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HELLER**Customer** **Paccar, Columbus USA**

workpiece Cylinder Block

Project description P-009084

Part characteristic

Inventory number

HELLER project **MP.05479300_F**

Machine serial number 54793.00

Machine type H 10000 MC

Control

Mounting position

Job No.

Total list

Manufacturer Gebr. Heller Maschinenfabrik GmbH

Gebrüder-Heller-Straße 15

72622 Nürtingen

Project Manager

Created on 09.09.2015

Abbreviation

Phone

e-mail

Modification date 04.04.2017

Abbreviation AHFE/ZAJ

CAD system ePLAN 2.2.5

Number of pages 61

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CAD-System ePLAN 2.2.5	URSPR./ORIG.	GEPR./CHECK./REG.				M-NR/M-NO/ M-NO		BENENNUNG/NAME/DENOMINAÇÃO table of contents	INV-NR/INV-NO/NO-INV
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Structure identifier overview

Strukturkennzeichen_Dyn

designation	Structure description
+APC	pallet changer
+ATC	tool changer
+CC	chip conveyor
+CC1	chip conveyor 1
+CC2	chip conveyor 2
+CC3	chip conveyor 3
+CC4	chip conveyor 4
+CC5	chip conveyor 5
+CCT	transverse conveyor
+CF	workpiece clamping fixture
+CLU	cooling lubricant unit
+EC	electrical cabinet
+EC1	mounting panel electrical cabinet
+EME	emulsion mist extraction
+GI	general information
+GLS	guarding - loading station
+GMA	guarding - machining area
+GMS	guarding - magazin/maintenance side
+GOS	guarding - operating side
+H1	HELP1
+H2	HELP2
+H15	HELP1/5
+M	machine
+MC	column
+MQL	minimal quantity lubrication
+MT	table
+MTR	machine table rotary axis
+MTS	machine table swivel axis

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CAD-System ePLAN 2.2.5				URSPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		BENENNUNG/NAME/DENOMINAÇÃO Structure identifier overview	INV-NR/INV-NO/NO-INV
				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO			
				ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA			

Structure identifier overview

Strukturkennzeichen_Dyn

designation	Structure description
+MU	unit
+MUT	machine table swivel axis
+OU1	operating unit - machining area
+OU2	operating unit - workpiece loading station
+OU3	operating unit - tool loading station
+OU11	hand-held operating unit
+OU33	Rack-type tool magazine hand-held operating unit
+PM	pallet magazine
+PMD	pallet magazine door
+PMI	pallet magazine interface
+TM	tool magazine
+TMDR	tool magazine door racktype
+TMIR	tool magazine interface racktype
+TMLR	tool magazine loader racktype
+TMR	tool magazine racktype
+TMSR	tool magazine station racktype
+WFL	robot
+WLS	workpiece loading station
+WTL	workpiece toloading

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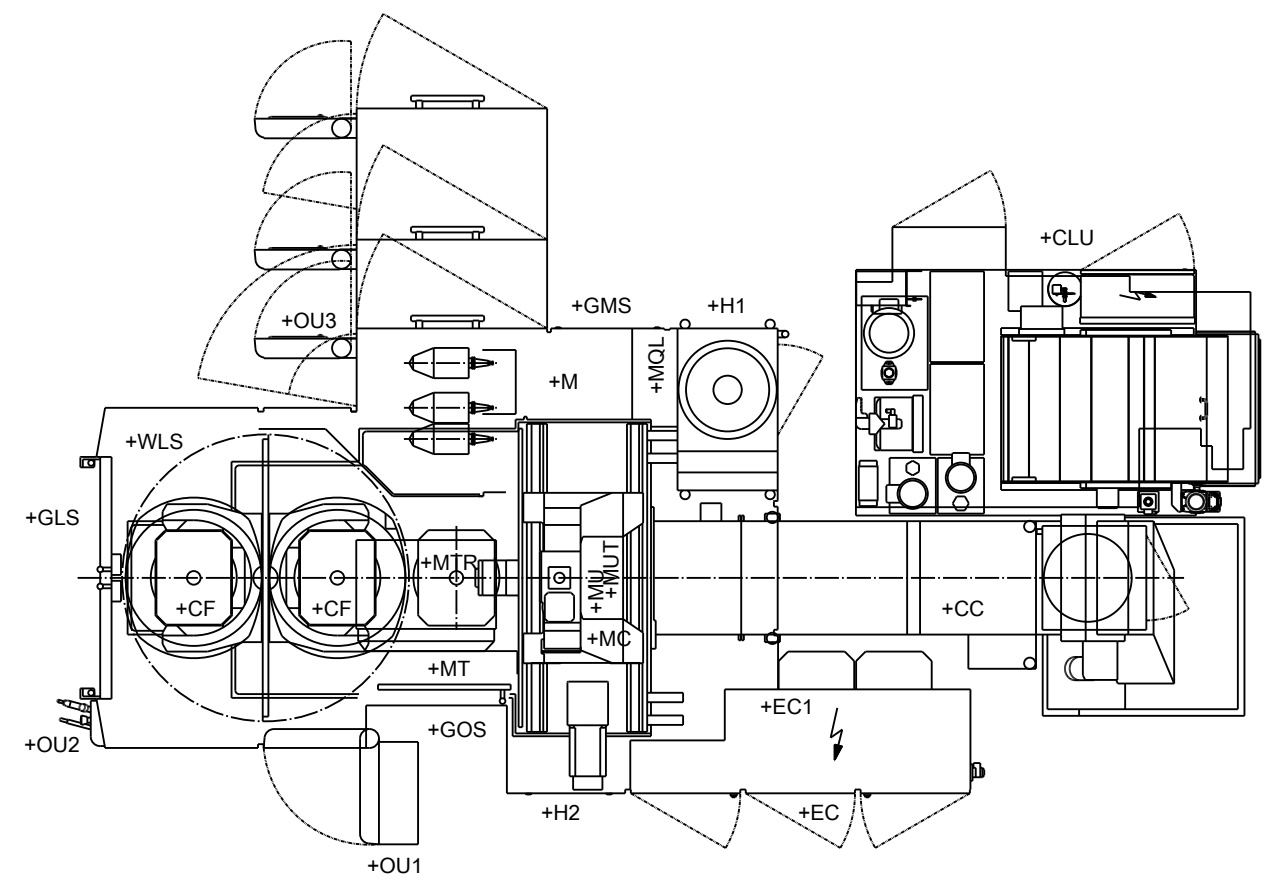
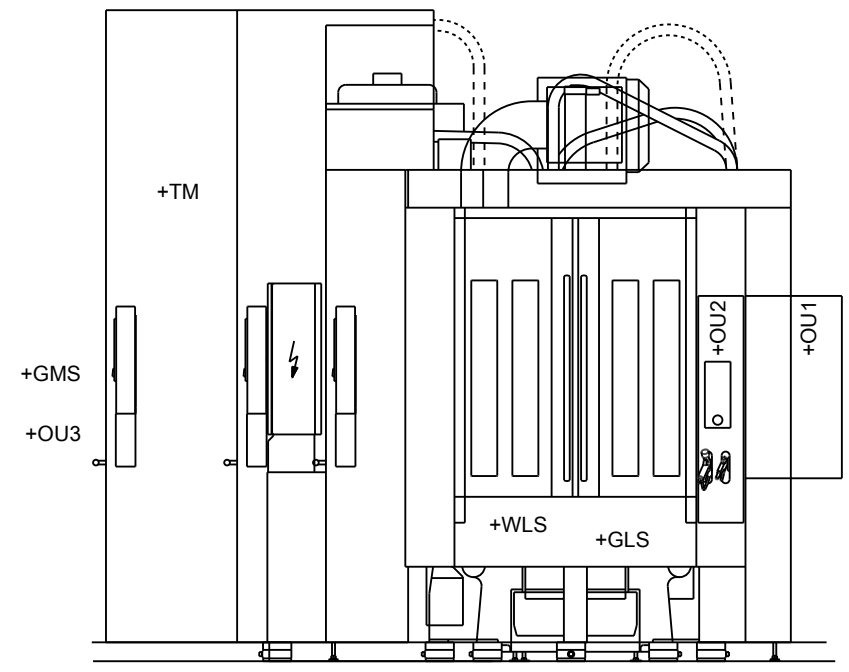
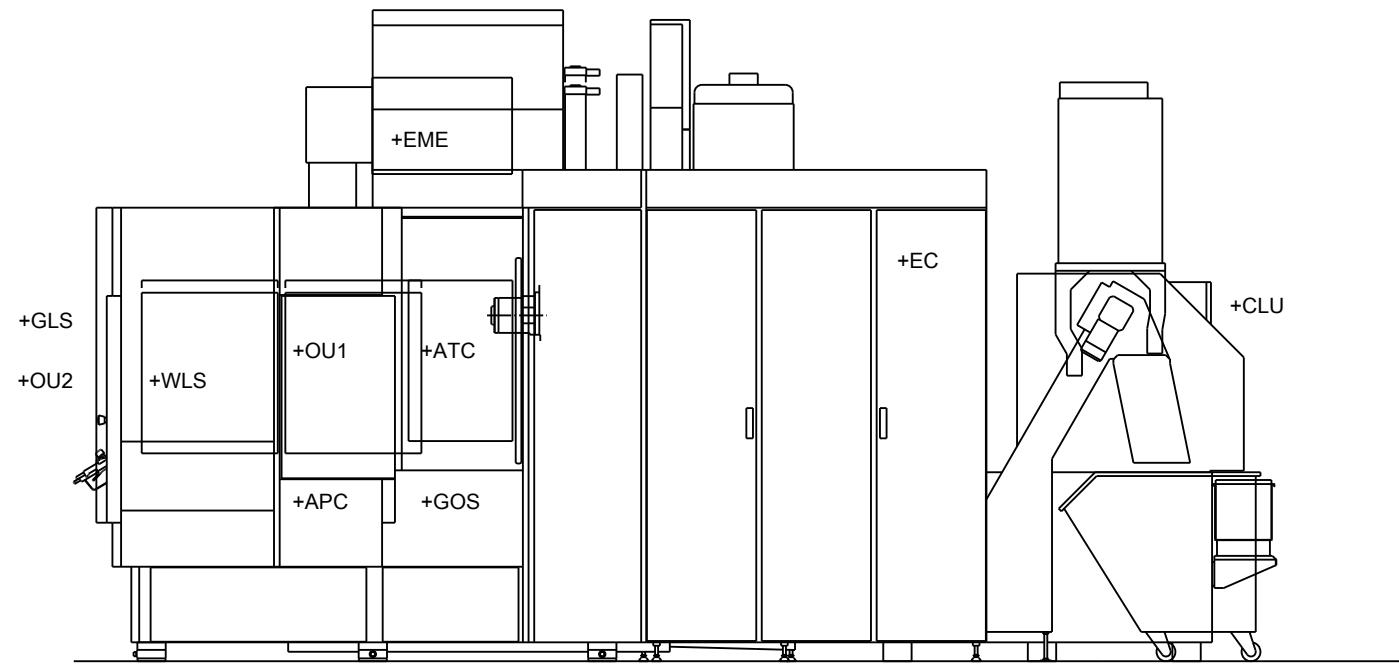
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ePLAN 2.2.5	ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ		TYP/TYPE/ TIPO	BENENNUNG/NAME/DENOMINAÇÃO Structure identifier overview	INV-NR/INV-NO/NO-INV
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- +ATC tool changer
- +APC pallet changer
- +CC chip conveyor
- +CF workpiece clamping fixture
- +CLU cooling lubricant unit
- +EC electrical cabinet
- +EC1 mounting panel electrical cabinet
- +EME emulsion mist extraction
- +GLS guarding - loading station
- +GMS guarding - magazin/maintenance side
- +GOS guarding - operating side
- +H1 HELP1
- +H2 HELP2
- +MC column
- +M machine
- +MQL minimal quantity lubrication
- +MT table
- +MTR machine table rotary axis
- +MU unit
- +MUT machine table swivel axis
- +MU unit
- +OU1 operating unit - machining area
- +OU3 operating unit - tool loading station
- +TM tool magazine
- +WLS workpiece loading station

← 3.a

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ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	27.10.2016	AHFE/HJO001	TYP/TYPE/ TIPO		Machine overview	INV-NR/INV-NO/NO-INV	Document type
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parameter list

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<p>+H1-363I640/4 FS 0.3 Uni = cm SP1 = 34 cm SP2 = 30 cm OU1 = Hnc OU2 = Hno rP1 = 33,5 cm rP2 = 29,5 cm OFS = 20</p>	<p>+H1-363I657 PS 0.16 Uni = bar SP1 = 180 bar OU1 = Hno rP1 = 175 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-364I662 PS 100.32 Uni = bar SP1 = 2 bar OU1 = Hno rP1 = 1,8 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+MU-364II665 PS 215.10 Uni = bar SP1 = 1,5 bar OU1 = Hno rP1 = 1,3 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H2-430I1310 PS 70.7 Uni = bar SP1 = 160 bar OU1 = Hno rP1 = 158 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>
<p>+H1-363I643/7 RES 0.25 Uni = °C SP1 = 50 °C SP2 = 65 °C OU1 = Hno OU2 = Hnc rP1 = ? °C rP2 = ? °C dS1 = 0,0 dS2 = 0,0 dr1 = 0,0 dr2 = 0,0 P-n = PnP dis = d2 FOU1 = OFF FOU2 = OFF Mmod = 4W COF = 0,0</p>	<p>+H1-364I660 PS 45.5 Uni = bar SP1 = 45 bar OU1 = Hno rP1 = 43 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-364I664PS 215.22 Uni = bar SP1 = 18 bar OU1 = Hno rP1 = 16 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+MT-381I842 FLS 241.2 uni = L/min (gal/min) SP1 / FH1 = 2,5 % rP1 / FL1 = 1,25 % ou1 = Hno ou2 = I SEL1 = FLOW SEL2 = FLOW SELd = FLOW FEP1 = 100 % dAP = 0,1 diS = d2 FOU1 = ou FOU2 = ou P-n = PnP dAA = 0 MEdI = OIL.2 coLr = rEd</p>	<p>+H2-433I1360 PS 170.7 Uni = bar SP1 = 1,8 bar OU1 = Hno rP1 = 1,6 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>
<p>+H1-363I653 PS 0.12 Uni = bar SP1 = 50 bar OU1 = Hno rP1 = 48 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+MU-364I661 PS 10.6 Uni = bar SP1 = 45 bar OU1 = Hno rP1 = 30 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-364I667 PS 61.11 Uni = bar SP1 = 160 bar OU1 = Hno rP1 = 155 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-386I2171PS 290.3 Uni = bar SP1 = 18 bar OU1 = Hno rP1 = 16 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-8516FLS 100.37 Uni = ScFm SP1 = - L/min SP2 = - L/min OU1 = ImP OU2 = I rP1 = - L/min rP2 = - L/min ImPS = 00.10 ImPR = YES ASP = 0.0 AEP = 12.5 dAP = 0.6 dis = d3 FOU1 = OFF FOU2 = OFF rTo = OFF SELd = FLOW</p>

