA46-8-4 * FA.PARKER		PARKER HCD
H3-1H2		454775A	ultra-high pressure hose DN 6/462ST- 4X 2720	Fitting 1CA46-6-4/1CA46-6-4 *Parker		PARKER HCD
H3-1H3		454778A	ultra-high pressure hose DN 6/462ST- 4X 2555	Fitting 1CA46-6-4/1CA46-6-4 *Parker		PARKER HCD
H4-1H2		454777A	ultra-high pressure hose DN 6/462ST- 4X 2670	Fitting 1CA46-6-4/1CA46-6-4 *Parker		PARKER HCD
H4-1H3		443964A	super high pressure hose DN 6/462ST-4X2350	FITTING 1CA46-8-4 / 1CA46-8-4 * FA.PARKER		PARKER HCD
H5-1H2		454779A	ultra-high pressure hose DN 6/462ST- 4X 2680	Fitting 1CA46-6-4/1CA46-6-4 *Parker		PARKER HCD
H5-1H3		454780A	ultra-high pressure hose DN 6/462ST- 4X 2530	FITTING 1CA46-6-4/1D046-6-4 *FA.PARKER		PARKER HCD
H6-1H1		487547A	ultra-high pressure hose DN 12/462ST- 8X 830	FITTING : 1CA46-12-8 /1CA46-12-8		PARKER
H6-1H2		487544A	ultra-high pressure hose DN 12/462ST- 8X 290	FITTING : 1CA46-12-8 /1CF46-12-8		PARKER
H6-1H3		487545A	ultra-high pressure hose DN 12/462ST- 8X 400	FITTING : 1CA46-12-8 /1CF46-12-8		PARKER
H6-1V1		454531A - Hydac	Check valve	RVM06020-01-C-N-0.3		HYDAC
H6-1V2		454531A - Hydac	Check valve	RVM06020-01-C-N-0.3		HYDAC
H6-1W1		472626A	B-BM LEADER BLOCK			HYDAC
H6-1Z1		487542A	locking coupling SP DN106*WALTHER	M 18 x 1,5 SW19	Order no.SP-006-2-L1218-11-1	WALTHER
H6-1Z2		487543A	LOCKING NIPPLE SP DN10*WALTHER	M 18 x 1,5 SW19	Order no.SP-006-2-L1218-11-1	WALTHER
H7-1H1		487547A	ultra-high pressure hose DN 12/462ST- 8X 830	FITTING : 1CA46-12-8 /1CA46-12-8		PARKER
H7-1H2		487544A	ultra-high pressure hose DN 12/462ST- 8X 290	FITTING : 1CA46-12-8 /1CF46-12-8		PARKER
H7-1H3		487546A	ultra-high pressure hose DN 12/462ST- 8X 280	FITTING : 1CA46-12-8 /1CA46-12-8		PARKER
H7-1V1		454531A - Hydac	Check valve	RVM06020-01-C-N-0.3		HYDAC
H7-1V2		454531A - Hydac	Check valve	RVM06020-01-C-N-0.3		HYDAC
H7-1Z1		487542A	locking coupling SP DN106*WALTHER	M 18 x 1,5 SW19	Order no.SP-006-2-L1218-11-1	WALTHER
H7-1Z2		487543A	LOCKING NIPPLE SP DN10*WALTHER	M 18 x 1,5 SW19	Order no.SP-006-2-L1218-11-1	WALTHER
H8-1H1		443937A	super high pressure hose DN10/462ST-6X1110	super high pressure hose DN10/462ST-6X1110	FITTING 1CA46-12-6 / 1CA46-12-6 * FA.PARKER	PARKER HCD
H11-1H1		454388A	ultra-high pressure hose DN 10/462ST- 6X 980	FITTING 1CA46-12-6 / 1CA46-12-6 * FA.PARKER		PARKER-ERMETO

			date	04.07.2022	machine type	inventory No.		designation / page  STL hydraulics	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=HYDRAULIK	
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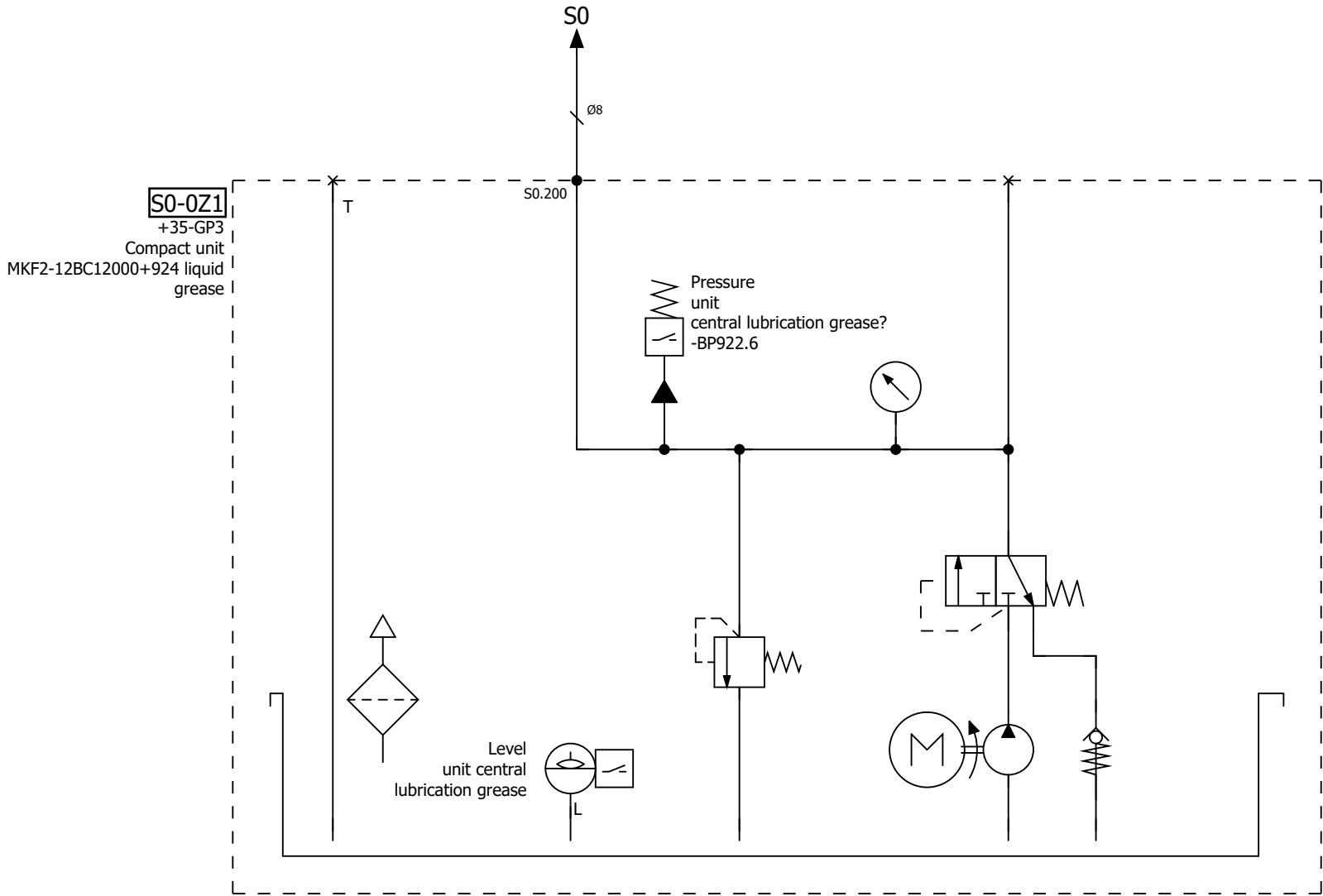
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# parts list

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MIRCOLUBE GB 00  
basic oil viscosity DIN 51 561  
at 40°C 700 mm<sup>2</sup>/s

- 1 Pulse to 500 m approach path X,Y, Z axis  
1 pulse by machine starting  
or  
1 Pulse to 500 m approach path Z1, Z3, Z4 axis

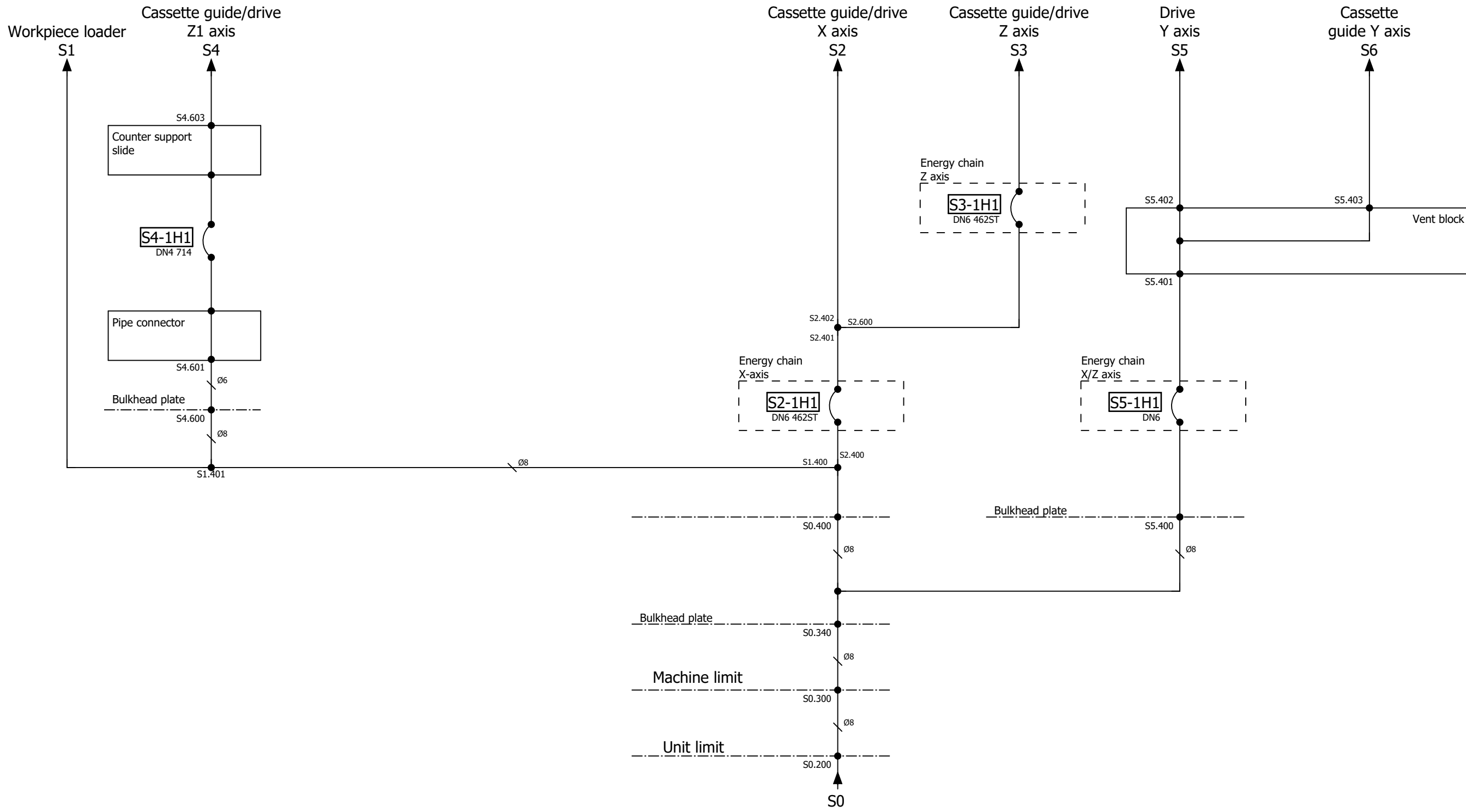
Once the one impuls is reached the counter  
readings will be set to "0"

Container volume	: 3	Liter
Oil type	: GB 00	
standard	: DIN 51561	
part no.	: -	
Lubrication cycle		
Set-up mode	: [val]	min
Automatic operation	: [val]	min