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CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR./M-NO/ M-NO		
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	M54793	parameter list	MP.05479300_F =M54793 1
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ			A3

parameter list

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<p>+H1-363I640/4 FS 0.3 Uni = cm SP1 = 34 cm SP2 = 30 cm OU1 = Hnc OU2 = Hno rP1 = 33,5 cm rP2 = 29,5 cm OFS = 20</p>	<p>+H1-363I657 PS 0.16 Uni = psi SP1 = 2611 psi OU1 = Hno rP1 = 2538 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-364I662 PS 100.32 Uni = psi SP1 = 29 psi OU1 = Hno rP1 = 26 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+MU-364II665 PS 215.10 Uni = psi SP1 = 22 psi OU1 = Hno rP1 = 19 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H2-430I1310 PS 70.7 Uni = psi SP1 = 2321 psi OU1 = Hno rP1 = 2292 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>
<p>+H1-363I643/7 RES 0.25 Uni = °C SP1 = 50 °C SP2 = 65 °C OU1 = Hno OU2 = Hnc rP1 = ? °C rP2 = ? °C dS1 = 0,0 dS2 = 0,0 dr1 = 0,0 dr2 = 0,0 P-n = PnP dis = d2 FOU1 = OFF FOU2 = OFF Mmod = 4W COF = 0,0</p>	<p>+H1-364I660 PS 45.5 Uni = psi SP1 = 653 psi OU1 = Hno rP1 = 624 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-364I664PS 215.22 Uni = psi SP1 = 261 psi OU1 = Hno rP1 = 232 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+MT-381I842 FLS 241.2 uni = L/min (gal/min) SP1 / FH1 = 2,5 % rP1 / FL1 = 1,25 % ou1 = Hno ou2 = l SEL1 = FLOW SEL2 = FLOW SELd = FLOW FEP1 = 100 % dAP = 0,1 diS = d2 FOU1 = ou FOU2 = ou P-n = PnP dAA = 0 MEdI = OIL.2 coLr = rEd</p>	<p>+H2-433I1360 PS 170.7 Uni = psi SP1 = 26 psi OU1 = Hno rP1 = 23 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>
<p>+H1-363I653 PS 0.12 Uni = psi SP1 = 725 psi OU1 = Hno rP1 = 696 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+MU-364I661 PS 10.6 Uni = psi SP1 = 653 psi OU1 = Hno rP1 = 435 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-364I667 PS 61.11 Uni = psi SP1 = 2321 psi OU1 = Hno rP1 = 2248 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-386I2171PS 290.3 Uni = psi SP1 = 261 psi OU1 = Hno rP1 = 232 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-8516FLS 100.37 Uni = ScFm SP1 = - L/min SP2 = - L/min OU1 = lmp OU2 = l rP1 = - L/min rP2 = - L/min lmpS = 00.10 lmpR = YES ASP = 0.0 AEP = 12.5 dAP = 0.6 dis = d3 FOU1 = OFF FOU2 = OFF rTo = OFF SELd = FLOW</p>

← 1

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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		Paccar, Columbus USA	project
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	M54793	parameter list	INV-NR/INV-NO/NO-INV	Machine
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ				Document type
								Mounting position	
								Page name	2


Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.	device tag	number	denomination	Type	Manufacturer	Heller no.
+H1-0.2	1	oil level indicator	FSA-127-1.XI-/12 700036	Hydac	01.031751	+H1-0.24-1	1	pressure gauge	EN837-23-B-063-G1/4B- 0/250bar-1,6-Glyz schwarz		01.009677
+H1-0.3	1	level sensor	LK7022	IFM Electronic	01.089136	+H1-0.24-2	1	high-pressure hose	S100-AC-AC-0063 DN2 630 mm 250bar	Hydrotechnik	01.006183
+H1-0.3-0.1	1	hydraulic power unit		Heller Maschinenfabrik		+H1-0.25	1	Evaluation unit	TR7439	IFM Electronic	01.112877
+H1-0.4	1	filler filter	ELF P 3 F 10 W1.X R900011023	Bosch Rexroth	01.100511	+H1-0.26	1	plate	min./max.	Heller Maschinenfabrik	10.500538
+H1-0.5	1	Three-phase motor	1LE1023-1CB03-4FA4-Z 1LE1023-1CB03-4FA4-Z L02+M10	Siemens	21.022591E	+H1-0.27	1	plate	filter element	Heller Maschinenfabrik	10.500947
+H1-0.6	1	pump carrier	PK 300/05/21-20 103026052120	KTR	01.111926	+H1-0.29	1	pressure relief valve	DBDS6G1X/315 G1/4 R900423720	Bosch Rexroth	01.103214
	1	flange	AB33-33/PTFL 300 R900025969	Bosch Rexroth	01.106677	+H1-0.30	1	pressure relief valve	DBDS10G1X/200 G1/2 R900424140	Bosch Rexroth	01.087661
+H1-0.7	1	coupling	ROTEX 28 ST, 92-Sh A T-Pur D1=22, D2=38	KTR	01.097519	+H1-0.31	1	coupling	NS-1002-16FB	Parker	01.112291
+H1-0.8	1	pumps combination	A10VSO28DR1/31R-VPA12KB2-SO275 +A10VSO10DR/52R-VSA14N00	Bosch Rexroth	01.099999		1	protective cap	NR-100	Parker	01.112292
+H1-0.8-1	1	axial piston pump	A10VSO28DR1/31R-VPA12KB2-SO275 R902466631	Bosch Rexroth		+H1-0.32	1	check valve	RHD22LOMD-CF	Parker	01.002262
+H1-0.8-2	1	axial piston pump	A10VSO10DR/52R-VSA14N00 R902428494	Bosch Rexroth		+H1-0.35	1	vent valve	3.3518-05 002	Teves	01.002650
+H1-0.9	1	measuring connection	GMA3/18LOMDCF	Parker	01.084636		1	nipple	D8	Heller Maschinenfabrik	00.783370
+H1-0.10	1	hose line	DIN 20066-2SC16-NN- 650-P 462-10- 650	Parker	01.109210	+MU-0.50	1	hose line	DIN 20066-2SC10-NN-2800-P 462- 6-2800	Parker	01.099730
+H1-0.11	1	hose line	S100-CR-CR-....	Hydrotechnik		+MU-0.51	1	hose line	DIN 20066-2SC10-NN-2800-P 462- 6-2800	Parker	01.099730
+H1-0.12	1	pressure switch	PN7092 0-100bar, G1/4	IFM Electronic	01.111726	+MU-10.1	1	manifold	A064 R3/8 SB2	Parker	01.078214
+H1-0.13	1	measuring connection	GMA3/12LOMDCF	Parker	01.084635	+MU-10.2	1	directional control valve	4WE 6 D 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098700
+H1-0.14	1	hose line	DIN 20066-2SC10-NN- 900-P 462- 6- 900	Parker	01.099725	+MU-10.5	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H1-0.15	1	hose line	S100-CR-CR-....	Hydrotechnik		+MU-10.6	1	pressure switch	PN7092 0-100bar, G1/4	IFM Electronic	01.111726
+H1-0.16	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727	+MU-10.10	1	hose line	381-4 SAE 100R2 DIN20022 2SN	Parker	
+H1-0.17	1	return line filter	10TEN0100-H10XLA00-P2,2-M-R4 R928041275	Bosch Rexroth	01.106168	+MU-10.11	1	hose line	381-4 SAE 100R2 DIN20022 2SN	Parker	
+H1-0.17-1	1	filter element	1.0100 H10XL-A00-0-M R928005873	Bosch Rexroth	01.106169	+MU-10.20	1	tool spindle	EPC100	Heller Maschinenfabrik	
+H1-0.17-2	1	clogging indicator	WE-2SP-M12x1 R928028410	Bosch Rexroth	01.106289	+H1-32.2	1	intermediate plate	HSZ 06 A085-3X/M00 R900514667	Bosch Rexroth	01.092767
+H1-0.18	1	oil/water heat exchanger	AB32-12/00-K-006-22 R900028816	Bosch Rexroth	01.102735	+H1-32.2-1	1	nozzle	D=2,5 - M8x1 DIN 906 00137445	Bosch Rexroth	01.093578
+H1-0.19	1	hose line	DIN 20066-2SC10-NN- 650-P 462- 6- 650	Parker	01.108379	+H1-32.2-2	1	nozzle	D=1,8 - M8x1 DIN 906 00150953	Bosch Rexroth	01.092770
+H1-0.21	1	control valve	AB21-22/10-15 R900002427	Bosch Rexroth	01.101087	+H1-32.3	1	pressure reducing valve	ZDR 6 DP 2-4X/75 YM NG6, 75bar R900483786	Bosch Rexroth	01.081132
+H1-0.22	1	ball valve	DN15, PN32, G1/2 MLG V 032.715	Böhmer	01.077305		1	measuring connection	EMA3/1/4EDCF G1/4A - M16	Parker	01.084632
+H1-0.23	1	ball valve	DN15, PN32, G1/2 MLG V 032.715	Böhmer	01.077305	+H1-32.4	1	directional control valve	4WE 6 Q 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098703
+H1-0.24	1	measuring device	0-250bar	Hydrotechnik	13.021566	+TM-32.11	1	hose line	DIN 20066-2SC10-NN-1320-P 462- 6-1320	Parker	01.100211

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ART DER ÄNDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	54793.00		KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54793		Paccar, Columbus USA	project	MP.05479300_F
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 PC		INV-NR/INV-NO/NO-INV	Machine	=M54793
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA		BENENNUNG/NAME/DENOMINAÇÃO		Document type	&H hydraulic diagram
										Mounting position	
										Page name	0

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.	device tag	number	denomination	Type	Manufacturer	Heller no.
+TM-32.12	1	hose line	DIN 20066-2SC10-NN-1050-P 462- 6-1050	Parker	01.100215	+APC-42.13	1	directional control valve	WRF 22 F06 P 040 G1	Parker	01.099110
+TM-32.13	1	hydraulic cylinder	CDT3MX3/25/12/350Z20B14HXETWW R901374280	Bosch Rexroth	01.108914	+APC-42.14	1	manifold	rechts	Heller Maschinenfabrik	00.880051
+H1-33.2	1	check valve	Z1S 6 P05-4X/V R901086051	Bosch Rexroth	01.081137	+APC-42.15	1	directional control valve	WRF 22 F06 P 040 G1	Parker	01.099110
+H1-33.3	1	intermediate plate	HSZ 06 A085-3X/M00 R900514667	Bosch Rexroth	01.092767	+APC-42.16	1	manifold	G 342/01 - G3/8 R900424448	Bosch Rexroth	01.099824
+H1-33.3-1	1	nozzle	D=2,5 - M8x1 DIN 906 00137445	Bosch Rexroth	01.093578	+APC-42.17	1	flow control valve	2FRM 6B3 6-3./6Q R/V	Bosch Rexroth	01.087650
+H1-33.3-2	1	nozzle	D=1,8 - M8x1 DIN 906 00150953	Bosch Rexroth	01.092770	+APC-42.18	1	manifold	G 342/01 - G3/8 R900424448	Bosch Rexroth	01.099824
+H1-33.4	1	pressure reducing valve	ZDR 6 DP 2-4X/75 YM NG6, 75bar R900483786	Bosch Rexroth	01.081132	+APC-42.19	1	flow control valve	2FRM 6B3 6-3./6Q R/V	Bosch Rexroth	01.087650
	1	measuring connection	EMA3/1/4EDCF G1/4A - M16	Parker	01.084632	+APC-42.20	1	manifold	G 342/01 - G3/8 R900424448	Bosch Rexroth	01.099824
+H1-33.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704	+APC-42.21	1	series valve	DZ 6 DP2-5./210YM NG6, 210bar	Bosch Rexroth	01.081135
+TM-33.11	1	hose line	DIN 20066-2SC10-NN-1500-P 462- 6-1500	Parker	01.100681	+APC-42.22	1	manifold	G 342/01 - G3/8 R900424448	Bosch Rexroth	01.099824
+TM-33.12	1	hose line	DIN 20066-2SC10-NN-1200-P 462- 6-1200	Parker	01.099727	+APC-42.23	1	series valve	DZ 6 DP2-5./210YM NG6, 210bar	Bosch Rexroth	01.081135
+TM-33.13	1	hydraulic cylinder	CHNB-25-289-DCM 2430 M D=25/12 H289	SMC	01.106047	+H2-43.1	1	manifold	SA 101 DS2 10.500381	Heller Maschinenfabrik	13.500667
+MT-41.1	1	rotary feed table		Heller Maschinenfabrik		+H2-43.2	1	throttle check valve	Z2FS 10-5/3X	Bosch Rexroth	01.099160
+H1-41.2	1	intermediate plate	HSZ 06 A028-3X/M01 R900515514	Bosch Rexroth	01.096731	+H2-43.3	1	pilot operated check valve	Z2S 10-1-3X/-	Bosch Rexroth	01.087739
+H1-41.4	1	pressure reducing valve	ZDR 6 DP 2-4X/75 YM NG6, 75bar R900483786	Bosch Rexroth	01.081132	+H2-43.4	1	directional control valve	4WEH10-Q4X/6EG24N9ETK73L/B10-SO803	Bosch Rexroth	01.094239
+H1-41.5	1	directional control valve	4WE 6 D 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098700	+H2-43.5	1	measuring connection	EMA3/1/2EDCF G1/2A - M16	Parker	01.107205
+H1-41.6	1	measuring connection	EMA3/3/8EDCF	Parker	01.084633	+H2-43.6	1	measuring connection	EMA3/1/2EDCF G1/2A - M16	Parker	01.107205
+MT-41.11	1	hose line	DIN 20066-2SC 8-NN-3250-P 462- 5-3250	Parker	01.101939	+APC-43.10	1				99.99990
+H2-42.1	1	manifold	SA 064 DS1 10.500269	Heller Maschinenfabrik	13.500398	+H1-45.1	1	check valve	Z1S 6 T05-4X/V R901086058	Bosch Rexroth	01.084380
+H2-42.2	1	intermediate plate	HSZ 06 A327-3X/M01 R900523147	Bosch Rexroth	01.105656	+H1-45.2	1	intermediate plate	HSZ 06 A085-3X/M00 R900514667	Bosch Rexroth	01.092767
+H2-42.3	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456	+H1-45.2-1	1	nozzle	D=3,2 - M8x1 DIN 906 R900855716	Bosch Rexroth	01.102282
+H2-42.4	1	directional control valve	4WE 6 Q 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098703	+H1-45.3	1	pressure reducing valve	ZDR 6 DP 2-4X/75 YM NG6, 75bar R900483786	Bosch Rexroth	01.081132
+H2-42.5	1	measuring connection	EMA3/3/8EDCF	Parker	01.084633	+H1-45.4	1	directional control valve	4WE 6 D46 6X/OFEG24N9K73L/SO407, 8W	Bosch Rexroth	01.098699
+H2-42.6	1	measuring connection	EMA3/3/8EDCF	Parker	01.084633	+H1-45.5	1	pressure switch	PN7092 0-100bar, G1/4	IFM Electronic	01.111726
+H2-42.7	1	throttle valve	DV-16-01.X/0	Flutec	01.065821	+H1-45.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H2-42.8	1	check valve	RHZ22LREDOMD-CF	Parker	01.060990	+H1-45.7	1	volume flow meter	VCA 2 FC R1/69 P.0139310001	Kracht	01.083920
+APC-42.9	1	hydraulic motor	112-A-036-AT-0	Parker	01.100664	+MT-45.11	1	hose line	DIN 20066-2SC10-NN-3250-P 462- 6-3250	Parker	01.099733
+APC-42.12	1	manifold	links	Heller Maschinenfabrik	00.880052	+MT-45.12	1	hose line	DIN 20066-2SC10-NN-3250-P 462- 6-3250	Parker	01.099733

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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5		Index URSPR./ORIG. ERS./REP. ERS.D./REP.W.	ZONE/ZONA GEPR./CHECK./REG. BEARB./CHG./ALT. GEZ./DRAWN/DES.	DATUM/DATE 04.04.2017 04.04.2017	NAME/NOME AHFE/ZAJ AHFE/ZAJ	PROJ./PROJ/ PROJ. 54793.00 M-NR/M-NO/ M-NO M54793 TYP/TYPE/ TIPO H 10000 PC WERKSTÜCK/ PART/PEÇA	<div style="text-align: center; font-weight: bold; font-size: 24px;">HELLER</div> BENENNUNG/NAME/DENOMINAÇÃO Device tag list hydraulics	KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA INV-NR/INV-NO/NO-INV	PLAN/PLAN/PLANO project Machine Document type Mounting position Page name MP.05479300_F =M54793 &H hydraulic diagram 0.a	0.b A3
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Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+H2-46.3	1	directional control valve	4 WP 6 D 6X/ N	Bosch Rexroth	01.095787
+H1-60.1	1	manifold	SA 066 DS1 10.500275	Heller Maschinenfabrik	13.500403
+H1-60.2	1	cover plate	110 115-11	Gutekunst	01.105658
+H1-60.9	1	check valve	RHD12LOMD-CF	Parker	01.002260
+H1-61.2	1	intermediate plate	HSZ 06 A027-3X/M01 R900515513	Bosch Rexroth	01.105657
+H1-61.3	1	auxiliary valve	ZDZ 6 DP 2- 4X/210-170YM 170bar	Bosch Rexroth	01.098138
+H1-61.5	1	directional control valve	4WE 6 D 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098700
+H1-61.6	1	measuring connection	EMA3/3/8EDCF	Parker	01.084633
+H1-61.8	1	check valve	RHD10LOMD-CF	Parker	01.002259
+H1-61.10	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H1-61.11	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+MT-61.12	1	hose line	DIN 20066-2SC 8-NN-3250-P 462- 5-3250	Parker	01.101939
+MT-61.13	1	hose line	DIN 20066-2SC 8-NN-3250-P 462- 5-3250	Parker	01.101939
+MT-61.14	1	hose line	DIN 20066-2SC 8-NN-3250-P 462- 5-3250	Parker	01.101939
+WLS-70.1	1	loading station		Heller Maschinenfabrik	
+WLS-70.1-1	1	pneumatic cylinder	D40/16x25H 0 822 341 001	AVENTICS	01.099779
+WLS-70.1-2	1	pneumatic cylinder	D25/10x25H 0 822 084 202	AVENTICS	01.095261
+H2-70.2	1	intermediate plate	HSZ 06 A027-3X/M01 R900515513	Bosch Rexroth	01.105657
+H2-70.3	1	check valve	Z1S 6 T05-4X/V R901086058	Bosch Rexroth	01.084380
+H2-70.4	1	auxiliary valve	ZDZ 6 DP 2- 4X/210-180YM 180bar	Bosch Rexroth	01.098139
+H2-70.6	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H2-70.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+H2-70.8	1	check valve	RHD10LOMD-CF	Parker	01.002259
+H2-70.10	1	measuring connection	EMA3/3/8EDCF	Parker	01.084633
+H2-71.2	1	cover plate	110 115-11	Gutekunst	01.105658
+MT-103.12	1	plastic pipe	PA 10x1 1 820 712 105	AVENTICS	01.093306
+MT-103.14	1	check valve	T55C2800 G1/4i	Norgren	01.095313
+MU-107.10	1	plastic pipe	PA 10x1 1 820 712 105	AVENTICS	01.093306

device tag	number	denomination	Type	Manufacturer	Heller no.
+MU-111.10	1	plastic pipe	PA 12x1,5 1 820 712 103	AVENTICS	01.093304
+MU-121.10	1	plastic pipe	PA 6x1 1 820 712 101	AVENTICS	01.093302
+WLS-141.11	1	throttle check valve	G1/4 Serie CC02 0 821 200 205	AVENTICS	01.086506
+MT-161.11	1	plastic pipe	PA 14x1,5 1 820 712 104	AVENTICS	01.093305
+MU-210.20	1	oil/water heat exchanger	TPL00-K-10-12 G1	Funke	01.100384
+MU-410.7	1	hose	Oilpress N/L 20 25x36 20bar IH30832006/40	Parker	01.100022

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Atenção! Leia a DIN 34

← 0.a

+H1/1 →

ART DER ÄNDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54793		Paccar, Columbus USA	project	MP.05479300_F
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 PC	Device tag list hydraulics	INV-NR/INV-NO/NO-INV	Machine	=M54793
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA				Document type	&H hydraulic diagram
									Mounting position		
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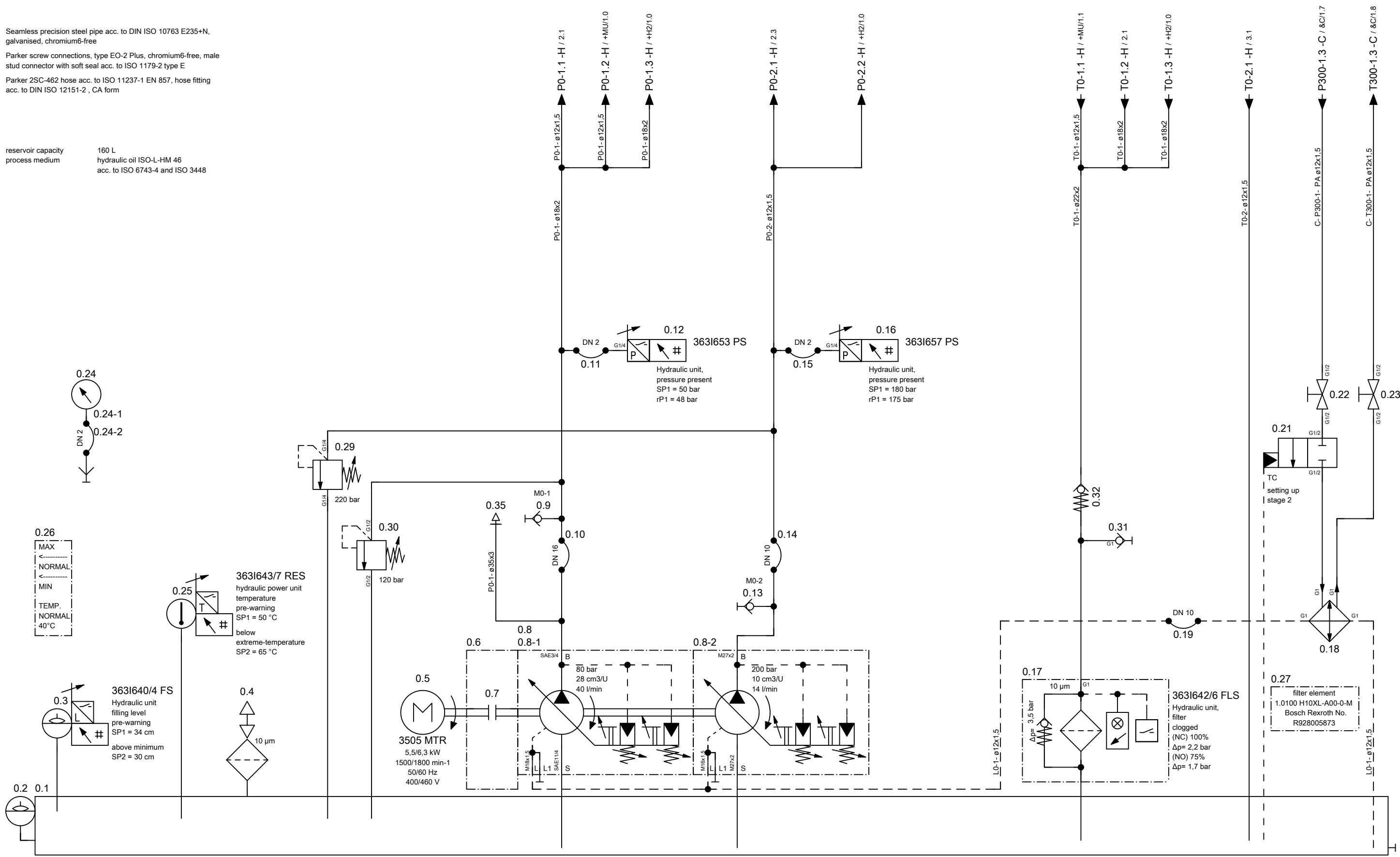
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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanized, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form

reservoir capacity 160 L
process medium hydraulic oil ISO-L-HM 46 acc. to ISO 6743-4 and ISO 3448

0 hydraulic power unit



+/-0.b

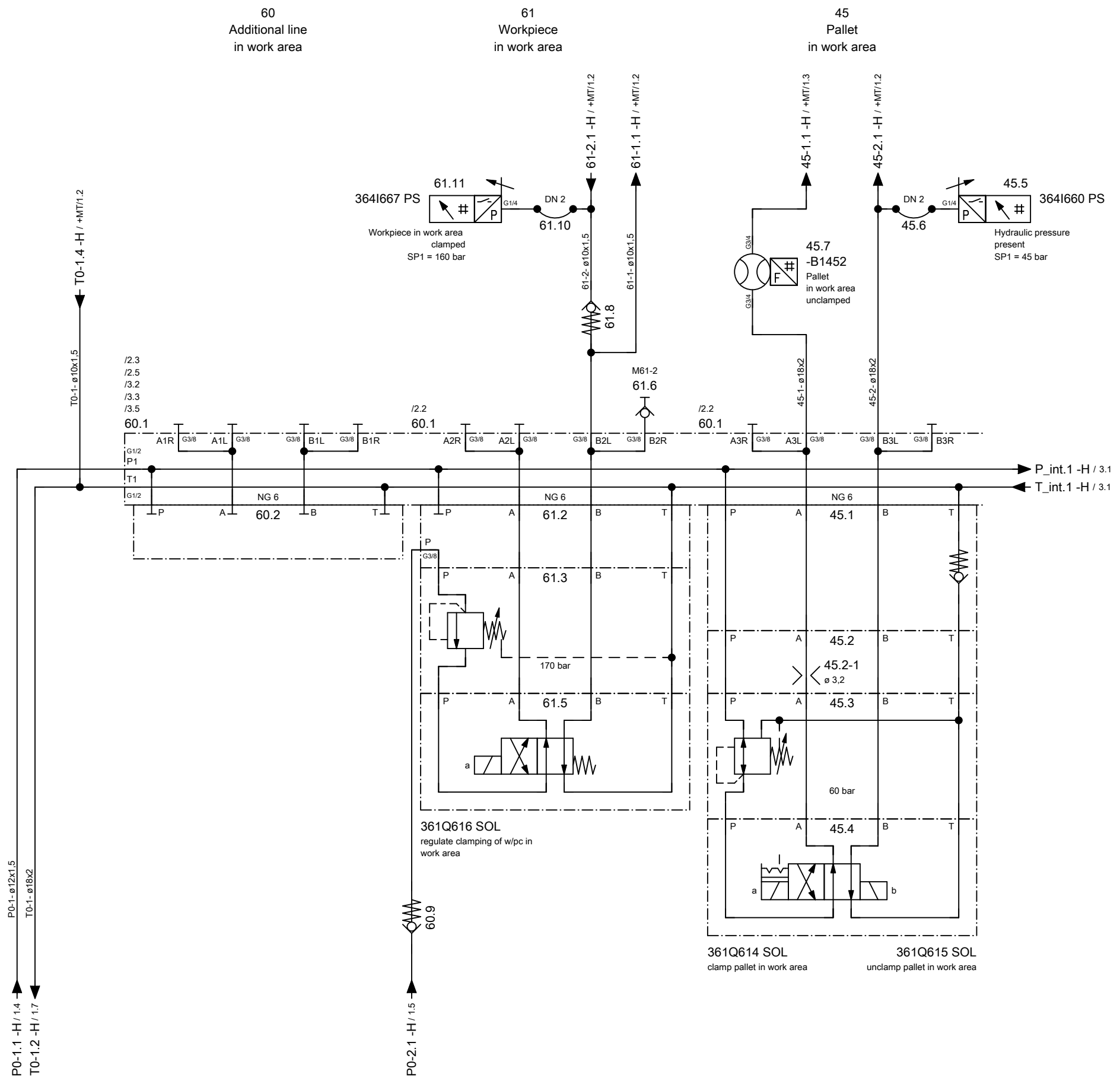
2 ->

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	54793.00	<h1 style="text-align: center;">HELLER</h1> <p style="text-align: center;">hydraulic diagram</p>	KUNDE/CUSTOMER/CLIENTE	Paccar, Columbus USA	PLAN/PLAN/PLANO	project	MP.05479300_F
CAD-System				URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-MO/M-NO	M54793		INV-NR/INV-NO/NO-INV	13.503932, 13.503916, 13.503921, 13.503925	Machine	=M54793	
ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/TIPO	H 10000 PC		Mounting position	+H1 HELP1	Document type	&H hydraulic diagram	
				ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP	WERKSTÜCK/PART/PEÇA		Page name	1				

Heller_2L

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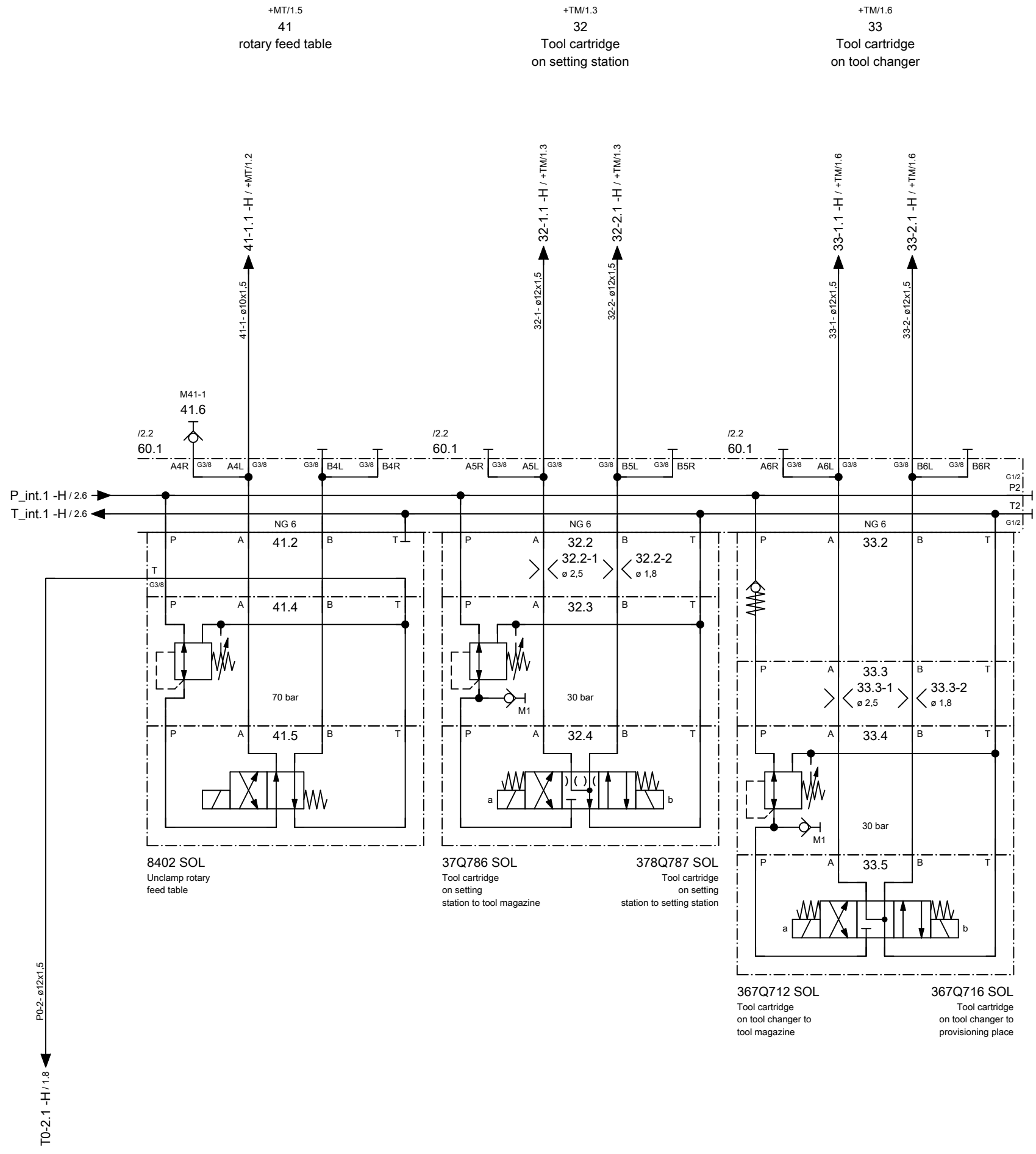


ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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											Page name	2	