P	: 30	bar
Q	: 0.2	l/min

n	: 2600	min-1
Pel	: 60	W
U	: 115/230	Volt
f	: 50	Hz

n	: 3050	min-1
Pel	: 75	W
U	: 115/230	Volt
f	: 60	Hz



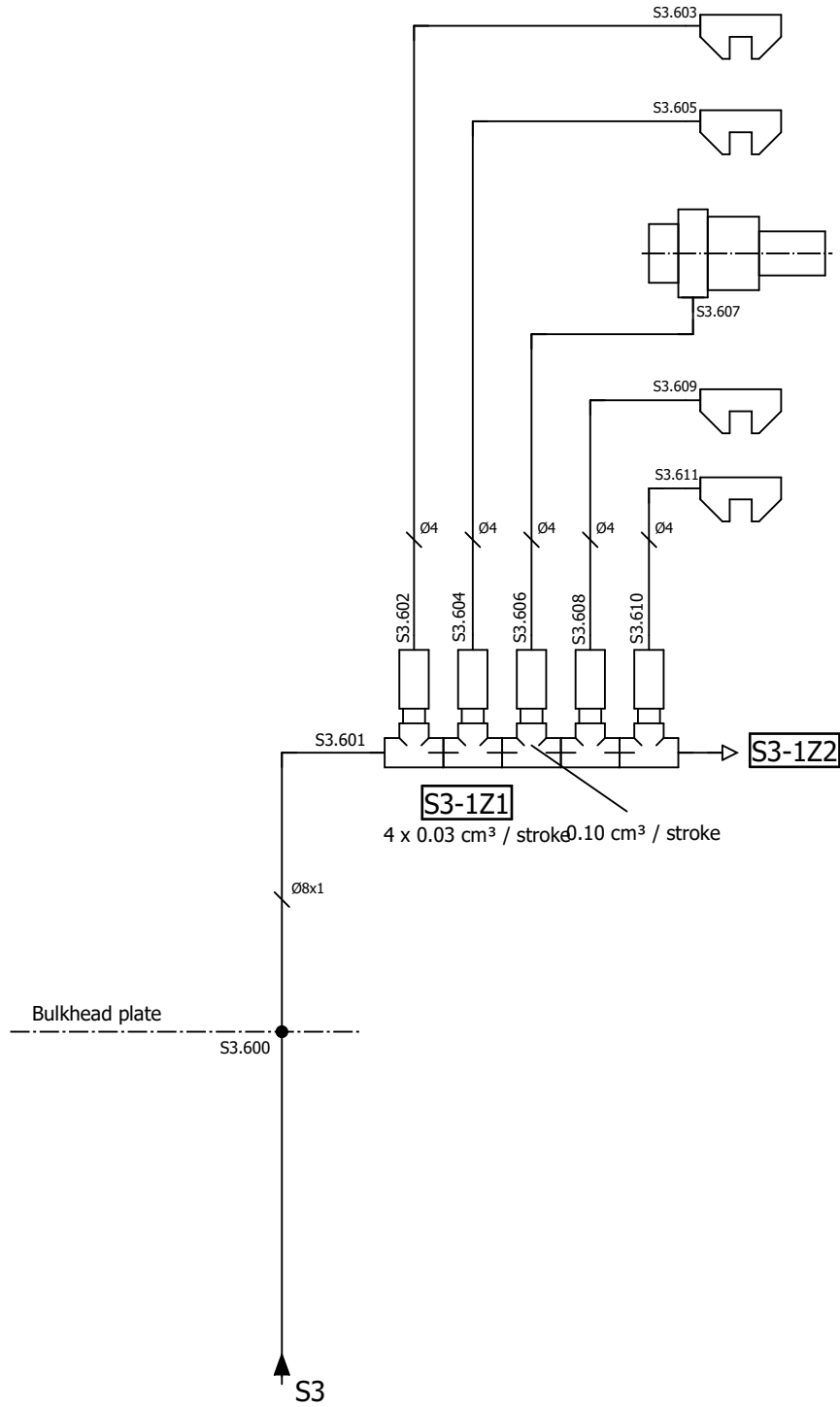
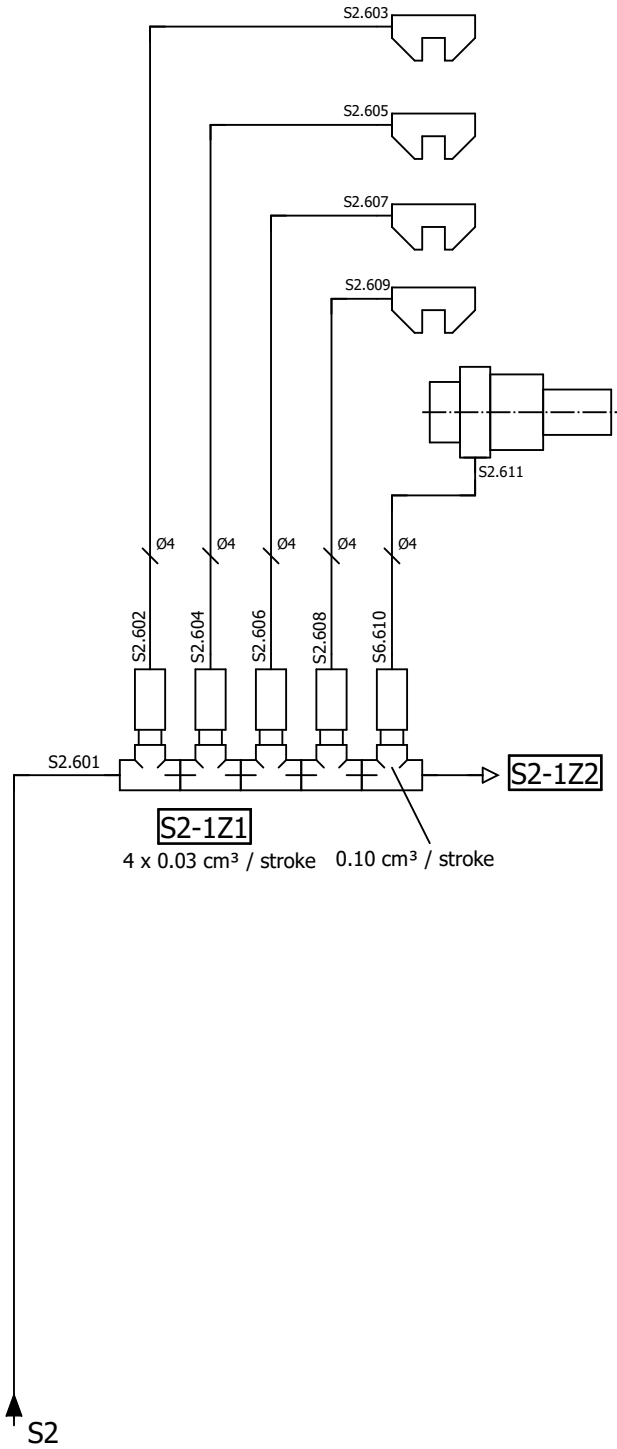
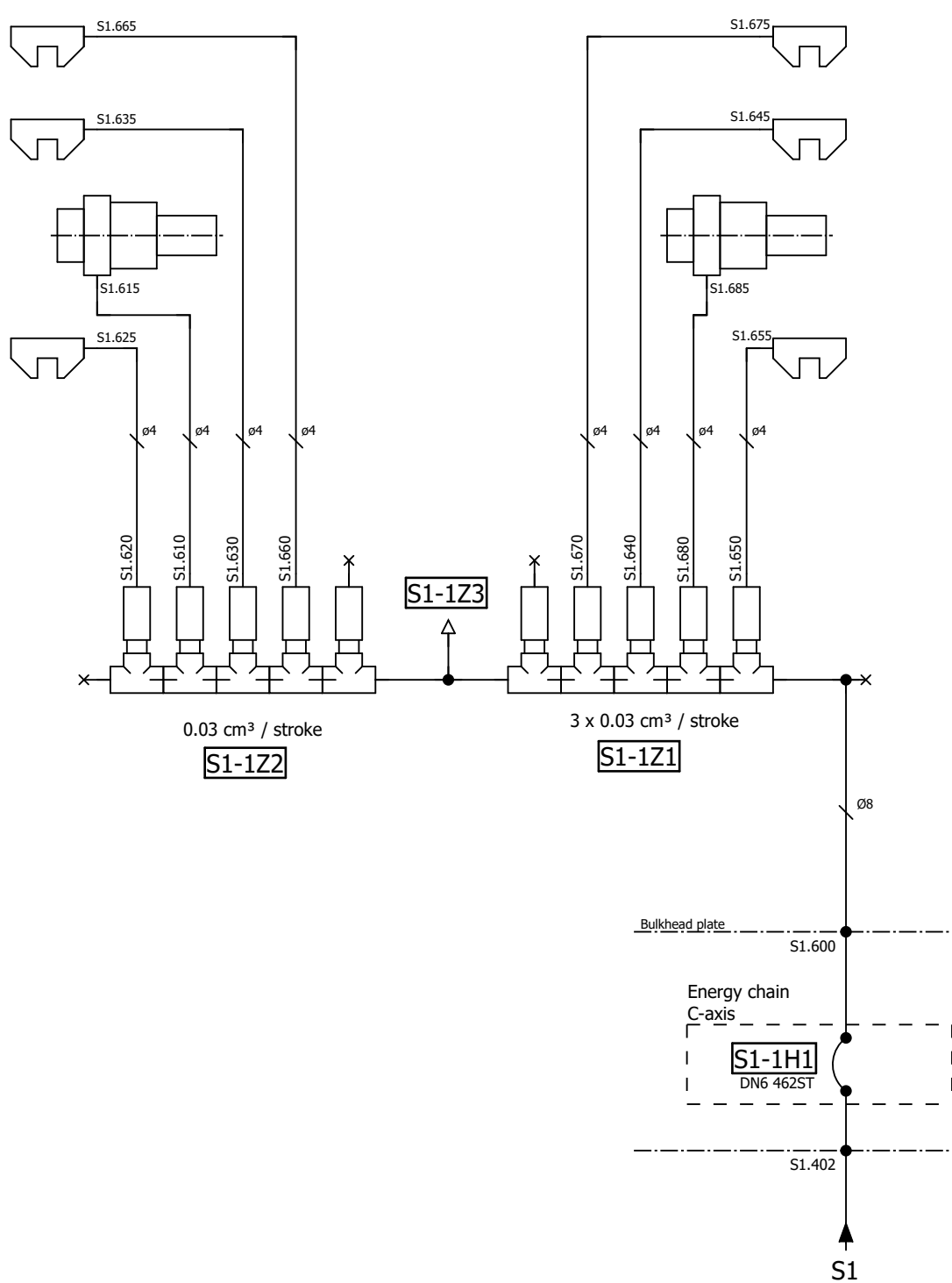
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			date	04.07.2022	machine type <b>Speed Viper 300</b>	inventory No.	 <b>KLINGELNBERG</b>	designation / page  circuit diagram of impulse lubrication	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=IMPULSSCHMIERUNG	
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		on	23.11.2022	customer	KLINGELNBERG	M. no 433021				page	2
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S1	
Workpiece loader	
Z3-axis	Z4-axis