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← 2

+H2/1 →

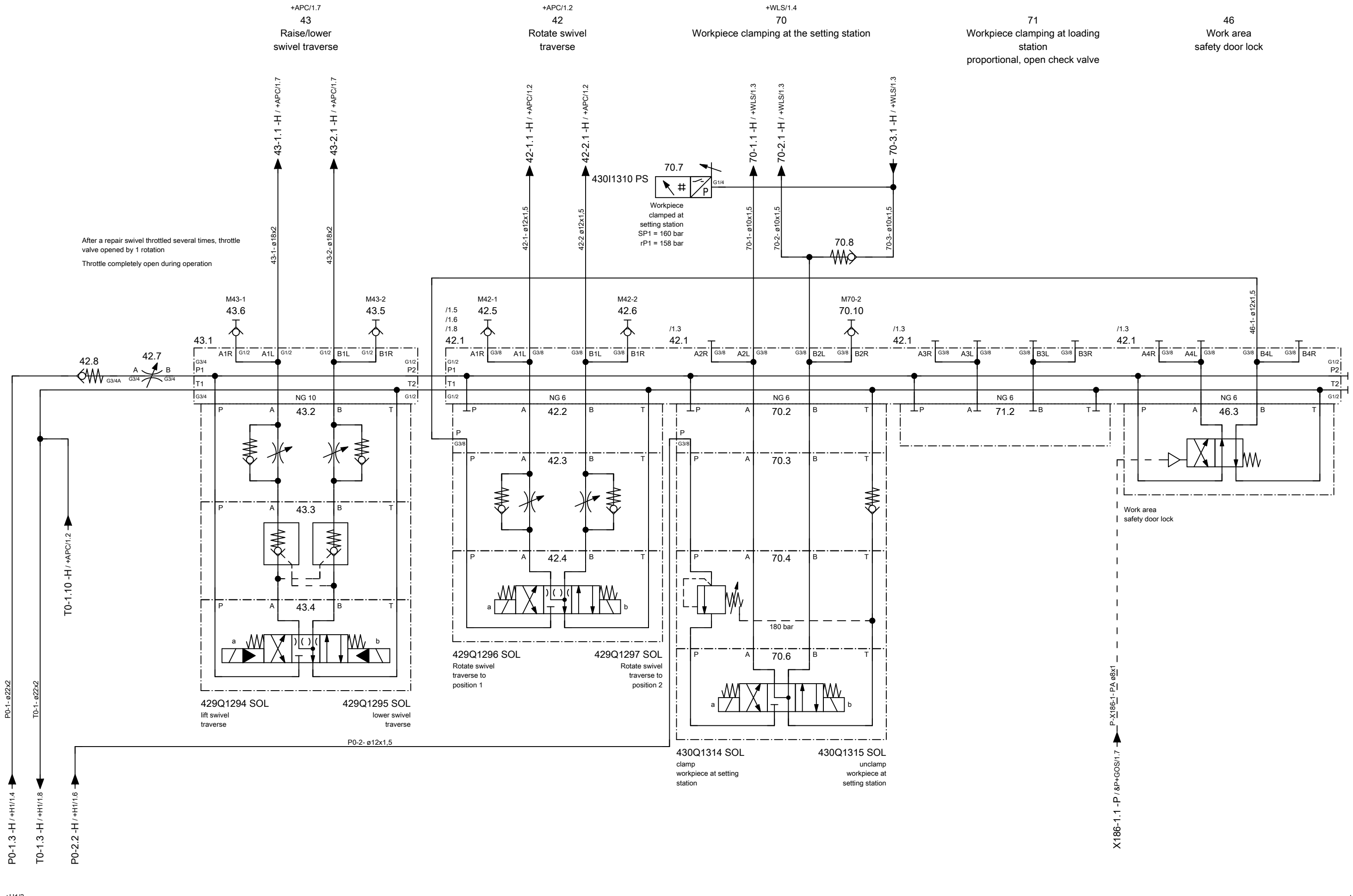
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CAD-System				URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO			Paccar, Columbus USA	project
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										INV-NR/INV-NO/NO-INV	Mounting position	+H1 HELP1
										13.503573, 13.502964, 13.503778	Page name	3

Heller_2L

A3

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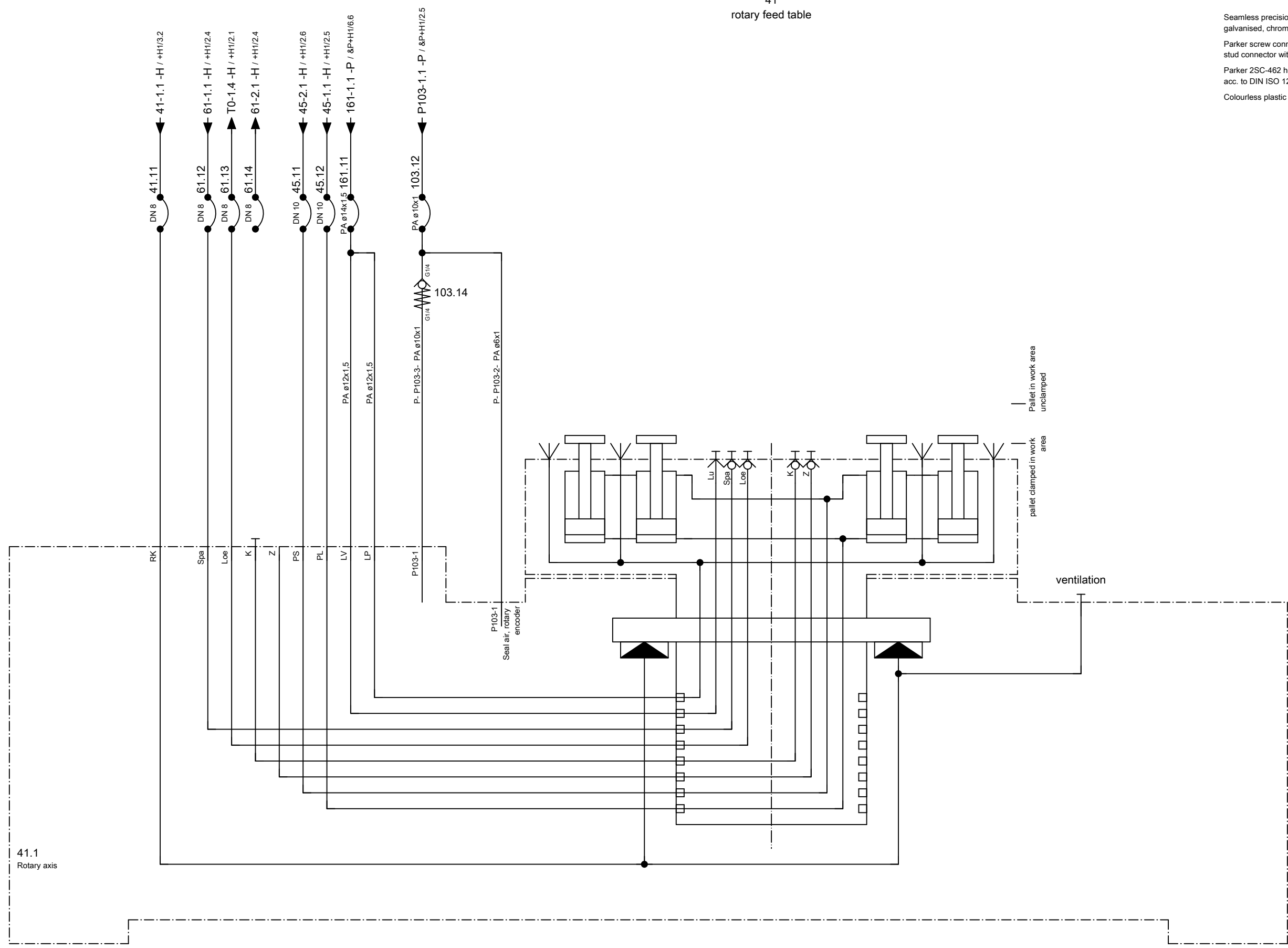
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											Mounting position	+H2 HELP2	Page name	1

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+H1/3.2
41
rotary feed table

Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Colourless plastic pipes PA, AVENTICS, push-in fittings, Steckfix



← +H2/1

+MU/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO	Index	ZONE/ZONA	DATUM/DATE	NAME/NOME
CAD-System	URSPR./ORIG.	GEPR./CHECK./REG.		
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	ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP

PROJ./PROJ./PROJ.	54793.00
M-NR./M-NO/ M-NO	M54793
TYP./TYPE/ TIPO	H 10000 PC
WERKSTÜCK/ PART/PEÇA	

HELLER

hydraulic diagram

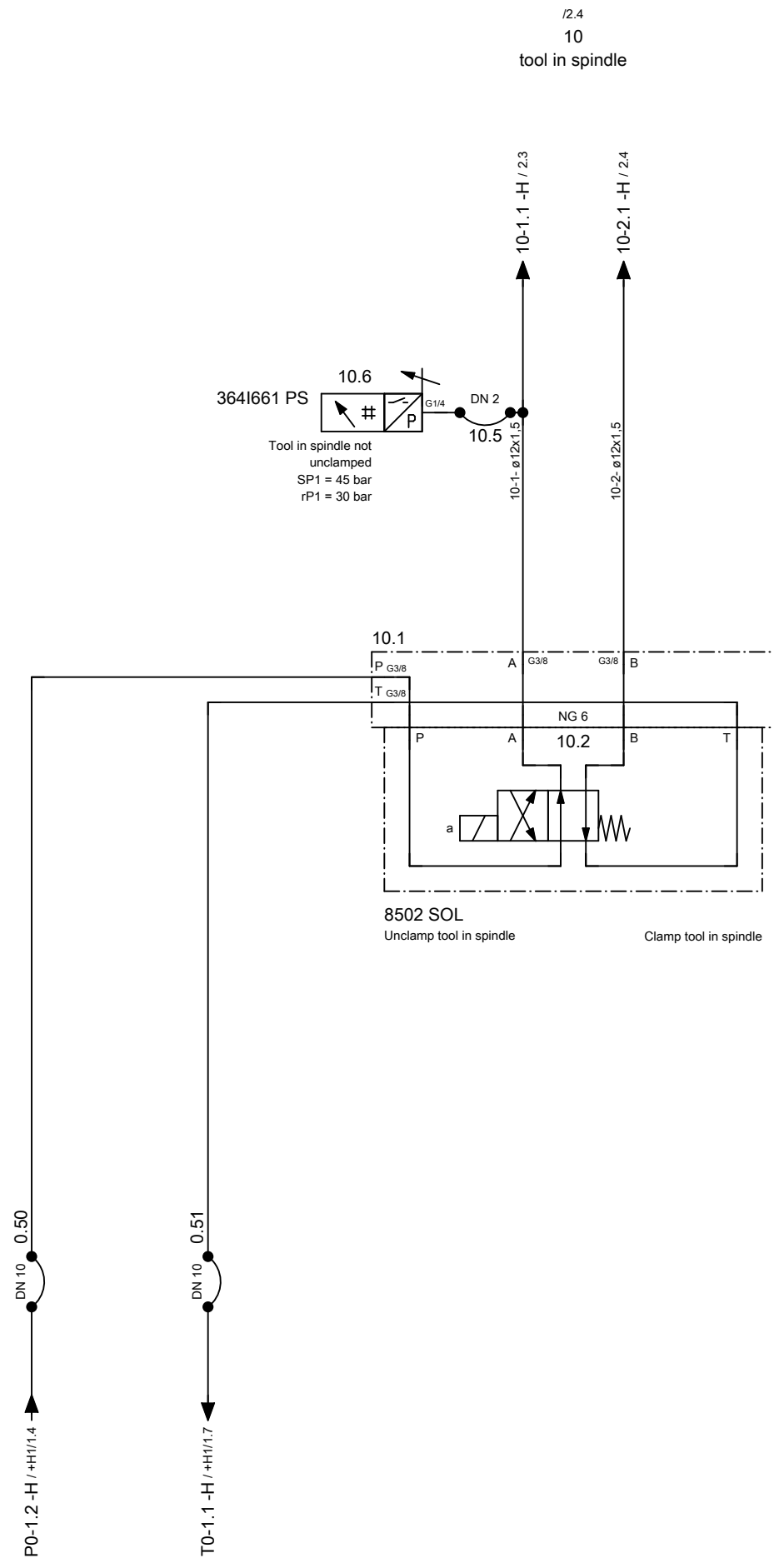
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INV-NR./INV-NO/NO-INV	

PLAN/PLAN/PLANO	project	MP.05479300_F
Machine		=M54793
Document type	&H	hydraulic diagram
Mounting position	+MT	table
Page name	1	

Heller_2L

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← MT/1

2 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME
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PROJ./PROJ./PROJ.	54793.00
M-NR./M-NO./M-NO	M54793
TYP./TYPE./TIPO	H 10000 PC
WERKSTÜCK./PART/PEÇA	

HELLER

hydraulic diagram

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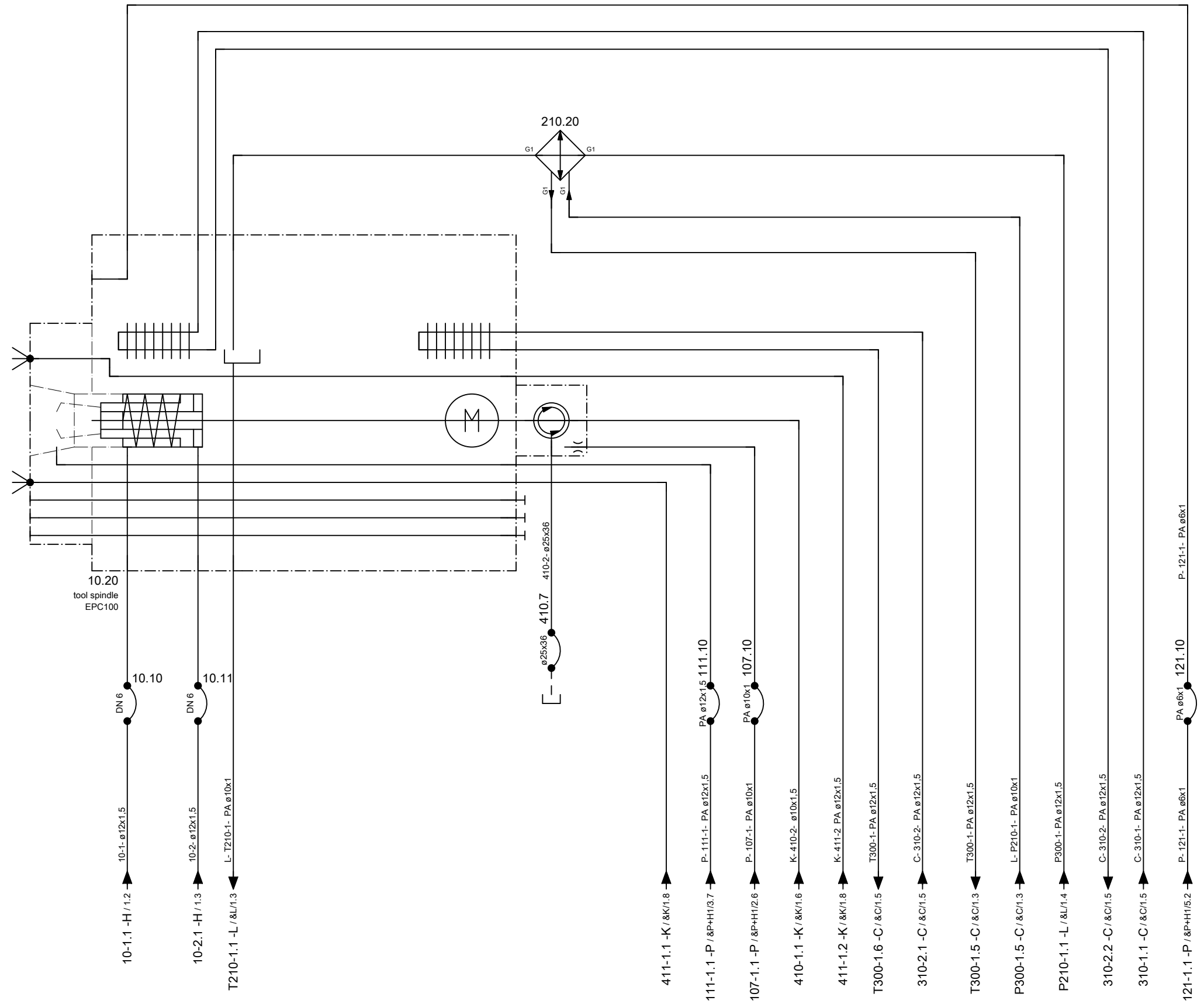
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Machine		=M54793
Document type	&H	hydraulic diagram
Mounting position	+MU	unit
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/1.2
10
tool in spindle

&L/1.4
210
gear lubrication



reservoir capacity 5 L
process medium lubrication oil ISO-L-CKC 46
acc. to ISO 6743-6 and ISO 3448

← 1

+TM/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO	Index	ZONE/ZONA	DATUM/DATE	NAME/NOME
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PROJ./PROJ./PROJ.	54793.00
M-NR/M-NO/ M-NO	M54793
TYP/TYPE/ TIPO	H 10000 PC
WERKSTÜCK/ PART/PEÇA	

HELLER	
BENENNUNG/NAME/DENOMINAÇÃO	
hydraulic diagram	

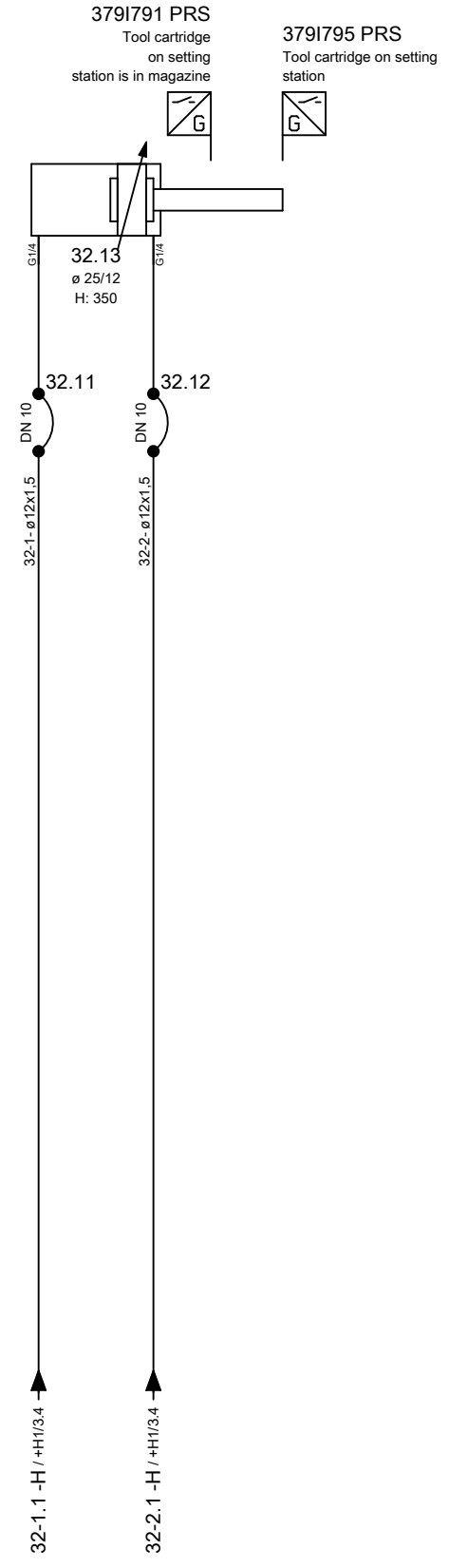
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PLAN/PLAN/PLANO	project	MP.05479300_F
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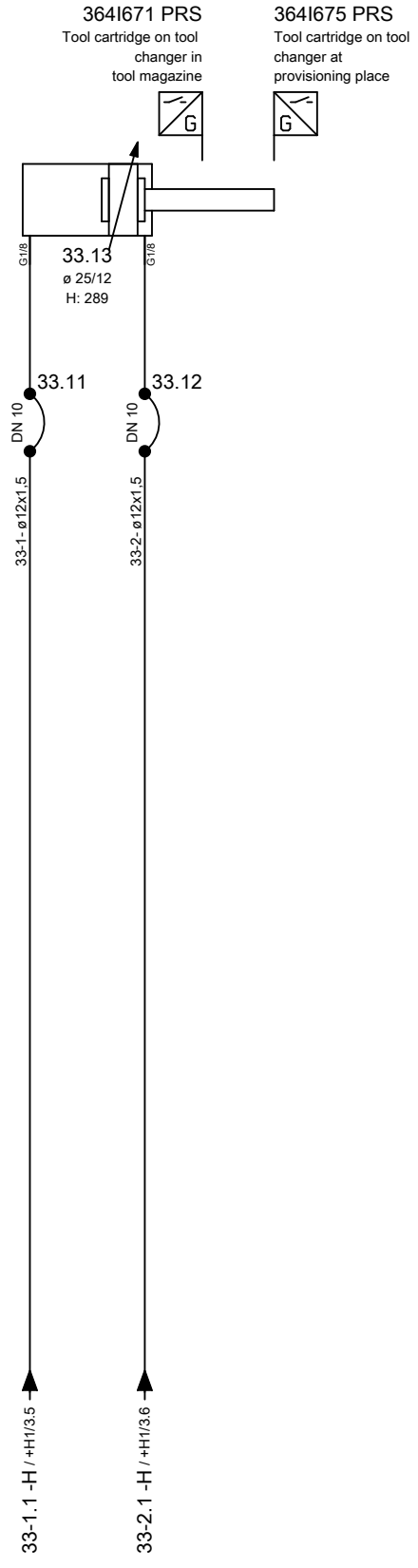
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+H1/3.4
32
Tool cartridge
on setting station



+H1/3.5
33
Tool cartridge
on tool changer



← +MU/2 +APC/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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								Mounting position	+TM	tool magazine
								Page name	1	

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42
Rotate swivel
traverse

42911292 PRS
swivel traverse in position
1



42911293 PRS
swivel traverse in position
2

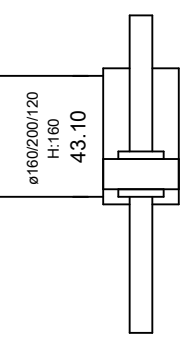
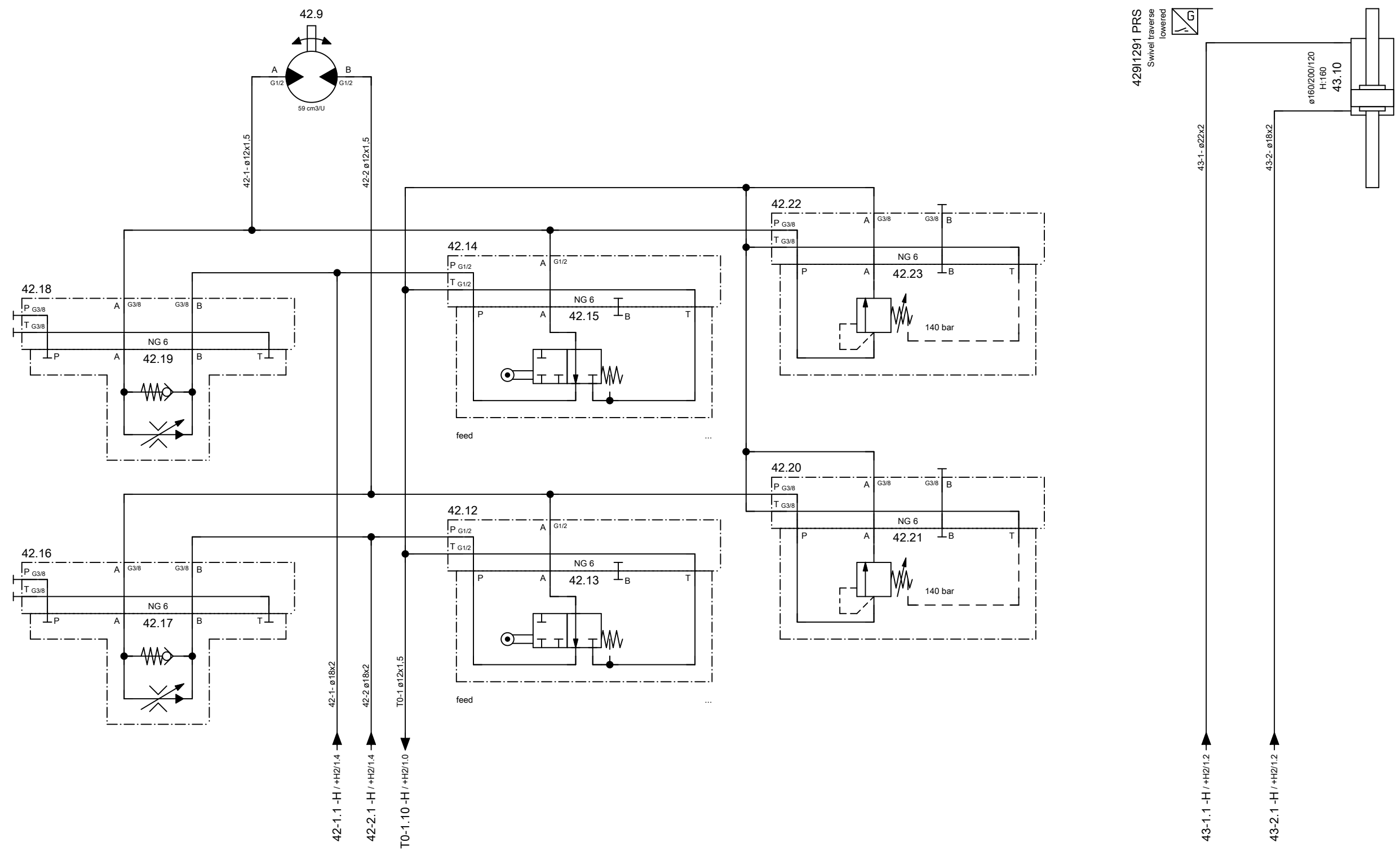


+H2/1.2
43
Raise/lower
swivel traverse

42911290 PRS
Swivel traverse
raised



42911291 PRS
Swivel traverse
lowered



← +TM/1

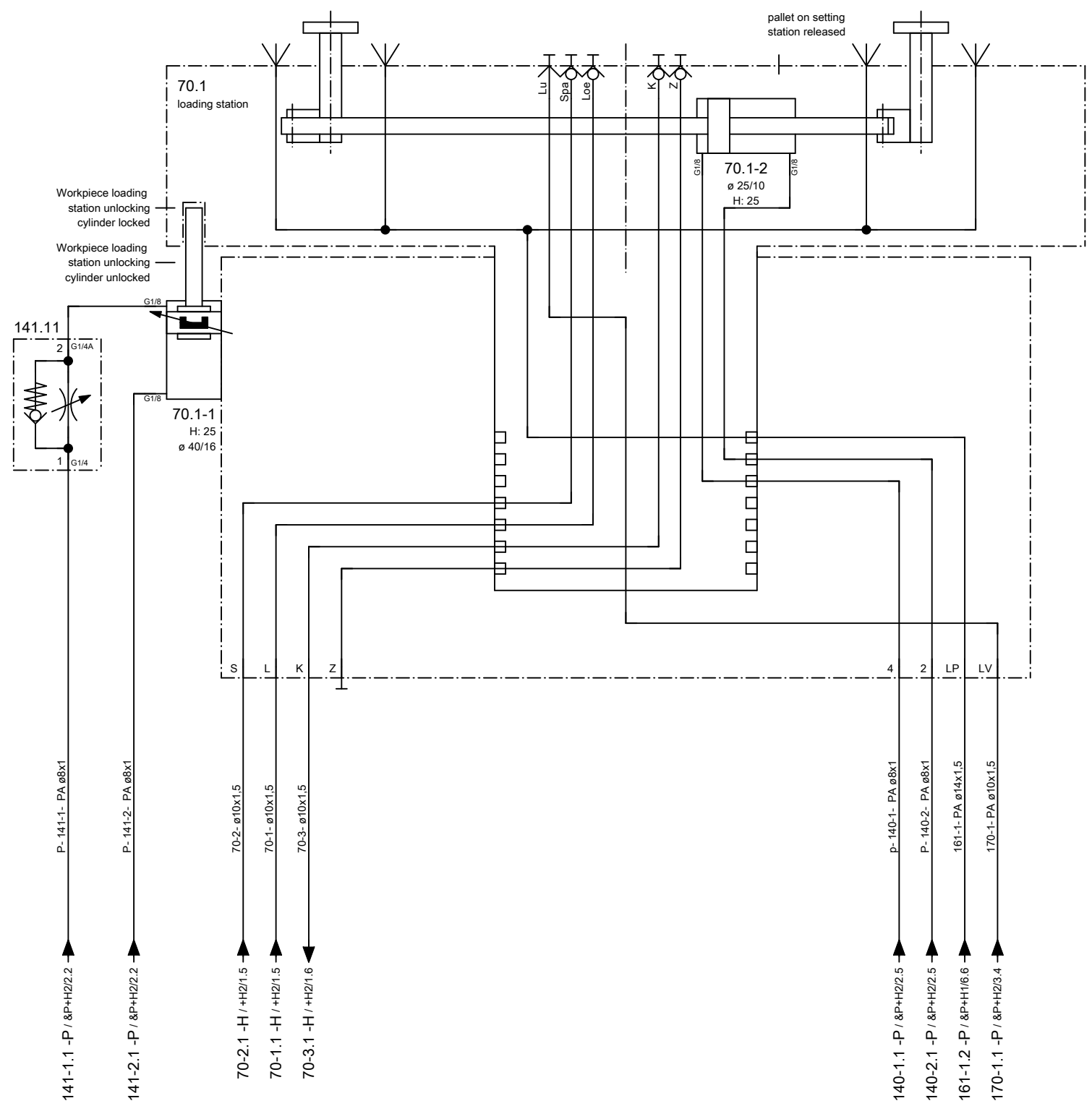
+WLS/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	454793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
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									Mounting position	+APC pallet changer
									Page name	1
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+H2/1.5
70
Workpiece clamping at the setting station



← +APC/1

&P+/0 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	<p>HELLER</p> <p>KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA</p>	PLAN/PLAN/PLANO	
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								Mounting position	+WLS workpiece loading station
								Page name	1
								A3	

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.	device tag	number	denomination	Type	Manufacturer	Heller no.
+H1-100.1	1	start-up valve	MS9-EM-G-VS 562178	Festo	01.107653	+H1-102.2	1	superfine air filter	MS4-LFM-1/4-AUV 535768	Festo	01.106321
+H1-100.2	1	silencer	U-1 B 151990	Festo	01.107197	+H1-102.2-1	1	filter element	MS4/D-MINI-LFM-A 162674	Festo	01.086419
+H1-100.3	1	filter pressure regulator	MS9-LFR-G-D6-CUV-DI-A4 562531	Festo	01.109059	+M-102.3	1	distributor block	FR-4-1/8-B 6701	Festo	01.034751
+H1-100.3-1	1	filter element	MS9-LFP-C 570309	Festo	01.107824		1	pressure regulator valve	MS4-LR-1/4-D5-A4 527690	Festo	01.106323
+H1-100.4	1	pressure gauge	MA-50-10-1/4 359873	Festo	01.092062	+H1-102.4	1	pressure gauge	MA-50-2,5-1/4-EN 162837	Festo	01.105605
+H1-100.5	1	porting block	MS9-FRM-G-VS 564145	Festo	01.107195	+H1-102.5	1	activated carbon filter	MS4-LFX-1/4-R 529467	Festo	01.109998
+H1-100.6	1	start-up valve	MS9-EE-G-V24P-VS 562177	Festo	01.107655	+H1-102.5-1	1	filter element	MS4/D-MINI-LFX 532912	Festo	01.106336
+H1-100.7	1	silencer	U-1 B 151990	Festo	01.107197	+H1-102.7	1	plate	filter element	Heller Maschinenfabrik	10.500964
+H1-100.9	1	plate	filter element	Heller Maschinenfabrik	10.500975	+H1-102.8	1	plate	filter element	Heller Maschinenfabrik	10.500965
+H1-100.10	1	manifold	MS9-AGF 552956	Festo	01.107189	+H1-102.9	1	plate	filter element	Heller Maschinenfabrik	10.500966
+H1-100.11	1	fastening angle	MS9-WP 552947	Festo	01.107190	+H1-102.10	1	fastening angle	MS4-WP 532184	Festo	01.106320
+H1-100.12	1	fastening angle	MS9-WP 552947	Festo	01.107190	+H1-102.11	1	fastening angle	MS4-WP 532184	Festo	01.106320
+H1-100.30	1	distributor block	FR-8-1/4 2078	Festo	01.035408	+M-102.12	1	plastic pipe	PUN-6x1-BL 159664	Festo	01.092357
+H1-100.31	1	hose line	S100-CR-CR-0140 DN2 1400mm 250bar	Hydrotechnik	01.098903	+M-102.13	1	connecting piece	226-270-02	Heidenhain	01.064398
+H1-100.32	1	pressure switch	PN7094 -1-10bar, G1/4	IFM Electronic	01.111724	+MC-102.14	1	connecting piece	226-270-02	Heidenhain	01.064398
+H1-100.33	1	Condensate separator		Heller Maschinenfabrik	00.789878	+M-102.15	1	connecting piece	226-270-02	Heidenhain	01.064398
+H1-100.34	1	ball valve	QH-1/4 9541	Festo	01.101540	+H1-103.1	1	porting block	MS6-FRM-1/2 529853	Festo	01.104403
+H1-100.35	1	silencer	AMTE-M-LH-G1 1205865	Festo	01.112166	+H1-103.2	1	pressure regulator valve	MS6-LRPB-1/2-D2-A8 535007	Festo	01.109947
+H1-100.36	1	shut-off valve	HE-G1-LO 197136	Festo	01.093956	+H1-103.3	1	pressure gauge	MAP-40-1-1/8-EN 161126	Festo	01.083257
+H1-100.37	1	flow control switch	SD6001 0,25-75 Nm3/h M12x1 NPT	IFM Electronic	01.112294	+H1-103.10	1	fastening angle	MS6-WP 532195	Festo	01.106329
+H2-100.40	1	distributor block	FR-4-1/2-B 6704	Festo	01.035406	+H1-103.11	1	fastening angle	MS6-WP 532195	Festo	01.106329
+H1-101.1	1	superfine air filter	MS6-LFM-3/8-AUV 529673	Festo	01.107200	+M-106.1	1	connecting piece	226-270-02	Heidenhain	01.064398
+H1-101.1-1	1	filter element	MS6-LFM-A 532909	Festo	01.107201	+H1-107.1	1	pressure regulator valve	MS4-LRB-1/4-D6-A8 527692	Festo	01.109945
+H1-101.10	1	fastening angle	MS6-WP 532195	Festo	01.106329	+H1-107.2	1	pressure gauge	MAP-40-1-1/8-EN 161126	Festo	01.083257
+H1-101.11	1	fastening angle	MS6-WP 532195	Festo	01.106329	+H1-110.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+H1-101.13	1	plate	filter element	Heller Maschinenfabrik	10.500967	+H1-110.2	1	directional control valve	MDH-5/3E-D-1-M12-C 197126	Festo	01.095685
+H1-102.1	1	compressed air filter	MS4-LF-1/4-CRV 529397	Festo	01.109999	+H1-111.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+H1-102.1-1	1	filter element	MS4-LFP-C 534501	Festo	01.109899	+H1-111.2	1	directional control valve	MDH-5/2-D-1-M12-FR-C 533010	Festo	01.095684