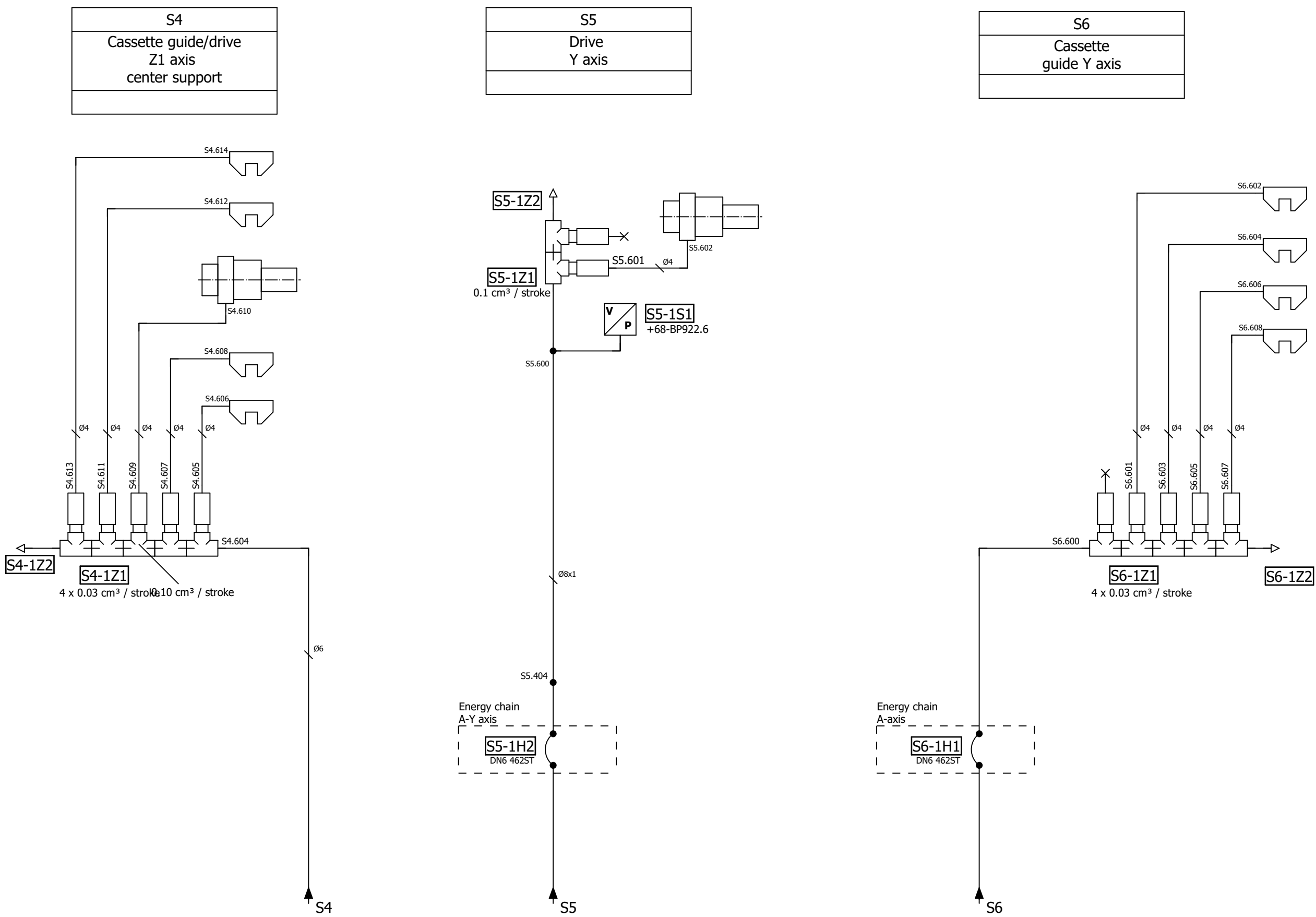
S2
Cassette guide/drive X axis

S3
Cassette guide/drive Z axis



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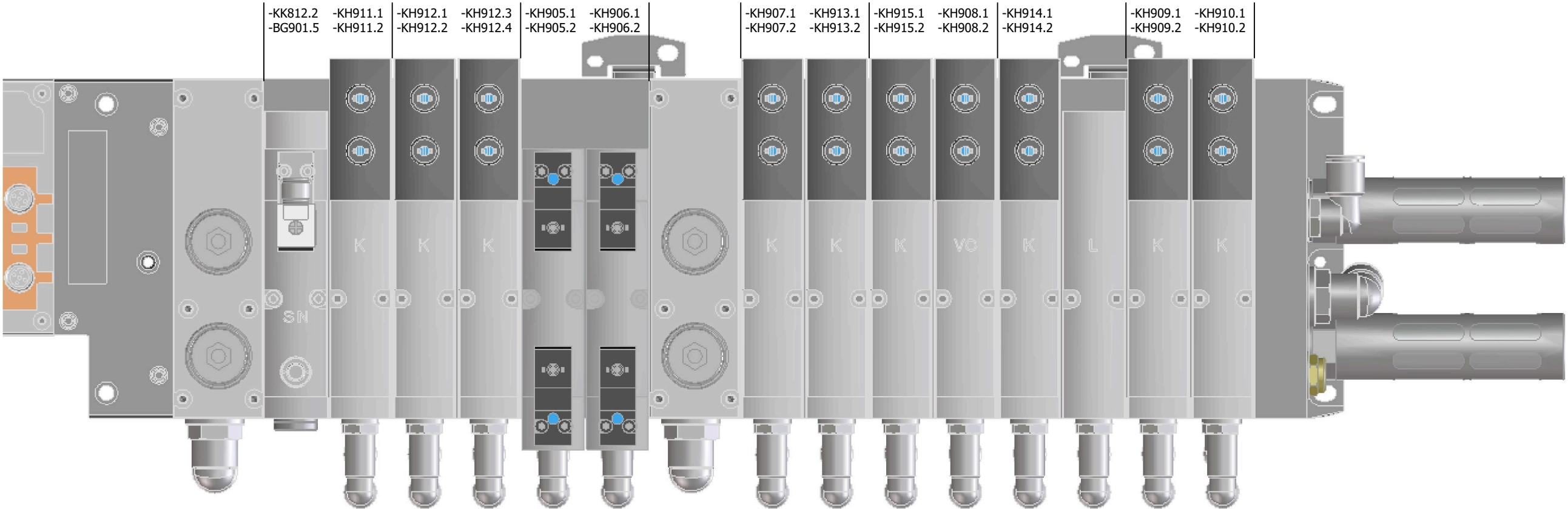
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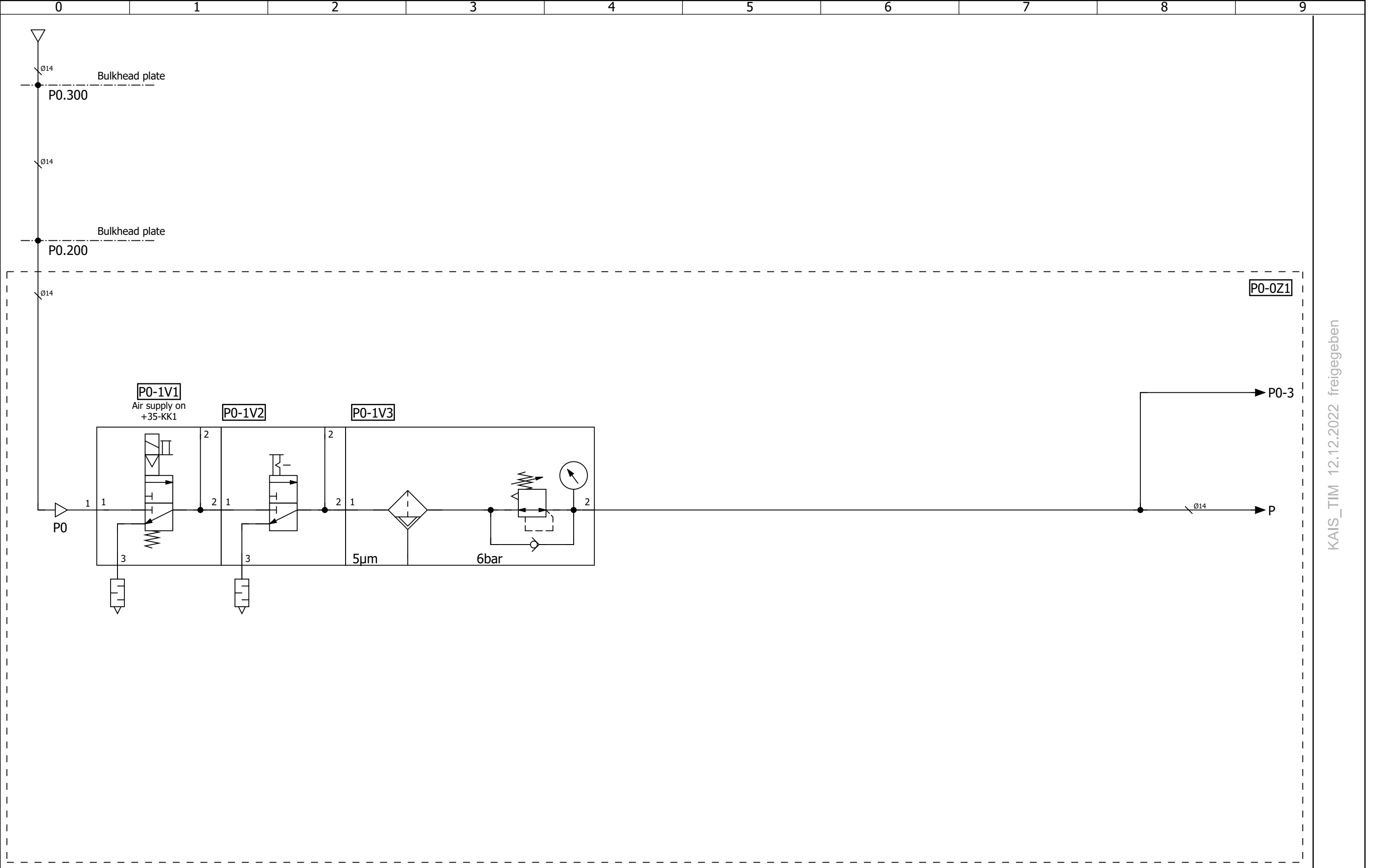


Valve terminal  
view with all options

Comment:  
-KH913 for Festo fitted between -KH914 and -KH909, the  
next course of action is still to be clarified (08.05.18)



valve 1	-KK812.2	-KH911.1	-KH912.1	-KH912.3	-KH905.1	-KH906.1		-KH907.1	-KH913.1	-KH915.1	-KH908.1	-KH914.1		-KH909.1	-KH910.1
Coil 1 = 14 -->	OUTSE 3.3	A62.2	A62.4	A62.6	OUTSE 5.1	OUTSE 7.3		A63.4	A63.6	A64.0	A64.2	A64.4		A65.0	A65.2
Coil 2 = 12 -->					OUTSE 6.2	OUTSE 8.4									
valve 2		-KH911.2	-KH912.2	-KH912.4				-KH907.2		-KH915.2	-KH908.2	-KH914.2		-KH909.2	-KH910.2
Coil 1 = 14 -->		A62.3	A62.5	A62.7				A63.5		A64.1	A64.3	A64.5		A65.1	A65.3
Coil 2 = 12 -->															
Sensor -->	-BG901.5														
Sensor -->	E60.4														

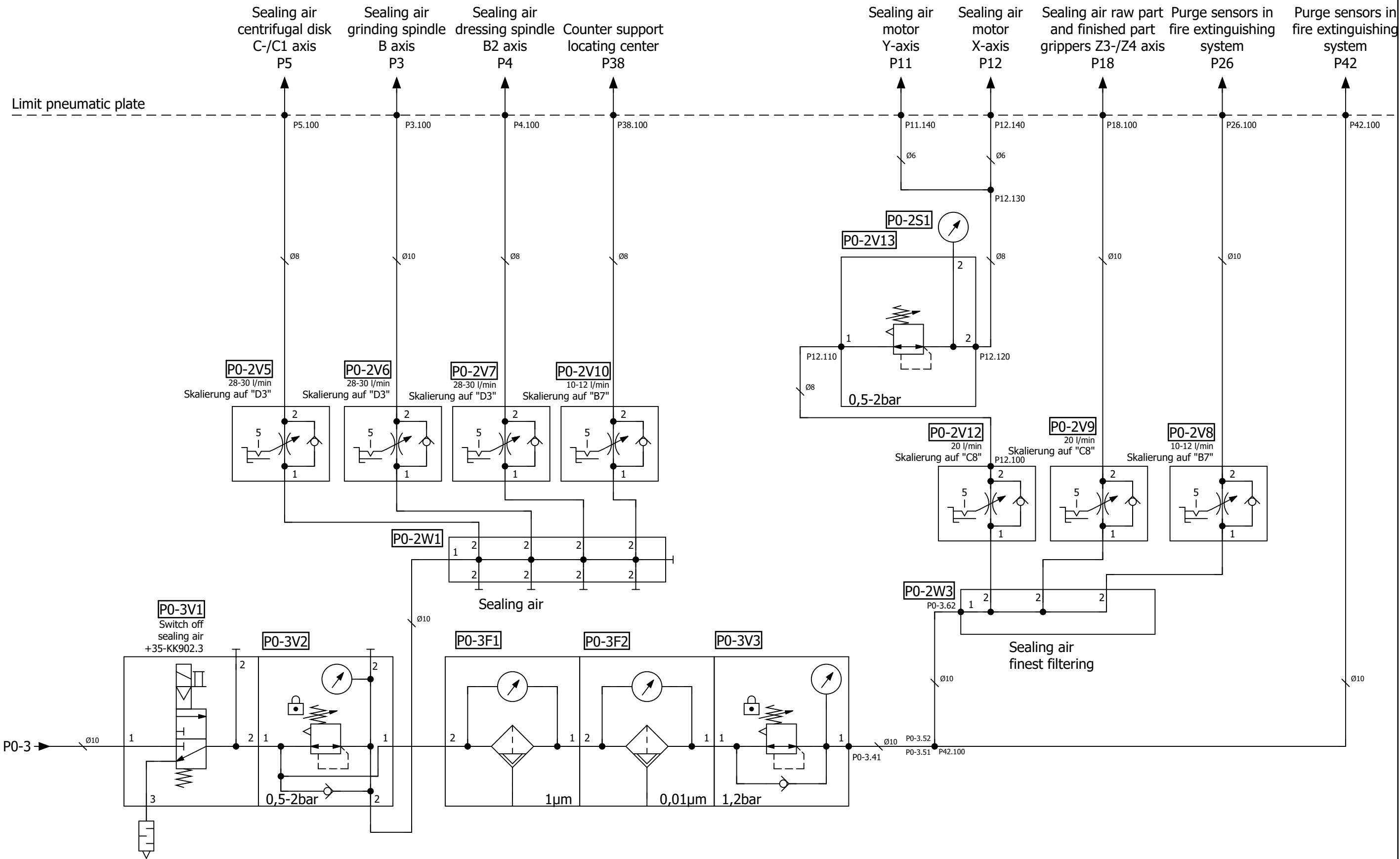


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modification	date	name	date	04.07.2022	machine type	inventory No.		designation / page	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PNEUMATIK	
			name	Sche_Kor	Speed Viper 300					+	
			on	23.11.2022	customer KLINGELNBERG	M. no 433021				page	2
			plot	23.11.2022	origin	replac. for					from 19.a



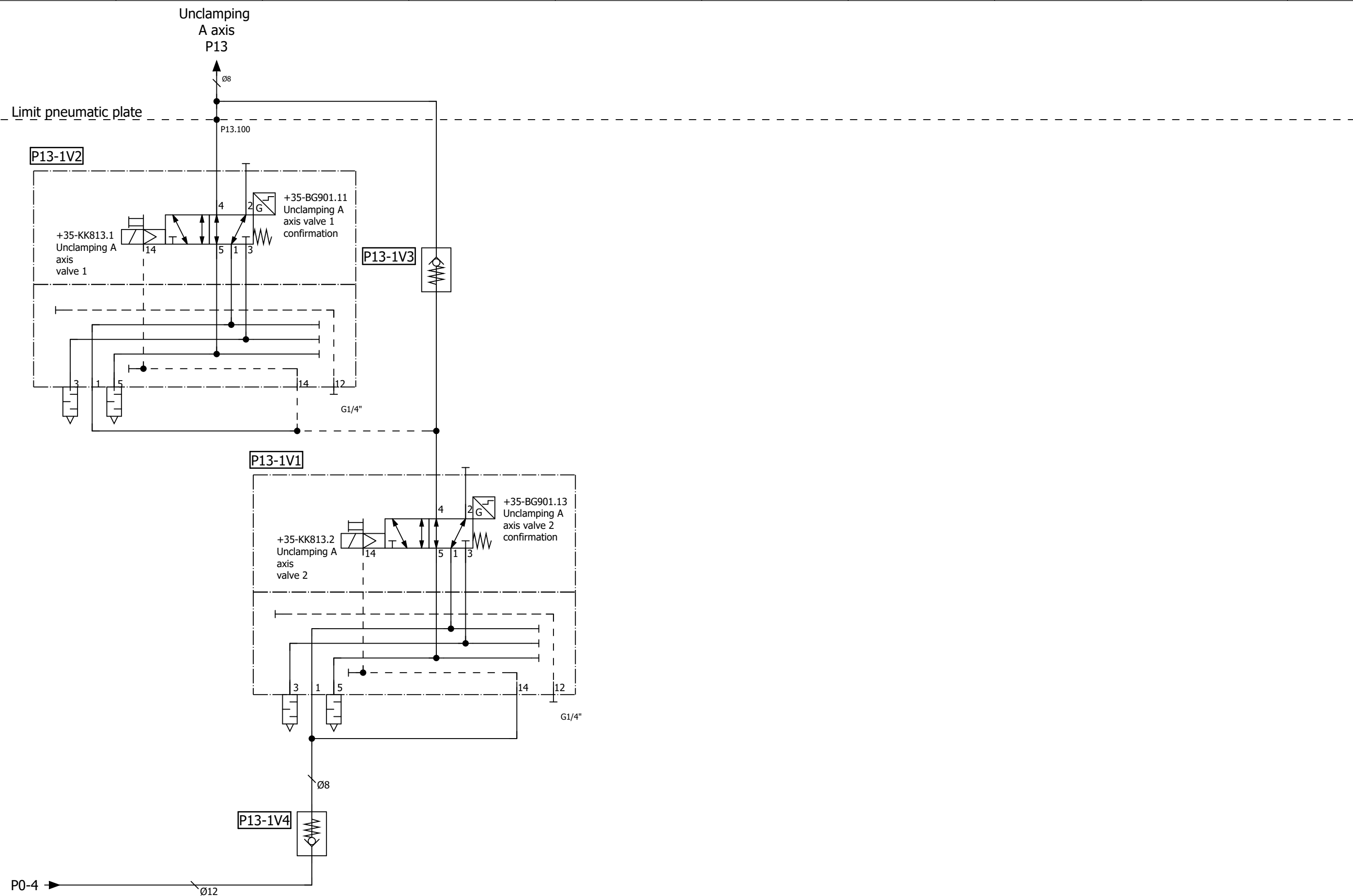
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		on	04.07.2022	customer	KLINGELNBERG	M. no				433021		page	3
modification	date	name	plot	23.11.2022	origin	replac. for						from	19.a



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modification	date	name	date	04.07.2022	machine type	Speed Viper 300	inventory No.			designation / page	circuit diagram of pneumatic unit	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PNEUMATIK	
			name	Sche_Kor									+	
			on	23.11.2022									page	4
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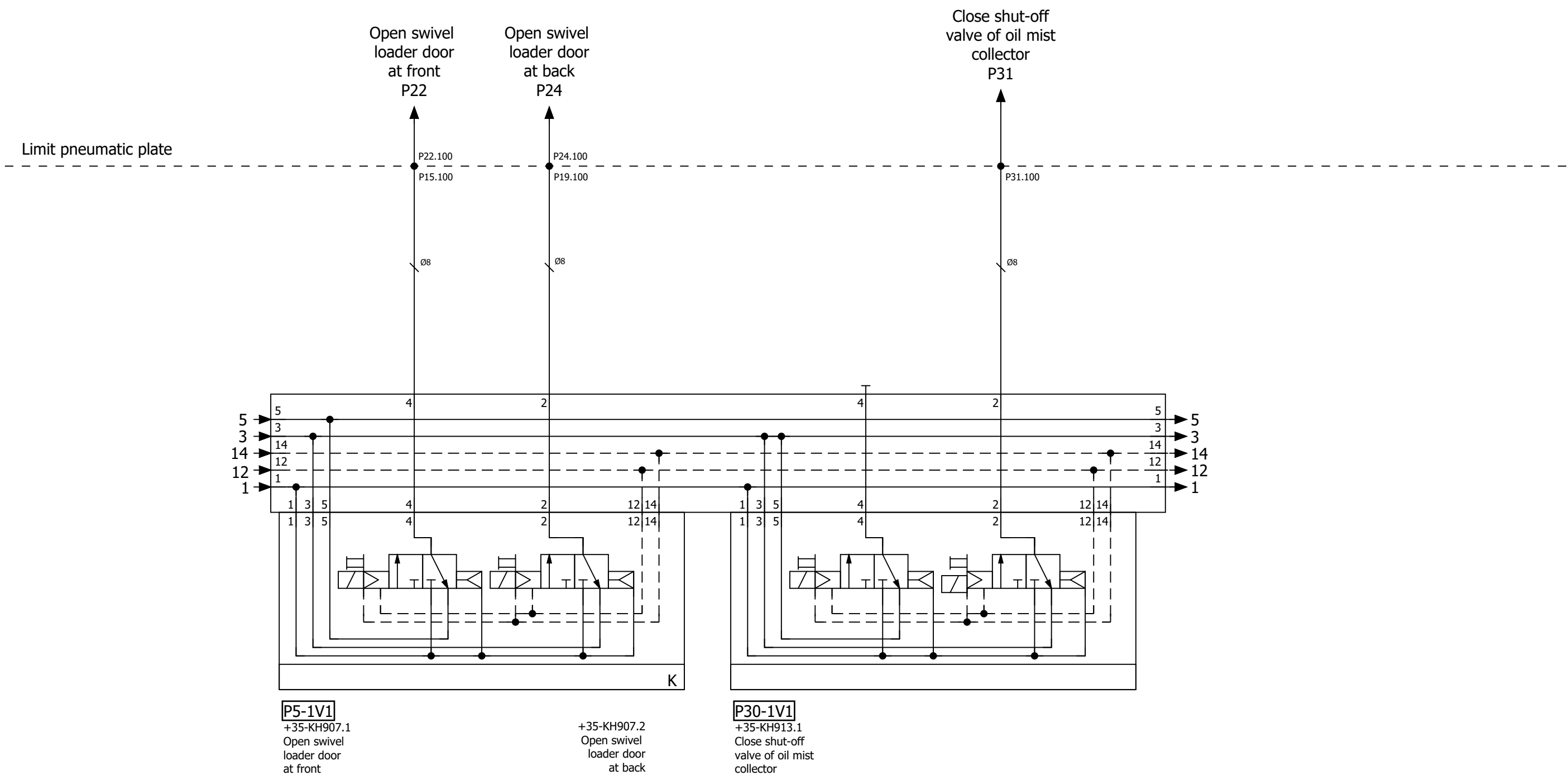