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← &H+WLS/1		0.a →	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		PROJ./PROJ./PROJ. 54793.00	
CAD-System		M-NR/M-NO/ M-NO M54793	
ePLAN 2.2.5		TYP/TYPER/ TIPO H 10000 PC	
URSPPR./ORIG.		BENENNUNG/NAME/DENOMINAÇÃO	
ERS./REP.		KUNDE/CUSTOMER/CLIENTE	
ERS.D./REP.W.		Paccar, Columbus USA	
GEPR./CHECK./REG.		PLAN/PLAN/PLANO	
BEARB./CHG./ALT. 04.04.2017 AHFE/ZAJ		project MP.05479300_F	
GEZ./DRAWN/DES. 04.04.2017 AHFE/ZAJ		Machine =M54793	
WERKSTÜCK/ PART/PEÇA		Document type &P pneumatic diagram	
		Mounting position	
		Page name 0	
		A3	

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.	device tag	number	denomination	Type	Manufacturer	Heller no.
+H1-112.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+GMS-131.3	1	directional control valve	3/2, G1/8 0 820 402 002	AVENTICS	01.076981
+H1-113.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+GMS-131.4	1	silencer	U-1/8 2307	Festo	01.034261
+H1-113.2	1	directional control valve	JMDH-5/2-D-1-M12-C 532687	Festo	01.095683	+GMS-131.5	1	plastic pipe	PUN-8x1,25-BL 159666	Festo	01.092358
+MU-113.3	1	plastic pipe	PUN-10x1,5-BL 159668	Festo	01.092359	+GMS-131.6	1	plastic pipe	PUN-8x1,25-BL 159666	Festo	01.092358
+MU-113.4	1	plastic pipe	PUN-10x1,5-BL 159668	Festo	01.092359	+GMS-131.7	1	plastic pipe	PUN-8x1,25-BL 159666	Festo	01.092358
+MU-113.5	1	throttle check valve	GRLA-1/4-B 151172	Festo	01.032677	+GMS-131.8	1	pneumatic cylinder	D40xH10 0 822 010 551	AVENTICS	01.092306
+MU-113.6	1	throttle check valve	GRLA-1/4-B 151172	Festo	01.032677	+H1-132.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+MU-113.10	1	pneumatic cylinder	DNC 50-50 PPV 163366	Festo	01.099235	+H1-132.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700
+H1-115.1	1	end plate	NEV-1DA/DB-ISO 320839	Festo	01.110979	+H1-135.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+H1-115.2	1	end plate	NEV-3DA/DB-ISO 320840	Festo	01.110981	+H1-135.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700
+H1-115.4	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+H2-140.1	1	manifold	NAS-1/4-1A-ISO 9484	Festo	01.064355
+H1-115.5	1	directional control valve	MDH-5/2-D-1-M12-FR-C 533010	Festo	01.095684	+H2-140.2	1	directional control valve	JMDH-5/2-D-1-M12-C 532687	Festo	01.095683
+H1-115.7	1	connecting set	MS4-6-AMV 543489	Festo	01.109948	+H2-140.3	1	throttle check valve	GRLZ-1/4-B 151195	Festo	01.107336
+H1-115.8	1	pressure regulator valve	MS4-LRB-1/4-D6-A8 527692	Festo	01.109945	+H2-140.4	1	throttle check valve	GRLZ-1/4-B 151195	Festo	01.107336
+H1-115.9	1	pressure gauge	MA-40-10-1/8-EN 162835	Festo	01.109949	+H2-140.5	1	silencer	AMTE-M-LH-G14 1205861	Festo	01.112271
+H1-115.10	1	plug	NSC-1/4-1-ISO 11550	Festo	01.108866	+H2-140.6	1	silencer	AMTE-M-LH-G14 1205861	Festo	01.112271
+H1-115.13	1	intermediate plate	ISO3-1 3815065	Festo	01.110980	+H2-141.1	1	manifold	NAS-1/4-1A-ISO 9484	Festo	01.064355
+H1-115.14	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270	+H2-141.2	1	silencer	AMTE-M-LH-G14 1205861	Festo	01.112271
+H1-115.15	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270	+H2-141.3	1	silencer	AMTE-M-LH-G14 1205861	Festo	01.112271
+H1-116.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+H2-141.5	1	directional control valve	MDH-5/2-D-1-M12-FR-C 533010	Festo	01.095684
+H1-116.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700	+GLS-141.6	1	plastic pipe	PUN-8x1,25-BL 159666	Festo	01.092358
+H1-117.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+GLS-141.7	1	directional control valve	F-5-1/4-B 8992	Festo	01.087927
+H1-117.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700		1	safety hood	FH 4500	Festo	01.087928
+H1-121.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+GLS-141.9	1	plastic pipe	PUN-8x1,25-BL 159666	Festo	01.092358
+H1-121.2	1	directional control valve	MDH-5/2-D-1-M12-FR-C 533010	Festo	01.095684	+GLS-141.10	1	plastic pipe	PUN-8x1,25-BL 159666	Festo	01.092358
+H1-122.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700	+H1-161.1	1	subplate	NAV-1/2-3C-ISO 10175	Festo	01.082248
+GMS-131.1	1	directional control valve	F-5-1/4-B 8992	Festo	01.087927	+H1-161.2	1	directional control valve	MDH-5/3E-D-3-M12-C 533017	Festo	01.097873
	1	safety hood	FH 4500	Festo	01.087928	+APC-161.10	1	rotary distributor			

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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5		URSPR./ORIG. ERS./REP. ERS.D./REP.W.	INDEX GEPR./CHECK./REG. BEARB./CHG./ALT. GEZ./DRAWN/DES.	ZONE/ZONA DATUM/DATE 04.04.2017 04.04.2017	NAME/NOME AHFE/ZAJ AHFE/ZAJ	PROJ./PROJ./PROJ. 54793.00 M-NR/M-NO/ M-NO M54793 TYP/TYPE/ TIPO H 10000 PC WERKSTÜCK/ PART/PEÇA	<div style="text-align: center; font-weight: bold; font-size: 1.2em;">HELLER</div> BENENNUNG/NAME/DENOMINAÇÃO Device tag list pneumatic	KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA INV-NR/INV-NO/NO-INV	PLAN/PLAN/PLANO project Machine Document type Mounting position Page name MP.05479300_F =M54793 &P pneumatic diagram 0.a	0.b A3
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Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+H2-170.1	1	input module	19 504 230	Norgren	01.095501
+H2-170.1-1	1	pressure regulator valve	19 24 001	Norgren	01.095502
+H2-170.1-2	1	pressure gauge	01 00 930	Norgren	01.095503
+H2-170.2	1	directional control valve	MDH-5/3E-D-1-M12-C 197126	Festo	01.095685
+H2-170.3	1	function module	19 50 429	Norgren	01.095505
+H2-170.6	1	adapter	19 50 447	Norgren	01.095500
+H2-170.7	1	pressure switch	PN5004 0-10bar, G1/4	IFM Electronic	01.097702
+ATC-181.1	1	manifold	AXT512-1A-B04F - ISO5599-1 Gr. 2	SMC	01.111800
+ATC-181.2	1	directional control valve	EVS7-8-FJG-D-3CVO-Q ISO2	SMC	01.102540
+ATC-181.2-1	1	connector adapter	7000-41301-0000000-M12	SMC	01.102531
+ATC-181.2-2	1	connector adapter	7000-41301-0000000-M12	SMC	01.102531
+ATC-181.3	1	end plate	AXT512-LA-04F - ISO5599-1 Gr. 2	SMC	01.111802
+ATC-181.4	1	silencer	AN400-04 G1/2	SMC	01.103674
+ATC-181.5	1	throttle check valve	ASP63F-04-12S	SMC	01.102541
+ATC-181.6	1	pneumatic cylinder	RHCL40-880-DCL018HL	SMC	01.102879
+ATC-181.7	1	silencer	AN400-04 G1/2	SMC	01.103674
+ATC-181.11	1	manifold	AXT512-1A-B04F - ISO5599-1 Gr. 2	SMC	01.111800
+ATC-181.12	1	directional control valve	EVS7-8-FG-S-3CVO-Q ISO2	SMC	01.110658
+ATC-181.12-1	1	connector adapter	7000-41301-0000000-M12	SMC	01.102531
+ATC-181.13	1	end plate	AXT512-RA-04F - ISO5599-1 Gr. 2	SMC	01.111801
+ATC-181.14	1	throttle check valve	AS 3201 F-03-12S	SMC	01.110661
+GOS-184.1	1	directional control valve	F-3-1/4-B 8984	Festo	01.102129
+GOS-184.2	1	silencer	U-1/4 B 6842	Festo	01.078584
+GOS-184.4	1	nozzle	D=1,2 - M5 K861	Solex	01.091653
+GOS-184.5	1	nozzle	D=1,2 - M5 K861	Solex	01.091653
+H1-185.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+H1-185.2	1	directional control valve	MDH-5/3E-D-1-M12-C 197126	Festo	01.095685
+GMS-185.3	1	throttle check valve	GRLA-1/8-QS-8-RS-B 162966	Festo	01.096680

device tag	number	denomination	Type	Manufacturer	Heller no.
+GMS-185.4	1	throttle check valve	GRLA-1/8-QS-8-RS-B 162966	Festo	01.096680
+GMS-185.5	1	pilot operated check valve	HGL-1/8 12938	Festo	01.077466
+GMS-185.6	1	pneumatic cylinder	RHCL40-525-DCM1071M	SMC	01.102878
+H1-185.7	1	end plate	NEV-1DA/DB-ISO 10174	Festo	01.065868
+H1-185.8	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270
+H1-185.9	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270
+H1-185.11	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+H1-185.12	1	directional control valve	MDH-5/2-D-1-M12-FR-C 533010	Festo	01.095684
+H1-185.13	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+H1-185.14	1	cover plate	NDV-1-ISO 9489	Festo	01.083700
+GOS-186.1	1	directional control valve	3/2, G1/4 0 820 400 002	AVENTICS	01.032165
+GOS-186.2	1	silencer	U-1/4 B 6842	Festo	01.078584
+H1-187.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867
+H1-187.2	1	directional control valve	JMDH-5/2-D-1-M12-C 532687	Festo	01.095683
+GMS-187.3	1	throttle check valve	GRLA-1/8-QS-8-RS-B 162966	Festo	01.096680
+GMS-187.4	1	throttle check valve	GRLA-1/8-QS-8-RS-B 162966	Festo	01.096680
+GMS-187.5	1	pneumatic cylinder	D32x40H 0 822 240 0/.	AVENTICS	01.098050
+H1-187.6	1	end plate	NEV-1DA/DB-ISO 10174	Festo	01.065868
+H1-187.7	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270
+H1-187.8	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270
+GLS-190.1	1	blowing valve	LSP-1/4-D 35528	Festo	01.100460
+GLS-190.2	1	coiled hose	HJP06 M005/2AF151 DN10 2xG1/4a L=5000 gelb	Stäubli	01.107894
+GLS-190.3	1	coupling	DN6, G1/4 LP-006-2-WR513-11-1	Walther	01.089276
+GLS-190.4	1	coupling	DN6, G1/4A LP-006-0-WR013-11-1	Walther	01.094650

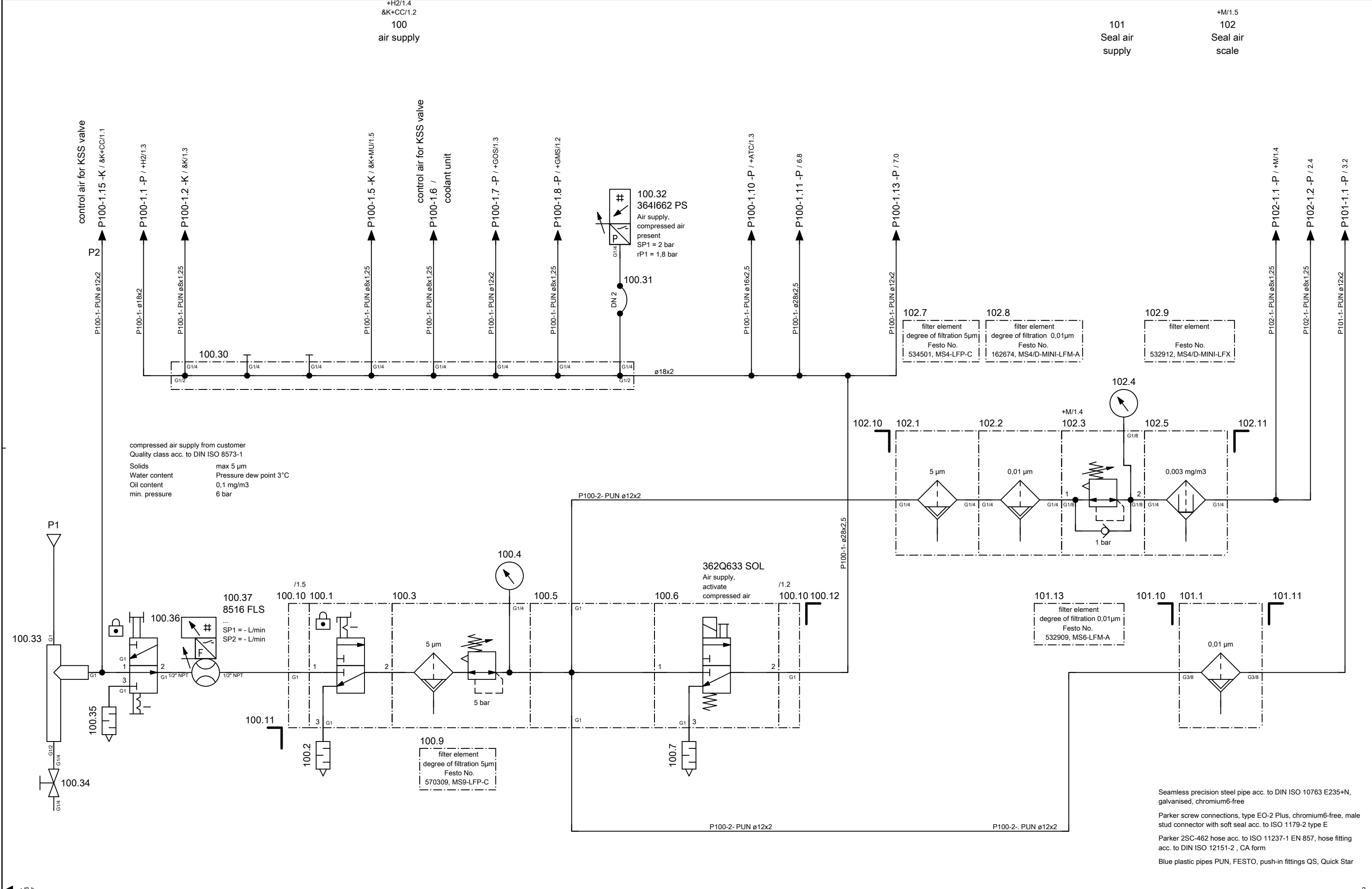
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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5		URSPR./ORIG. ERS./REP. ERS.D./REP.W.	Index GEPR./CHECK./REG. BEARB./CHG./ALT. GEZ./DRAWN/DES.	ZONE/ZONA DATUM/DATE 04.04.2017 04.04.2017	NAME/NOME AHFE/ZAJ AHFE/ZAJ	PROJ./PROJ./PROJ. 54793.00 M-NR/M-NO/ M-NO M54793 TYP/TYPE/ TIPO H 10000 PC WERKSTÜCK/ PART/PEÇA	<div style="text-align: center; font-weight: bold; font-size: 1.2em;">HELLER</div> BENENNUNG/NAME/DENOMINAÇÃO Device tag list pneumatic	KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA INV-NR/INV-NO/NO-INV	PLAN/PLAN/PLANO project Machine Document type Mounting position Page name MP.05479300_F =M54793 &P pneumatic diagram 0.b	+H1/1 →
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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	45793.00	<h1 style="text-align: center;">HELLER</h1> <p style="text-align: center;">pneumatic diagram</p>	KUNDE/CUSTOMER/CLIENTE	Paccar, Columbus USA	PLAN/PLAN/PLANO	project	MP.05479300_F	
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54793		INV-NR/INV-NO/NO-INV	13.503884, 13.503129, 13.503919, 13.503920	Machine	=M54793	Document type	&P pneumatic diagram
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 PC		WERKSTÜCK/ PART/PEÇA		Mounting position	+H1 HELP1	Page name	1
		ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP									

Heller_ZL

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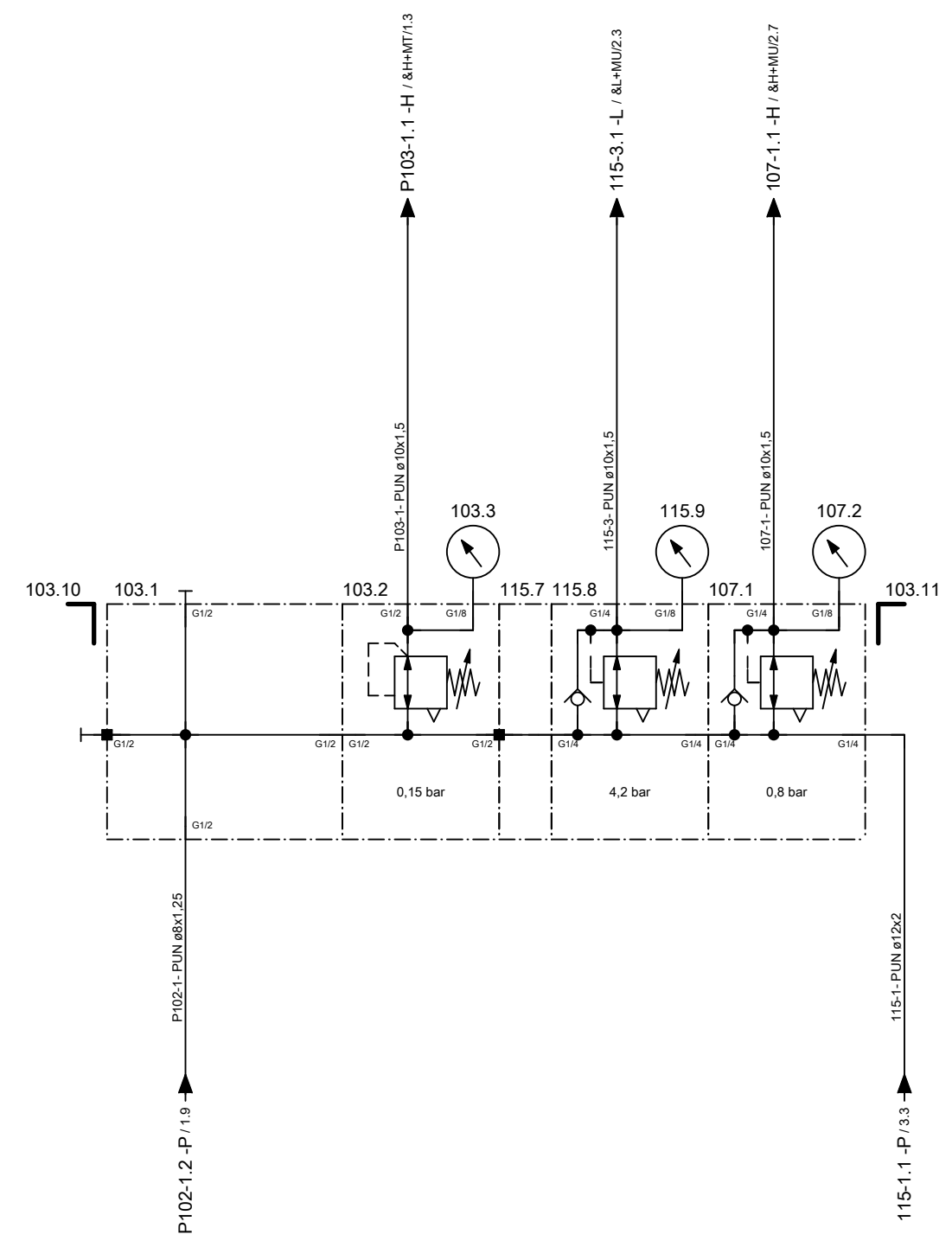
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Atenção: Atenção DIN 34

119
weight relief

103
Seal air,
B-axis

3.3
115
lubrication compressed air

107
Seal air rotary distributor



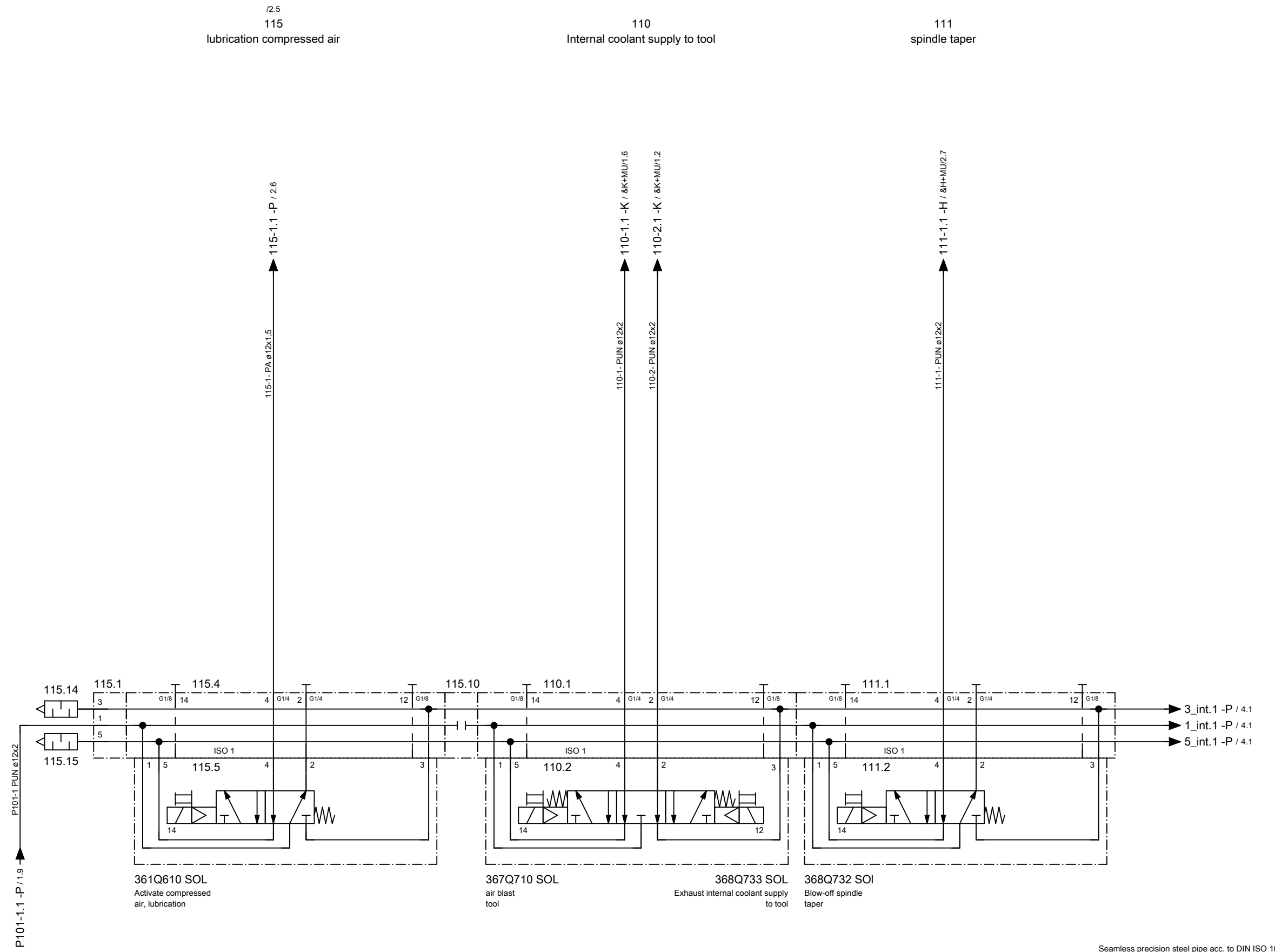
Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

<p>← 1</p>				<p>3 →</p>	
<p>PROJ./PROJ./PROJ. 54793.00</p>		<p>HELLER</p>		<p>KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA</p>	
<p>M-NR./M-NO/ M-NO M54793</p>		<p>BENENNUNG/NAME/DENOMINAÇÃO pneumatic diagram</p>		<p>PLAN/PLAN/PLANO project MP.05479300_F Machine =M54793</p>	
<p>TYP./TYPE/ TIPO H 10000 PC</p>		<p>INV-NR./INV-NO/NO-INV 13.503596</p>		<p>Document type &P pneumatic diagram Mounting position +H1 HELP1 Page name 2</p>	
<p>ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO</p>		<p>Index ZONE/ZONA DATUM/DATE NAME/NOME</p>		<p>WERKSTÜCK/ PART/PEÇA</p>	
<p>CAD-System ePLAN 2.2.5</p>		<p>URSPPR./ORIG. ERS./REP. ERS.D./REP.W.</p>		<p>GEPR./CHECK./REG. BEARB./CHG./ALT. 04.04.2017 AHFE/ZAJ GEZ./DRAWN/DES. 09.09.2015 AHFE/HOP</p>	

Heller_2L

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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	<p style="text-align: center;">HELLER</p> <p style="text-align: center;">pneumatic diagram</p>	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		Paccar, Columbus USA	project
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	M54793			Machine
		ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP	H 10000 PC		Document type	MP.05479300_F
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									+H1 HELP1
									3
									A3

Heller_2L

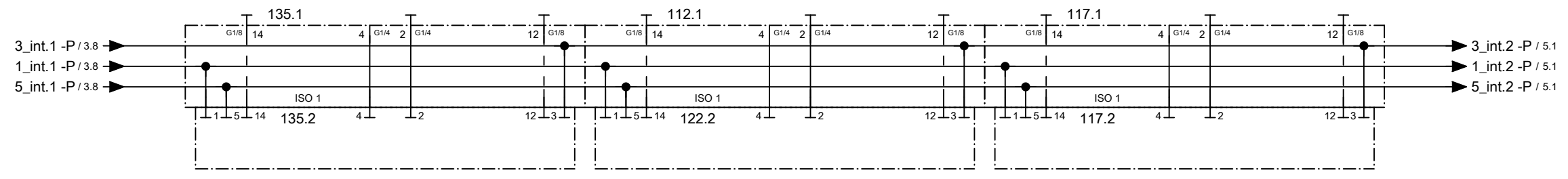
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135
Air
for tool cleaning

112
Air for multi-spindle head

117
Multi-spindle head location pad



Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

← 3

5 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		Paccar, Columbus USA	project
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	H 10000 PC	pneumatic diagram	INV-NR/INV-NO/NO-INV	Machine
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								Page name	+H1 HELP1
									4

Heller_2L

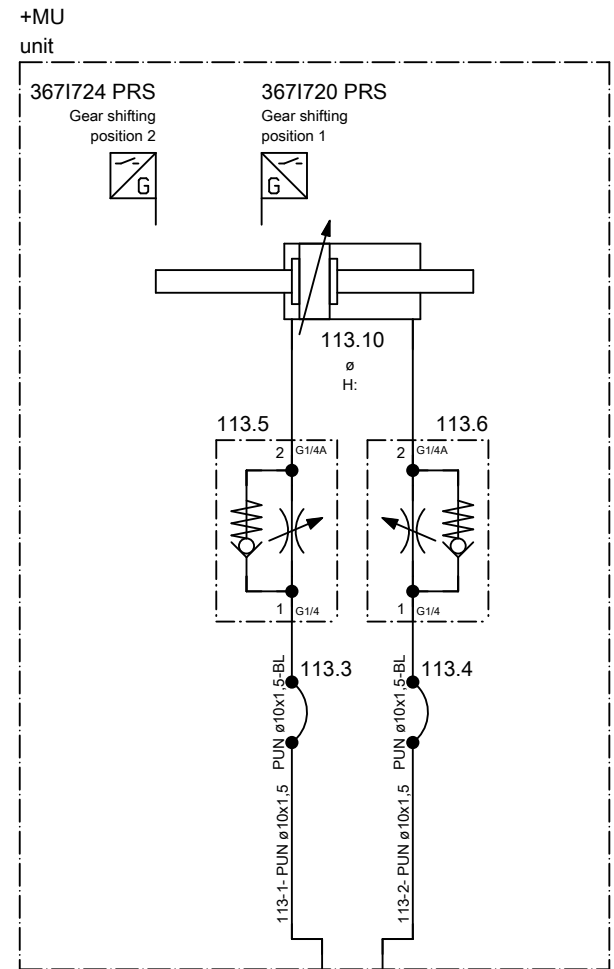
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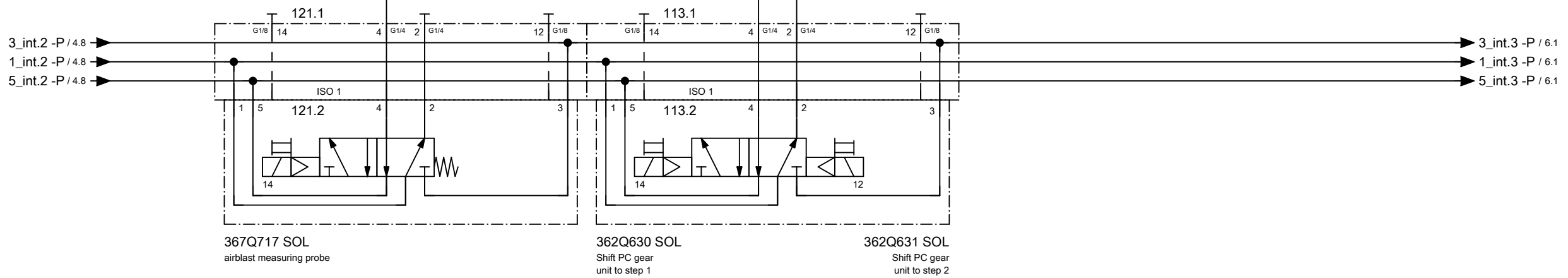
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121
airblast measuring probe