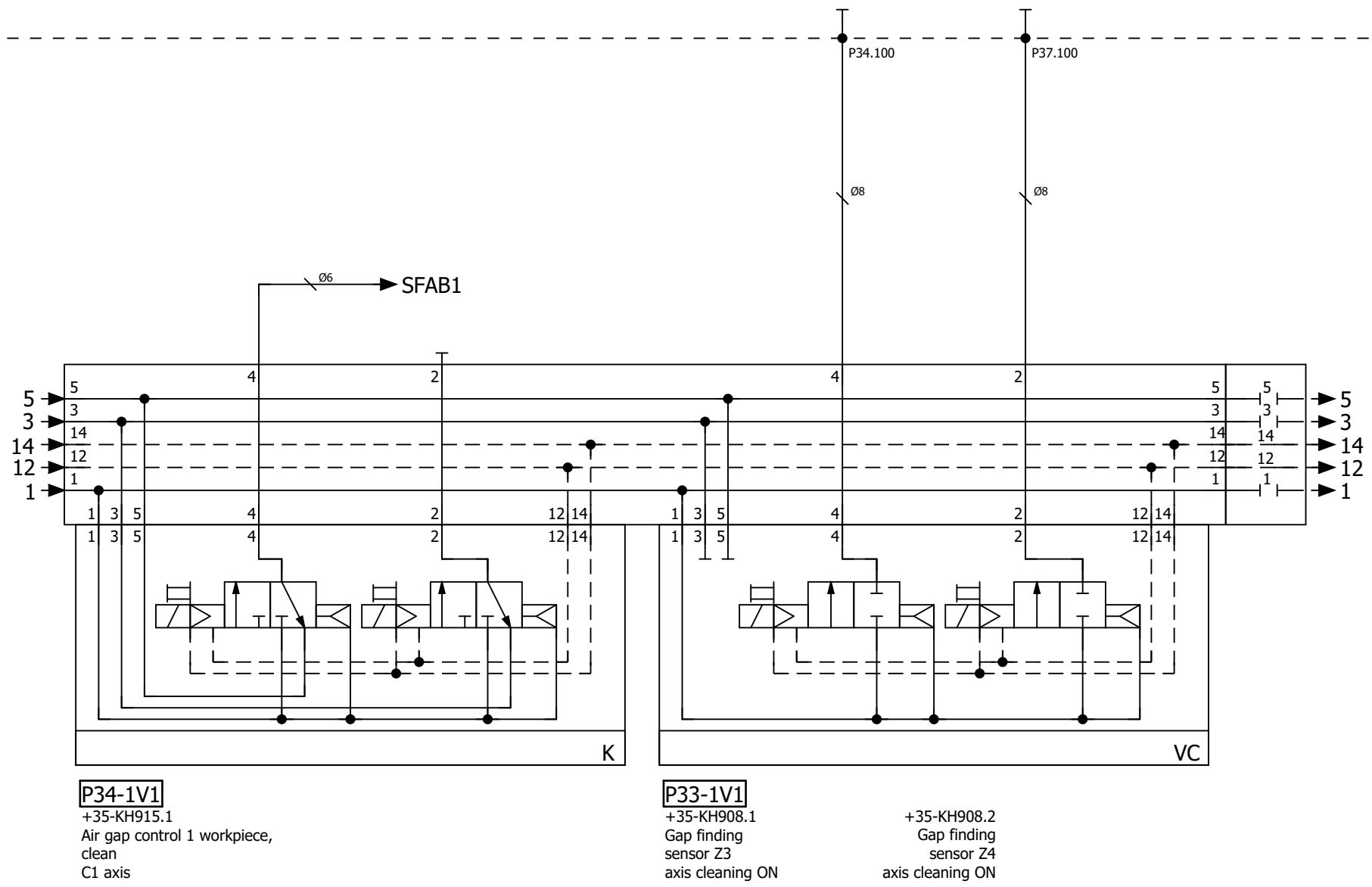
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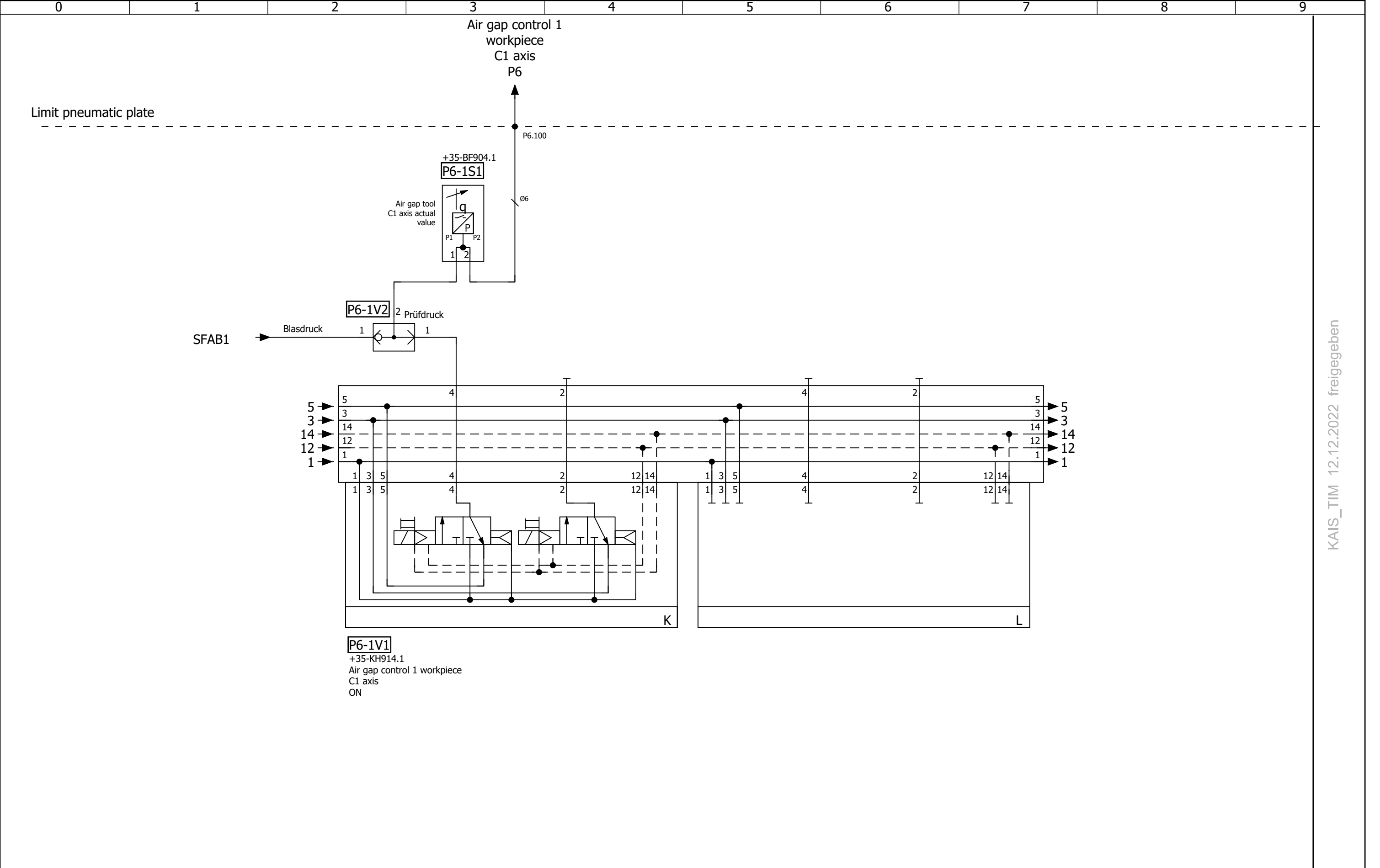






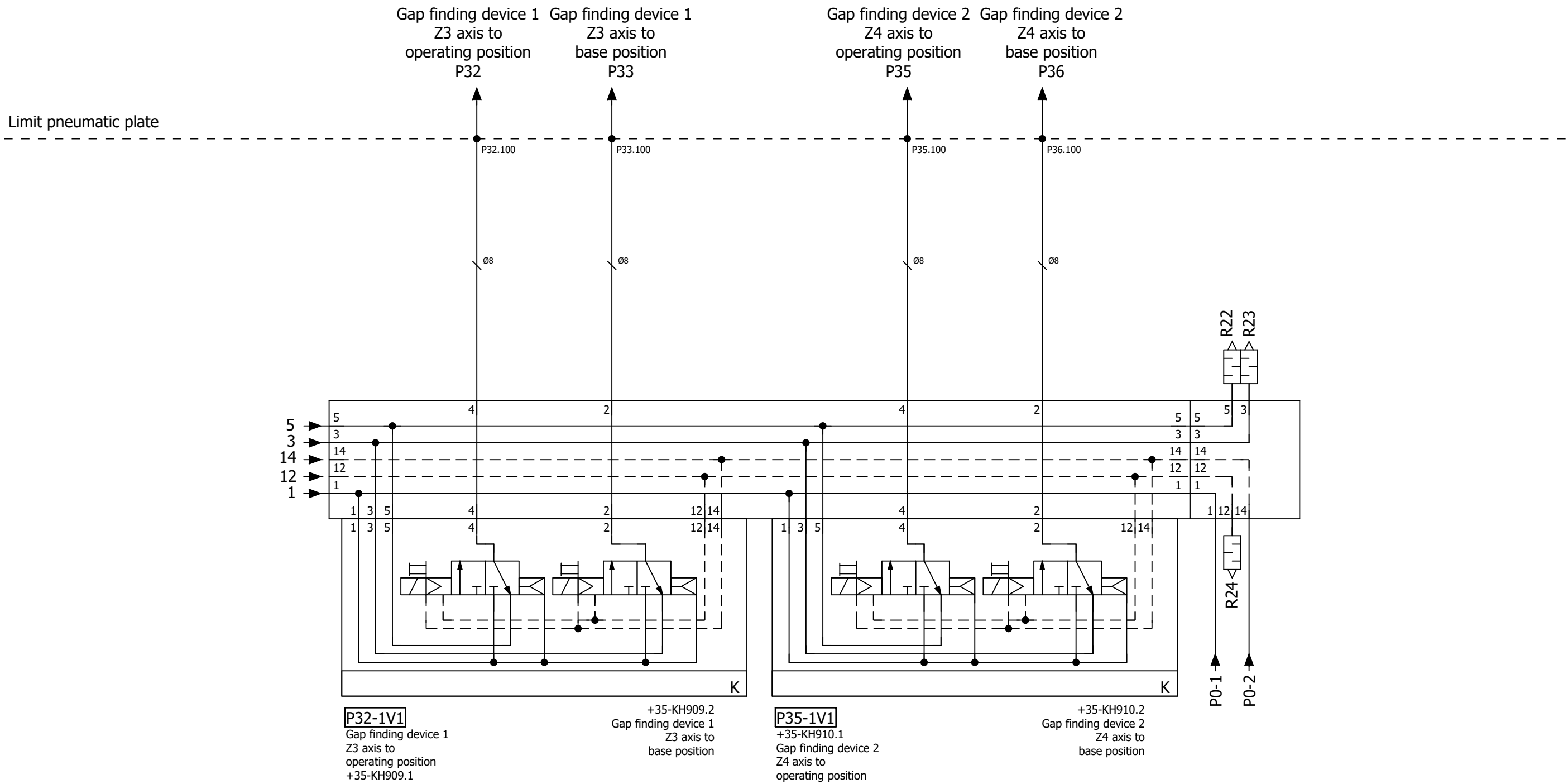


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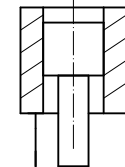
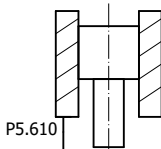
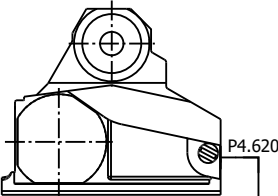
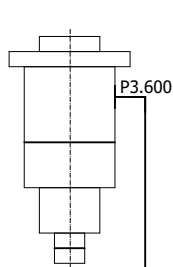
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			name	Sche_Kor	Speed Viper 300			circuit diagram of pneumatic unit		+	
			on	06.07.2022	customer KLINGELNBERG	M. no 433021					page 10
modification	date	name	plot	23.11.2022	origin	replac. for					from 19.a



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			name	Sche_Kor	<b>Speed Viper 300</b>			circuit diagram of pneumatic unit		+	
			on	05.07.2022	customer KLINGELNBERG	M. no 433021					page 11
modification	date	name	plot	23.11.2022	origin	replac. for					from 19.a

0	1	2	3	4	5	6	7	8	9
P3		P4		P5		P6			
Sealing air grinding spindle B axis		Sealing air dressing spindle B2 axis		Sealing air centrifugal disk C axis		Air gap control 1 workpiece C axis			



P3.600

P4.620

P5.610

P3  
P6.610

Bulkhead plate  
P4.(610)

Ø8

Ø8

Ø8

Bulkhead plate machine bed  
P4.600

P5.600

P6.600

Energy chain  
A-Y axis

Energy chain  
Machine bed

Energy chain  
X-Z axis

Ø8

Ø8

Ø8

Ø10

P3.400

Ø10

P3

P4.400

Ø8

P4

P5.400

Ø8

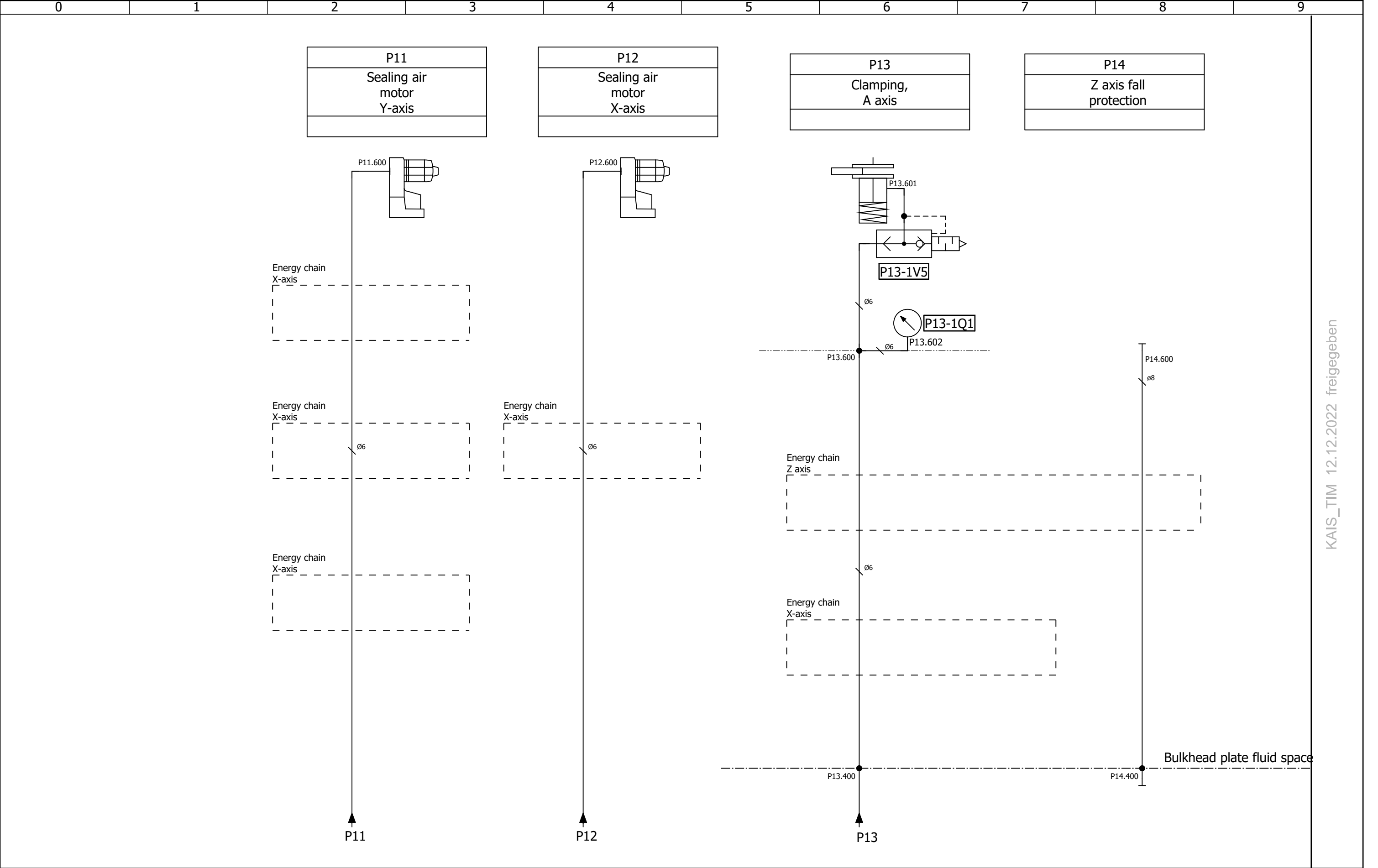
P5

P6.400

Ø6

P6

			date	04.07.2022	machine type	inventory No.		designation / page circuit diagram of pneumatic	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PNEUMATIK	
			name	Sche_Kor	Speed Viper 300					+	
			on	23.11.2022	customer KLINGELNBERG	M. no 433021					page 12
modification	date	name	plot	23.11.2022	origin	replac. for					from 19.a



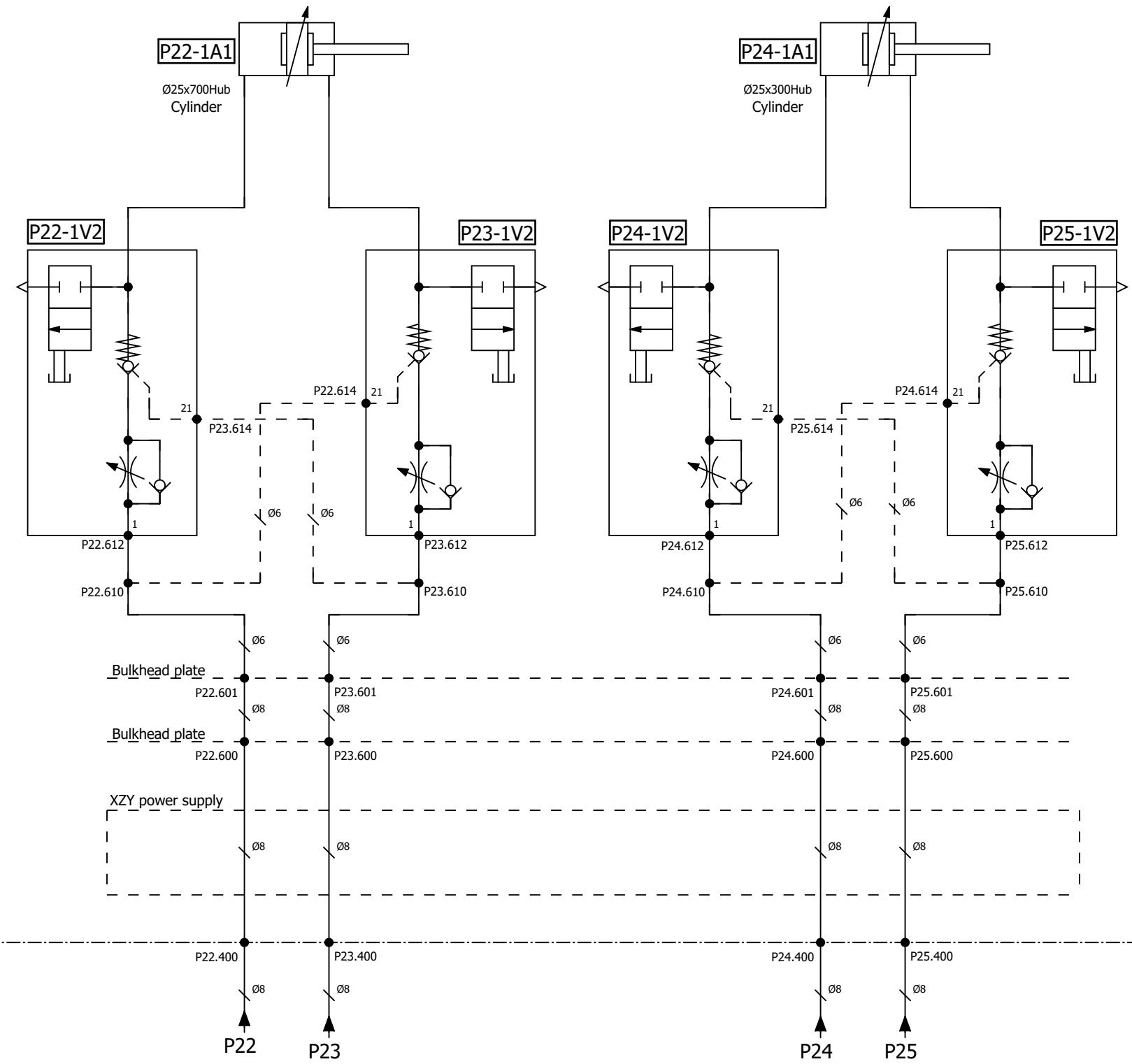
KAIS\_TIM 12.12.2022 freigegeben

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			name	Sche_Kor	<b>Speed Viper 300</b>					+	
			on	23.11.2022	customer KLINGELBERG	M. no 433021					page 13
modification	date	name	plot	23.11.2022	origin	replac. for					from 19.a



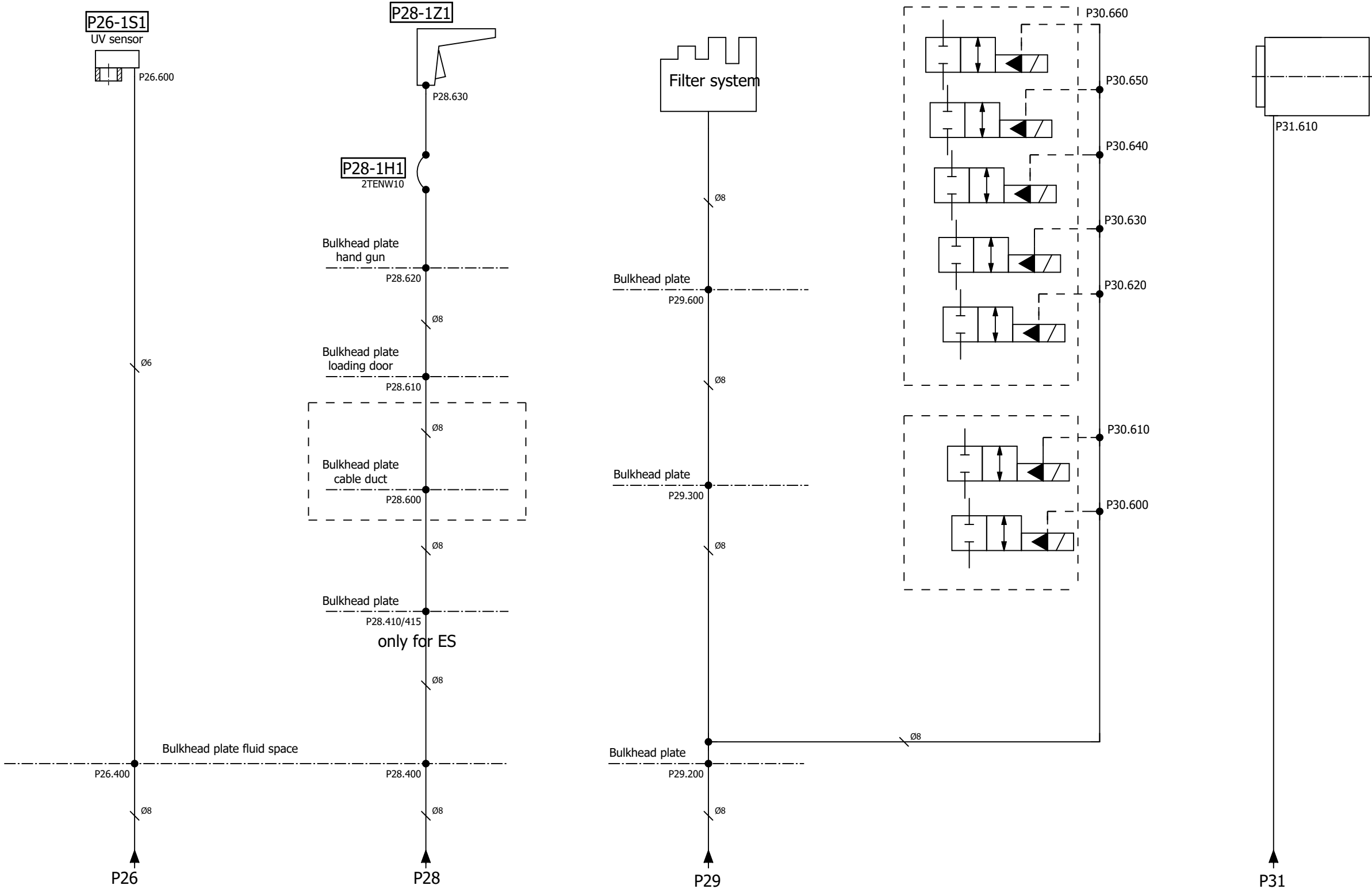
			date	04.07.2022	machine type <b>Speed Viper 300</b>	inventory No.	 <b>KLINGELNBERG</b>	designation / page  circuit diagram of pneumatic	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PNEUMATIK				
			name	Sche_Kor						+				
			on	23.11.2022	customer	KLINGELNBERG				M. no	433021		page	14
modification	date	name	plot	23.11.2022	origin					replac. for			from	19.a

P22	P23	P24	P25
Open swivel loader door at front	Close swivel loader door at front	Open swivel loader door at back	Close swivel loader door at back

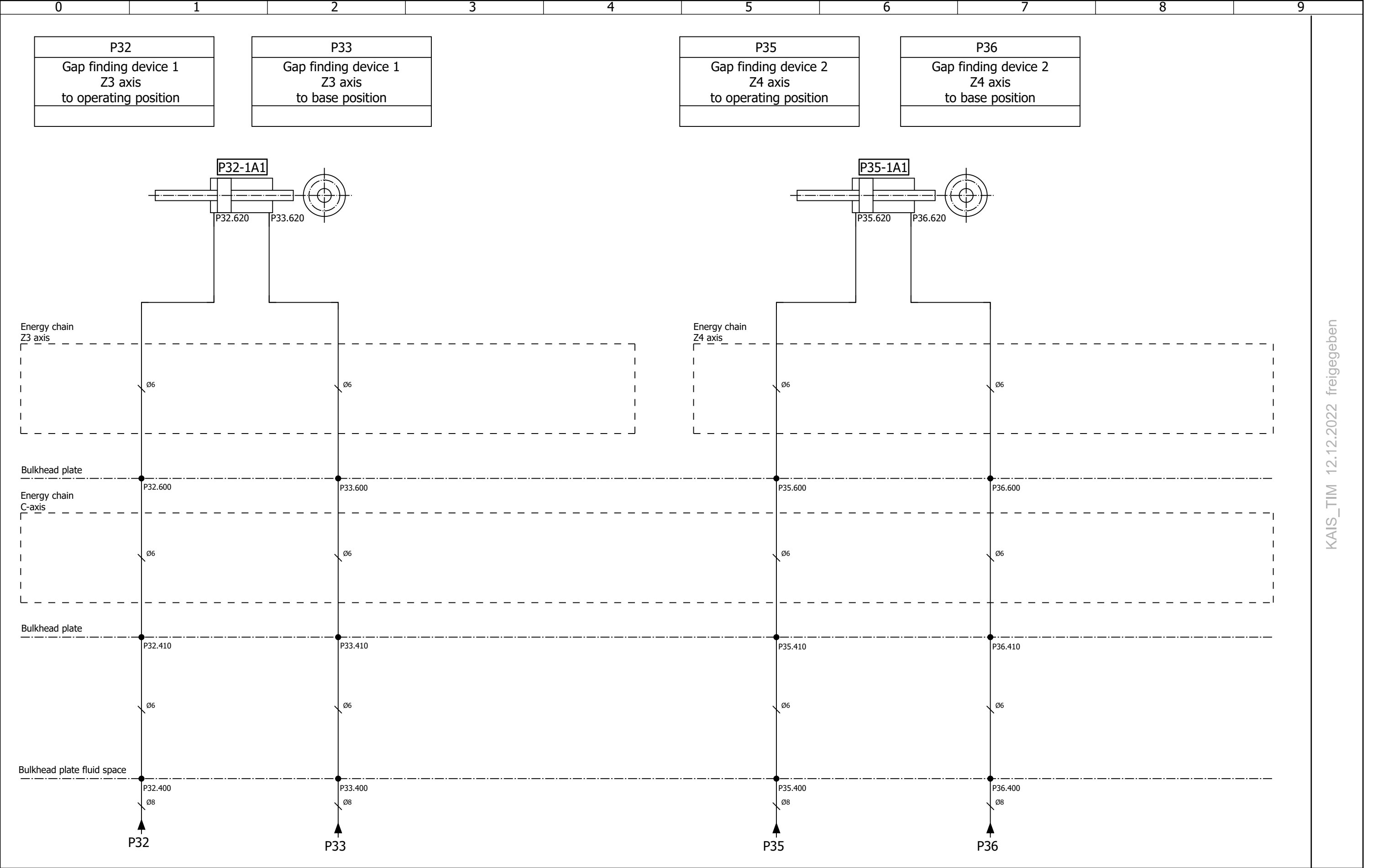


Bulkhead plate fluid space

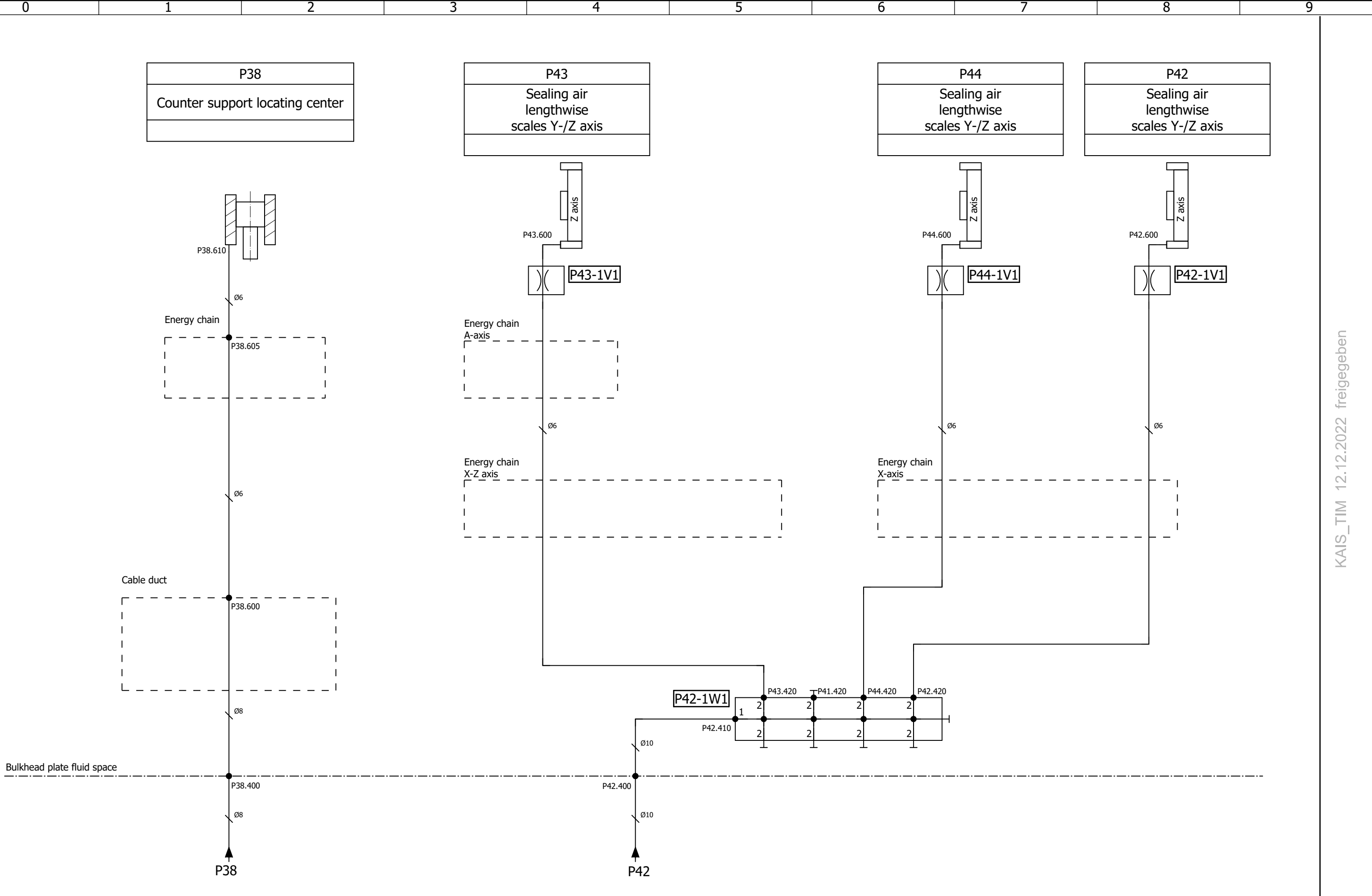
P26	P28	P29	P30	P31
Purge sensors in fire extinguishing system	Purge air gun	Supply filter system	Supply coaxial valve process cooling	Close shut-off valve of oil mist collector







			date	04.07.2022	machine type	inventory No.	<div> KLINGELNBERG</div>	designation / page circuit diagram of pneumatic	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PNEUMATIK	
			name	Sche_Kor	<b>Speed Viper 300</b>					+	
			on	05.07.2022	customer KLINGELNBERG	M. no 433021					page 17
modification	date	name	plot	23.11.2022	origin	replac. for					from 19.a



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			date	04.07.2022	machine type	inventory No.		designation / page circuit diagram of pneumatic	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PNEUMATIK	
			name	Sche_Kor	<b>Speed Viper 300</b>					+	
			on	23.11.2022	customer KLINGELNBERG	M. no 433021					page 18
modification	date	name	plot	23.11.2022	origin	replac. for					from 19.a

parts list

equipment sign	electric equipment sign	part no.	designation	designation 2	designation 3	manufacturer
P0-2V3		7835029A	Pressure control valve MS6-LRB LN:527665	Pressure control valve MS6-LRB-1/2-D6-RG-LD-AS-BD	LN: 527665	FESTO
P0-2V5		540662-FESTO	One-way flow control valve GRLSA-1/4-QS-8	FESTO NR.: 540662		FESTO
P0-2V6		540662-FESTO	One-way flow control valve GRLSA-1/4-QS-8	FESTO NR.: 540662		FESTO
P0-2V7		540662-FESTO	One-way flow control valve GRLSA-1/4-QS-8	FESTO NR.: 540662		FESTO
P0-2V8		540662-FESTO	One-way flow control valve GRLSA-1/4-QS-8	FESTO NR.: 540662		FESTO
P0-2V9		540662-FESTO	One-way flow control valve GRLSA-1/4-QS-8	FESTO NR.: 540662		FESTO
P0-2V10		540662-FESTO	One-way flow control valve GRLSA-1/4-QS-8	FESTO NR.: 540662		FESTO
P0-2W1		2077-Festo	distributor	FR-8-1/8	BEST-NR.:2077	FESTO
P13-1V1	+35-KK813.2	454419A	Solenoid valve VSVA-B-M52-MZ-A1-1C1-APP	Art. no. 560726 *Festo		FESTO
P13-1V2	+35-KK813.1	454419A	Solenoid valve VSVA-B-M52-MZ-A1-1C1-APP	Art. no. 560726 *Festo		FESTO
P13-1V3		355228A	Check valve H-QS-8 153464	*FESTO		FESTO
P13-1V4		355228A	Check valve H-QS-8 153464	*FESTO		FESTO
P30-1V1	+35-KH913.1	407168A	solenoid valve VSVA-B-T32C-AZD-A1-1T1L	PART NR.539150 * FESTO		FESTO
P13-1V1	+35-BG901.13	454419A	Solenoid valve VSVA-B-M52-MZ-A1-1C1-APP	Art. no. 560726 *Festo		FESTO
P0-0Z1		452457A	PNEUMATIC UNIT SV300/SV180/ES	PROJECT No: DE_CS.1515826-A --> B (from ???)		FESTO
P0-1V1	+35-KK1	419600A	On-off MS6-EE-1/2-V24	No.527682 *FESTO		FESTO
P0-1V2		541268-Festo	Manual on-off valve MS6-EM1-1/2-S	541268 *FESTO		FESTO
P0-1V3		526490-Festo	filter regulator	MS6-LFR-1/2-D6-C-R-V-RG-AS	BEST-NR.: 526490	FESTO
P0-1V4	+35-BP901.1	356596A	EXHAUST VALVES MS6-SV-1/2-C-10V24P-S-AD7	NO.548713*FESTO	(WITH SILENCER U-3/4-B 6845)	FESTO
P0-2S1		7837463A	GAUGES PAGN-40-10-R18-1.6	FOR PRESSURE REGULATING VALVE LRP-1/8-6*FESTO (2849914)		FESTO
P0-2V1	+35-KK812.1	356596A	EXHAUST VALVES MS6-SV-1/2-C-10V24P-S-AD7	NO.548713*FESTO	(WITH SILENCER U-3/4-B 6845)	FESTO
P0-2V2		7835029A	Pressure control valve MS6-LRB LN:527665	Pressure control valve MS6-LRB-1/2-D6-RG-LD-AS-BD	LN: 527665	FESTO
P0-2V12		540662-FESTO	One-way flow control valve GRLSA-1/4-QS-8	FESTO NR.: 540662		FESTO
P0-2V13		7837462A	PRESSURE REGULATOR LRP-1/8-6	PRECISION PRESSURE REGULATOR	size 40	FESTO
P0-2W2		549337-Festo	distributor block MS6-FRM-FRZ	MS6-FRM-FRZ	ORDER NO.:549337	FESTO
P0-2W3		346700A	Distributor block	FR-4-1/4-C	Order no.: 7849	FESTO
P0-3F1		527697-Festo	Fine filter	MS4-LFM-1/4-B-U-V-DA	527697-Festo	FESTO
P0-3F2		537214-Festo	Finest filter	MS4-LFM-1/4-A-U-V-DA	537214-Festo	FESTO
P0-3V1	+35-KK902.3	7835032A	on-off-valve MS4-EE-1/4-10V24-S	NO. 542598 *FESTO	542598	FESTO
P0-3V2		7835033A	pressure control valve MS4-LRB LN:527692	pressure control valve MS4-LRB-1/4-D5-RG-AS	LN: 527692	FESTO
P0-3V3		443390A	pressure control valve MS4-LR-1/4-D5-RG 527690			FESTO
P5-1V1		440872A	COVER VABB-S4-1-WT NR.539212	*FESTO		FESTO
P6-1S1	+35-BF904.1	7838414A	Flow rate sensor SFAB-50U-HQ6-2SV-M12	FESTO-No. 565390*FESTO		FESTO
P6-1V1	+35-KH914.1	407168A	solenoid valve VSVA-B-T32C-AZD-A1-1T1L	PART NR.539150 * FESTO		FESTO
P6-1V2		7832738A	Shuttle valve 6681/OS-1/8-B	Shuttle valve / or part 6681 / OS-1/8-B	SHUTTLE VALVE / OR LINK 6681 / OS-1/8-B	FESTO
P13-1Q1		448461A	pressure sensor PN7094	-1-10bar; -14,5-145PSI; -0,1-1,0MPa,	18-30V DC PNP, 2x NO/NC, G 1/4"	IFM
P13-1V5		444008A	quick-exhaust valve VBQF-U-G1/8-E	NR. 547531*FESTO		FESTO
P16-1V1	+35-KH905.1	7835344A	5/3 directional control valve VSVA-B-P53C-ZH-A1-1C1	547086 *Festo		FESTO
P17-1V1	+35-BP901.3	487583A	DRUCKREGELVENTIL MS4-LR-1/4-D6-AD1			FESTO
P17-1V2		356388A	CHECK VALVE VBNF LBA-G18-Q6 8001460	*FESTO	for modular CGS 30 loader	FESTO
P20-1V1	+35-KH906.1	7835344A	5/3 directional control valve VSVA-B-P53C-ZH-A1-1C1	547086 *Festo		FESTO
P21-1V1	+35-BP901.4	487583A	DRUCKREGELVENTIL MS4-LR-1/4-D6-AD1			FESTO
P21-1V2		356388A	CHECK VALVE VBNF LBA-G18-Q6 8001460	*FESTO	for modular CGS 30 loader	FESTO
P22-1A1		MY1B25-700	Rodless band cylinder	MY1B25-700L7H7Z-M9PZ *SMC		SMC
P22-1V1	+35-KH911.1;+35-KH911.2	407168A	solenoid valve VSVA-B-T32C-AZD-A1-1T1L	PART NR.539150 * FESTO		FESTO
P22-1V2		439437A	One-way flow control valve VFOF-LE-BAH-G18-Q	*FESTO		FESTO
P23-1V2		439437A	One-way flow control valve VFOF-LE-BAH-G18-Q	*FESTO		FESTO
P24-1A1		MY1B25-300	Rodless band cylinder	MY1B25-300LZ-M9PZ *SMC		SMC
P24-1V1	+35-KH912.1;+35-KH912.2	407168A	solenoid valve VSVA-B-T32C-AZD-A1-1T1L	PART NR.539150 * FESTO		FESTO
P24-1V2		439437A	One-way flow control valve VFOF-LE-BAH-G18-Q	*FESTO		FESTO
P25-1V1	+35-KH912.3;+35-KH912.4	407168A	solenoid valve VSVA-B-T32C-AZD-A1-1T1L	PART NR.539150 * FESTO		FESTO
P25-1V2		439437A	One-way flow control valve VFOF-LE-BAH-G18-Q	*FESTO		FESTO
P27-1V1	+35-KK812.2;+35-BG901.5	454419A	Solenoid valve VSVA-B-M52-MZ-A1-1C1-APP	Art. no. 560726 *Festo		FESTO
P28-1Z1		35528-FESTO	Low consumption air gun LSP-1/4-D	*FESTO		FESTO

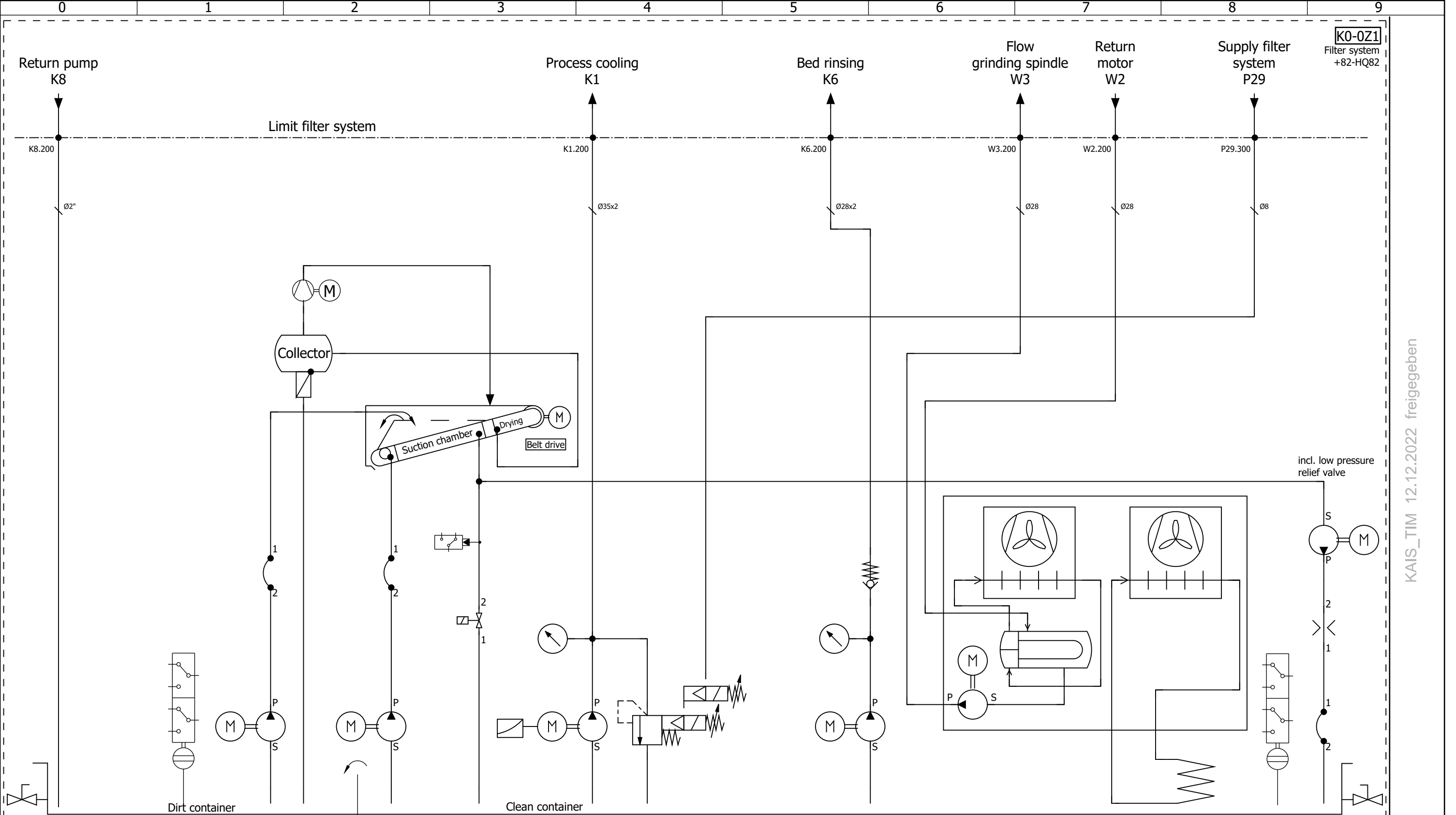
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# parts list

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		name	Sche_Kor	+									
		on	23.11.2022	customer	KLINGELNBERG	M. no				433021		page	19.a
modification	date	name	plot	23.11.2022	origin	replac. for						from	19.a



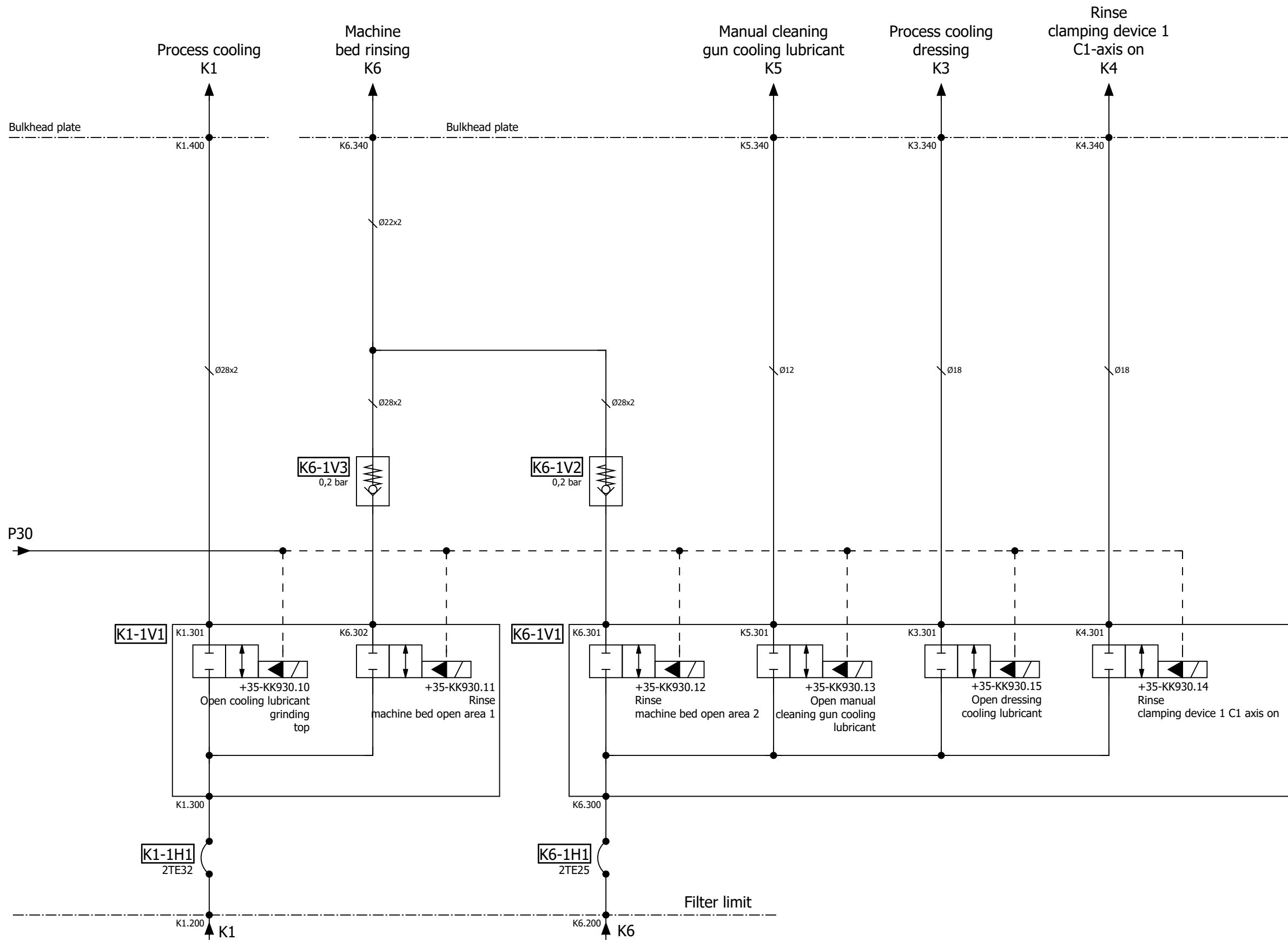
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Fill volume: 2750 l filter  
area: 1,0 m<sup>2</sup> filter performance:  
200 l/min voltage: 400 V  
± 10% 50 Hz ± 2%

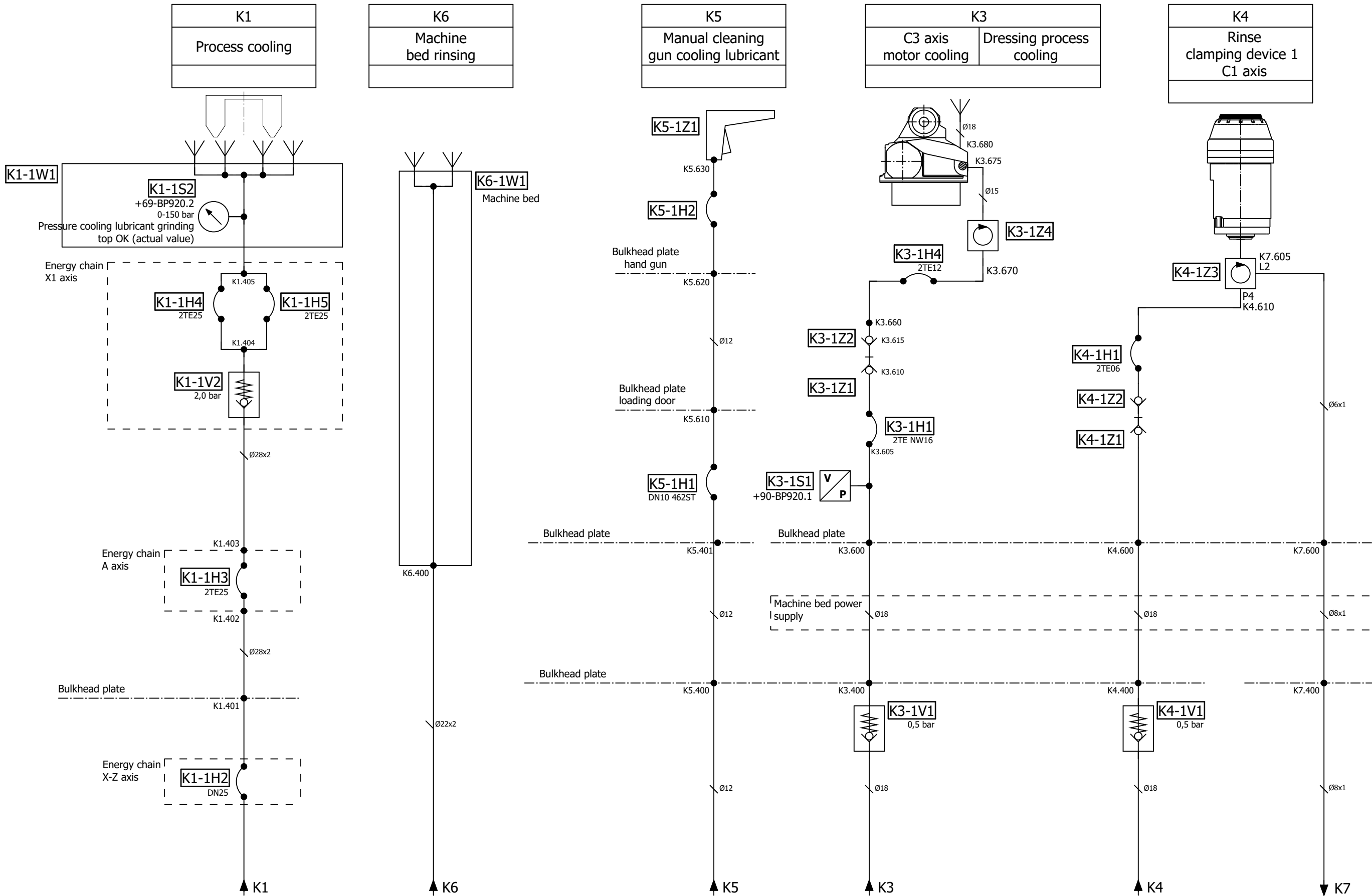
Oil	
max.. mm <sup>2</sup> /s	at °C
8 - 22	40

			date	04.07.2022	machine type	inventory No.	 <b>KLINGELBERG</b>	designation / page  PCS unit filter system Hoffmann	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PROZESSKUEHLUNG			
			name	Sche_Kor	Speed Viper 300	+				page 1			
			on	23.11.2022							customer KLINGELNBERG	M. no 433021	from 5
modification	date	name	plot	23.11.2022							origin		



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				on	23.11.2022	customer	KLINGELNBERG	M. no				page	2
modification	date	name	plot	23.11.2022	origin			replac. for				from	5



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			on	23.11.2022		customer KLINGELNBERG				M. no 433021		page	3
modification	date	name	plot	23.11.2022		origin				replac. for		from	5



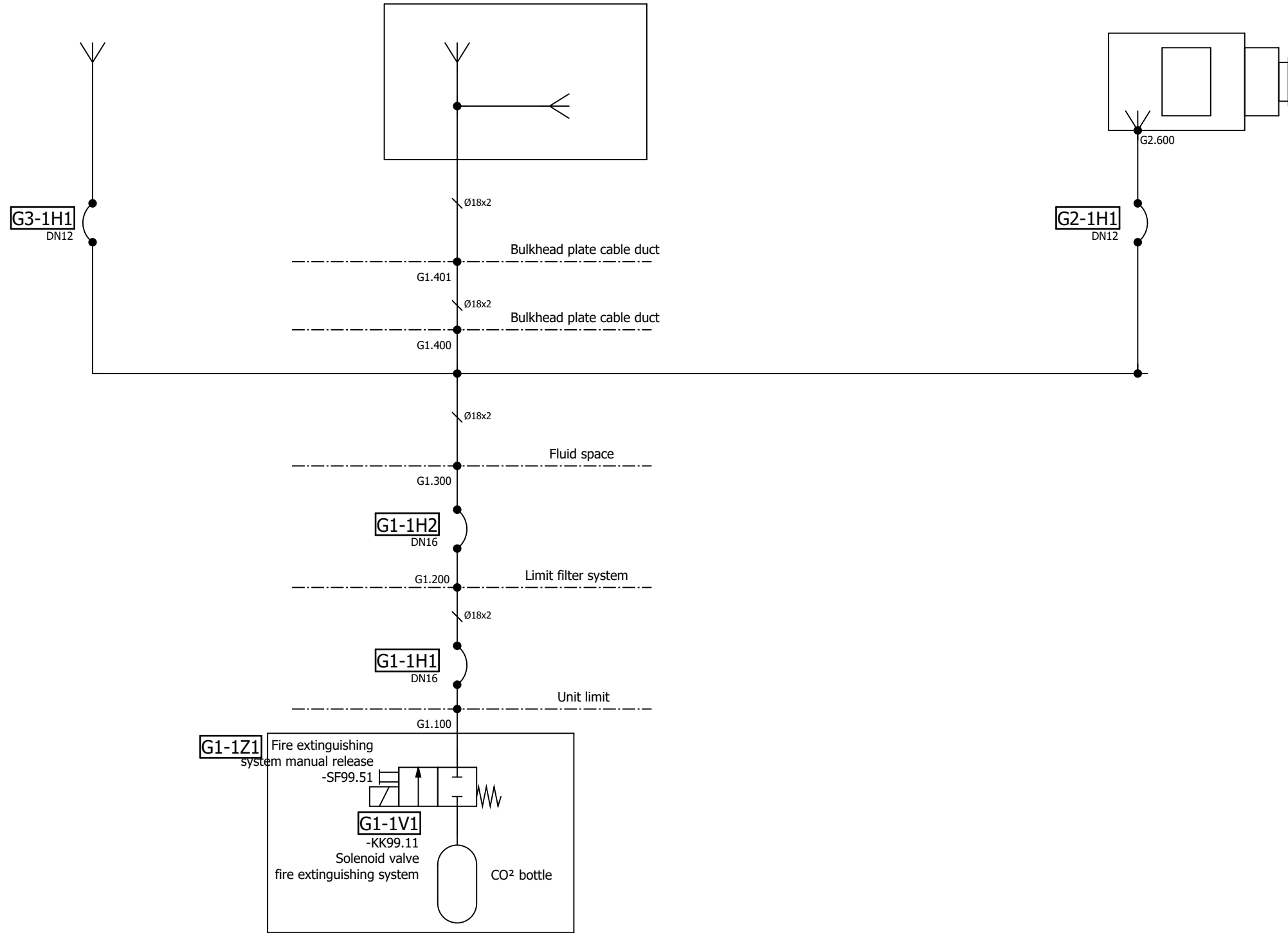
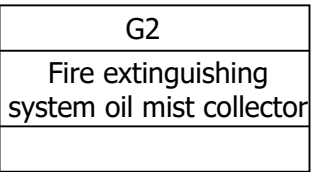
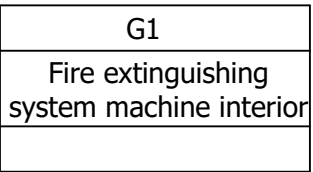
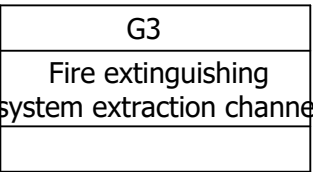


# parts list

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			date	04.07.2022	machine type <b>Speed Viper 300</b>	inventory No.	 <b>KLINGELNBERG</b>	designation / page <b>STL process cooling</b>	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=PROZESSKUEHLUNG	
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		on	06.07.2022	customer	KLINGELNBERG	M. no				433021	page <b>5</b>
modification	date	name	plot	23.11.2022	origin	replac. for					



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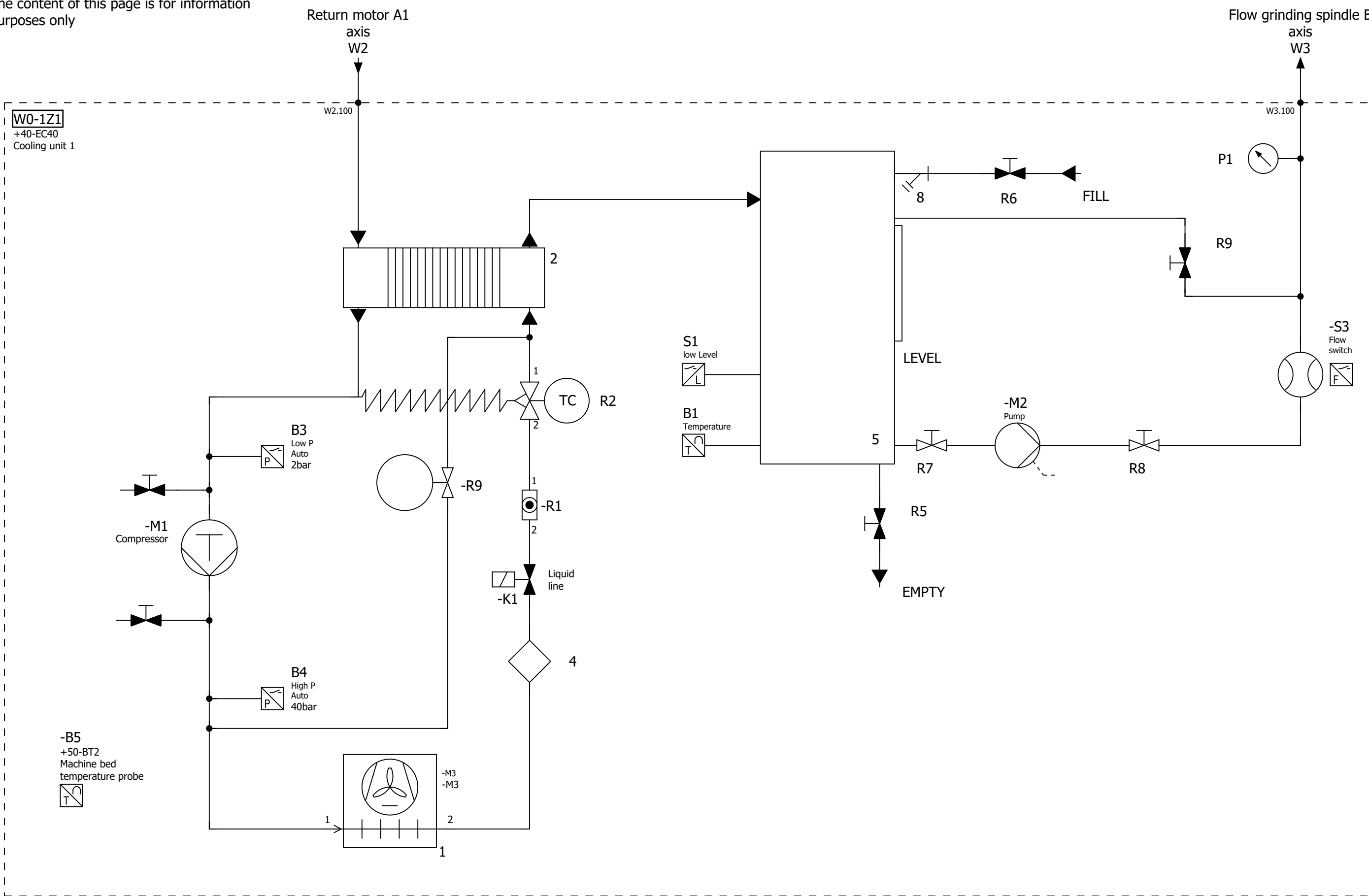
			date	04.07.2022	machine type	inventory No.		designation / page	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=FEUERLOESCHANLAGE	
			name	Sche_Kor	Speed Viper 300			CO2 fire extinguishing system		+	
			on	06.07.2022	customer KLINGELNBERG	M. no 433021					page 1
modification	date	name	plot	23.11.2022	origin	replac. for					from 2

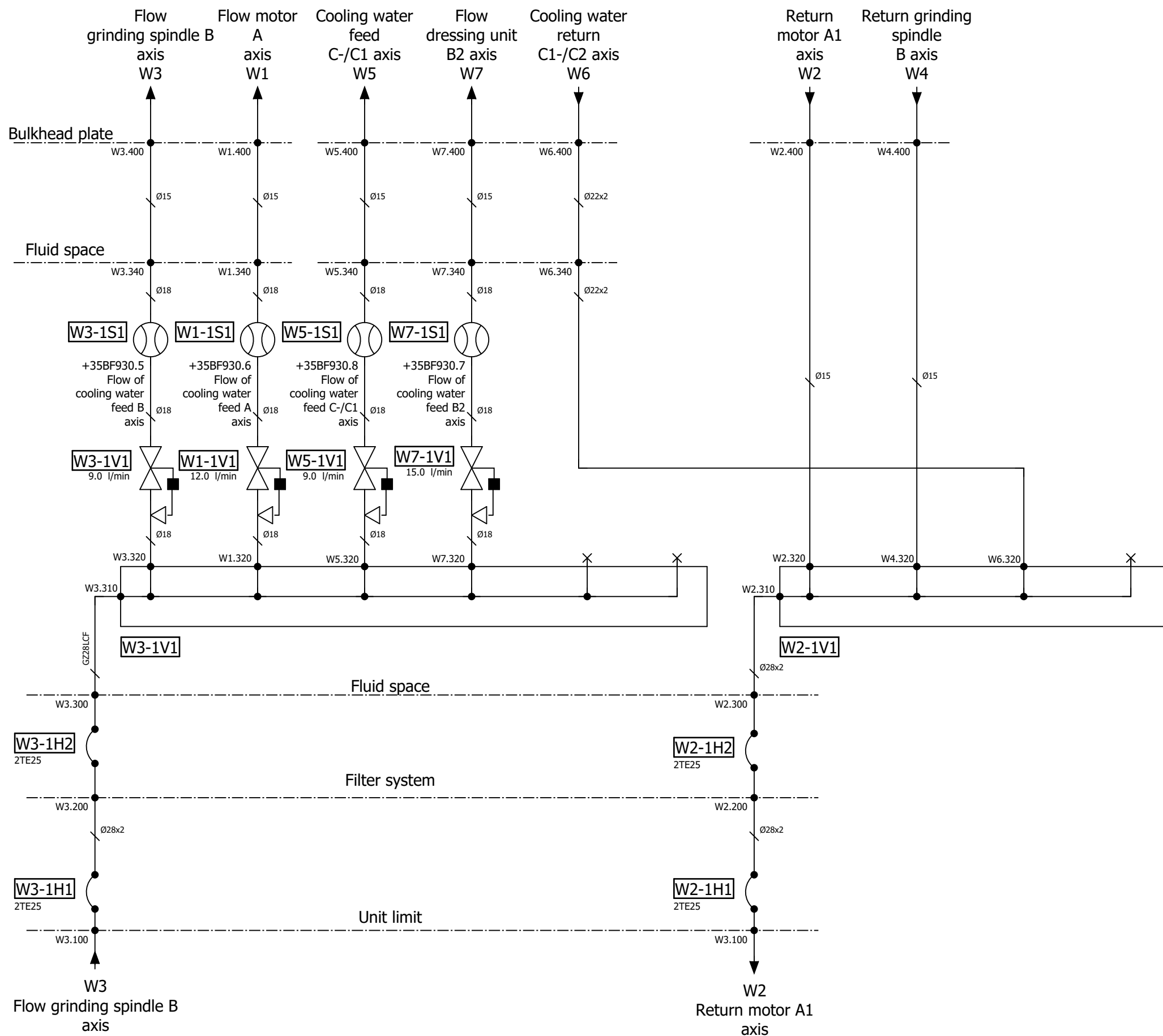
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			date	04.07.2022	machine type <b>Speed Viper 300</b>	inventory No.	 <b>KLINGELNBERG</b>	designation / page  STL fire extinguishing system	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=FEUERLOESCHANLAGE				
			name	Sche_Kor						+				
			on	06.07.2022	customer	KLINGELNBERG				M. no	433021		page	2
modification	date	name	plot	23.11.2022	origin					replac. for			from	2

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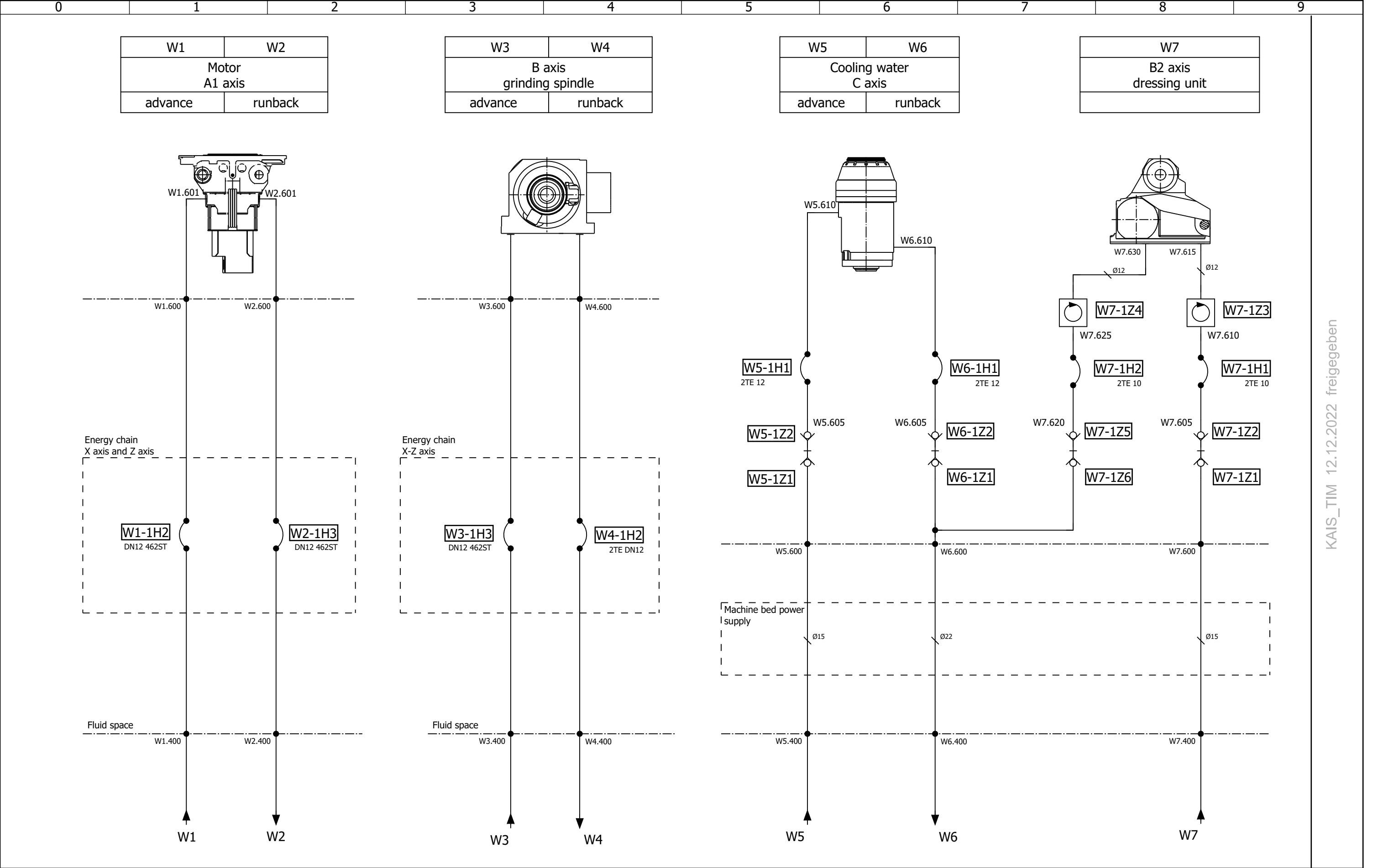




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modification	date	name	date	04.07.2022	machine type	Speed Viper 300	inventory No.			designation / page	Circuit diagram water cooling	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=WASSERKUEHLUNG	
			name	Sche_Kor									+	
			on	24.10.2022									page	2
			plot	23.11.2022									from	4





# parts list

[illegible]

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			date	04.07.2022	machine type <b>Speed Viper 300</b>	inventory No.		designation / page <b>STL water cooling</b>	We reserve all rights to this drawing. Without our prior consent, this drawing may neither be copied nor made available to third parties, nor may it be misused by the recipient or third party in any other way. Contraventions may result in damages and may have criminal consequences	=WASSERKUEHLUNG		
		name	Sche_Kor	+								
		on	06.07.2022	customer	KLINGELNBERG	M. no				433021	page	4
modification	date	name	plot	23.11.2022	origin	replac. for						