113
gear shift



121-1 PUN ø6x1
121-1-1.1 -H / &H+MU/2.9



Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

PROJ./PROJ./PROJ. 54793.00 M-NR/M-NO/M-NO M54793 TYP/TYPE/TIPO H 10000 PC				HELLER BENENNUNG/NAME/DENOMINAÇÃO pneumatic diagram		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO project MP.05479300_F Machine =M54793	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5						INV-NR/INV-NO/NO-INV 13.503939, 13.503063, 13.503064		Document type &P pneumatic diagram Mounting position +H1 HELP1 Page name 5	
URSPR./ORIG. ERS./REP. ERS.D./REP.W.		GEPR./CHECK./REG. BEARB./CHG./ALT. GEZ./DRAWN/DES.		DATUM/DATE 04.04.2017 09.09.2015		NAME/NOME AHFE/ZAJ AHFE/HOP		WERKSTÜCK/ PART/PEÇA	

Heller_2L

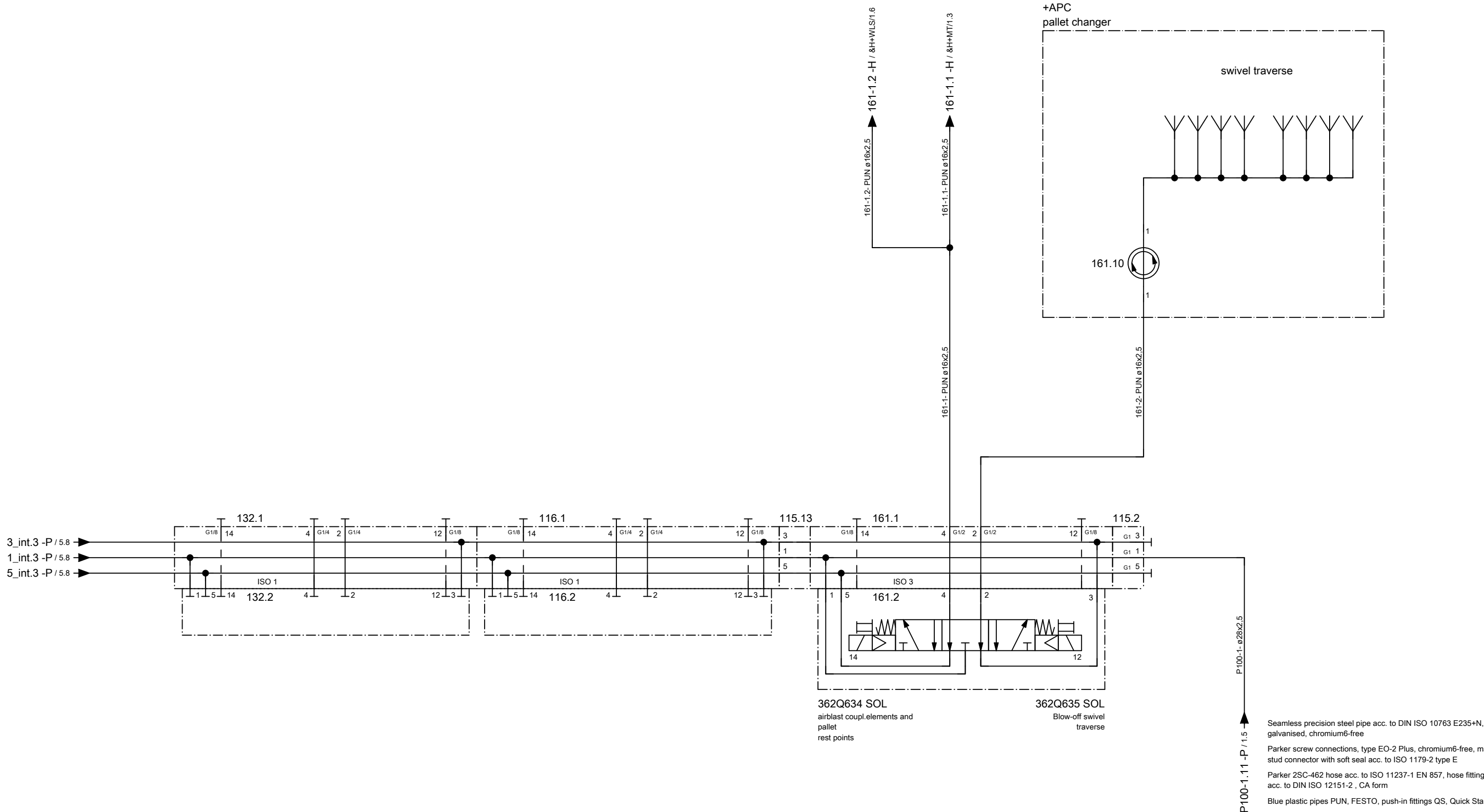
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132
Tool in gripper

116
Air
for spindle nozzles

161
Blow off work
area



P100-1-ø28x2,5
P100-1.11 -P / 1,5

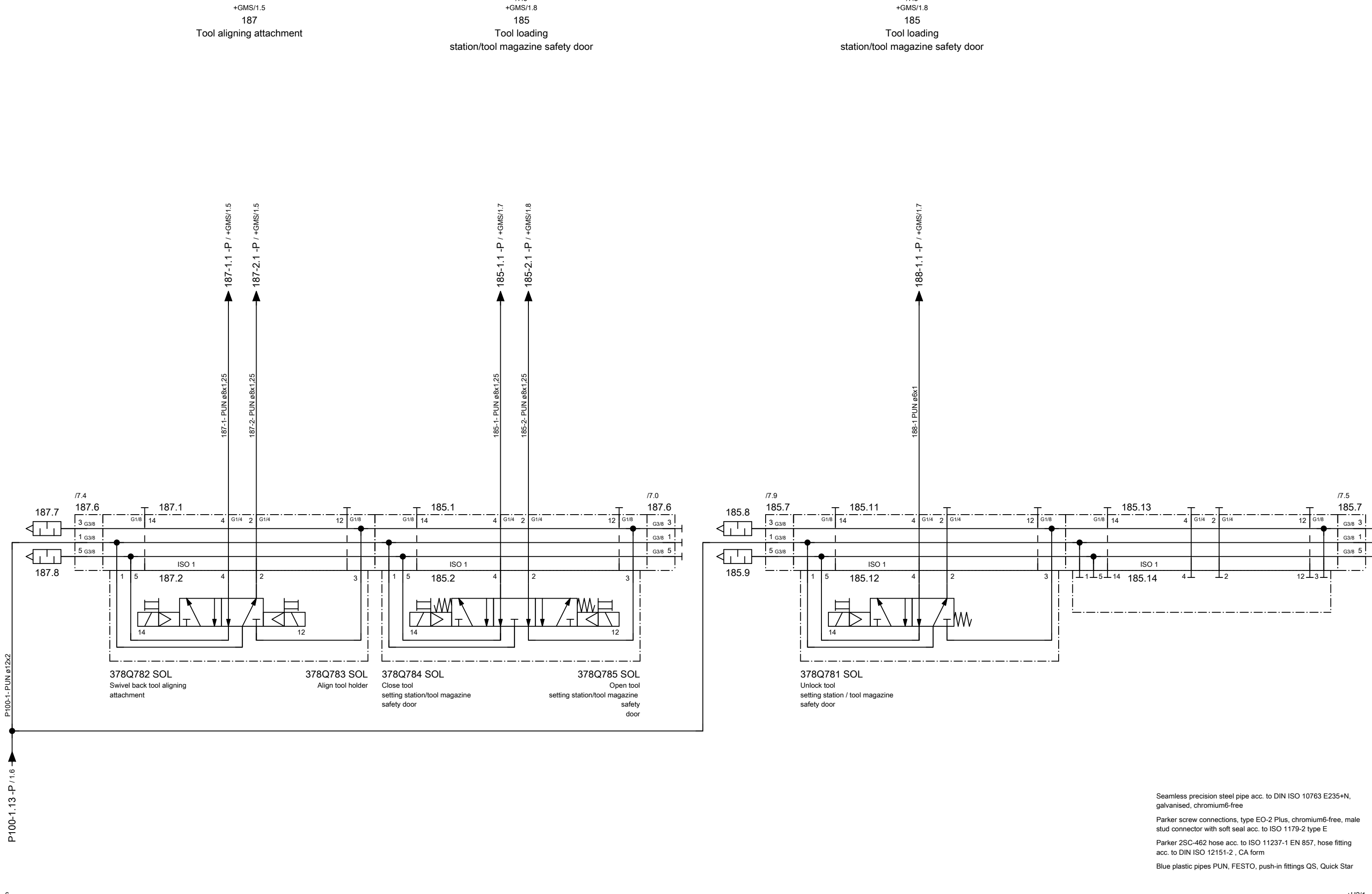
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Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

PROJ./PROJ./PROJ. 54793.00 M-NR/M-NO/M-NO M54793 TYP/TYPE/TIPO H 10000 PC				HELLER BENENNUNG/NAME/DENOMINAÇÃO pneumatic diagram		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO project MP.05479300_F Machine =M54793	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5						INV-NR/INV-NO/NO-INV 13.503939, 13.503944, 13.503945		Document type &P pneumatic diagram Mounting position +H1 HELP1 Page name 6	
URS./ORIG.	GEPR./CHECK./REG.	Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	WERKSTÜCK/PART/PEÇA AHFE/HOP			
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ERS.D./REP.W.	GEZ./DRAWN/DES.			09.09.2015	AHFE/HOP				

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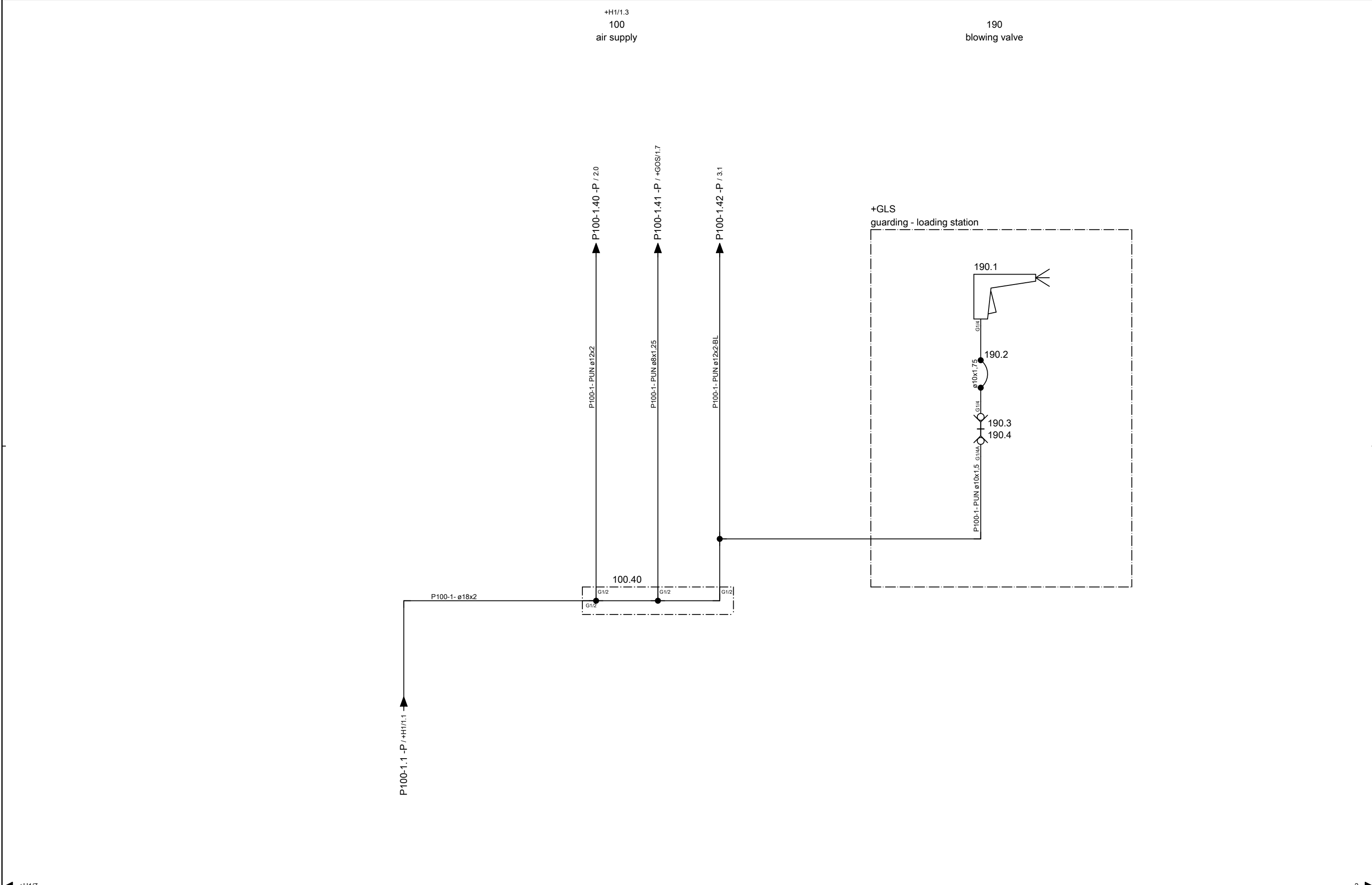


Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	<h1>HELLER</h1>	KUNDE/CUSTOMER/CLIENTE	Paccar, Columbus USA	PLAN/PLAN/PLANO	project	MP.05479300_F
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													Page name	7	

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← +H1/7				2 →					
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00		
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						Paccar, Columbus USA		project	
						INV-NR/INV-NO/NO-INV		Machine	
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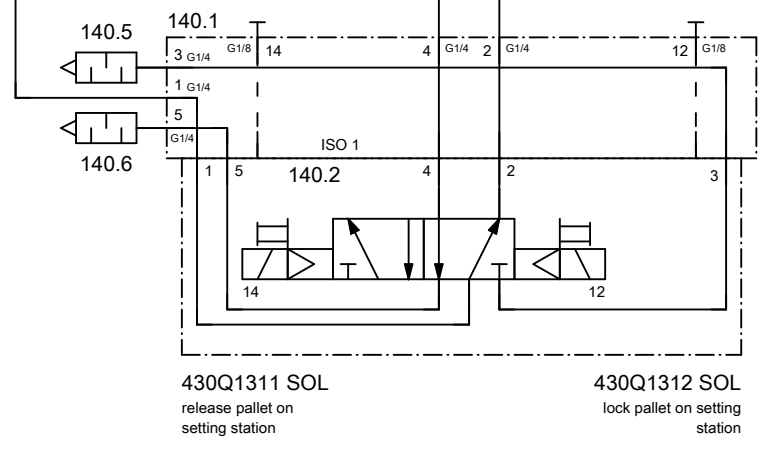
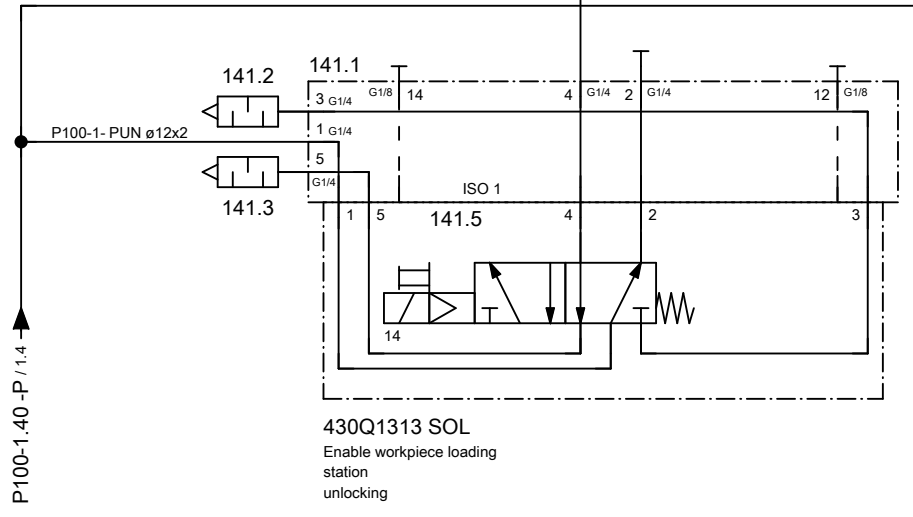
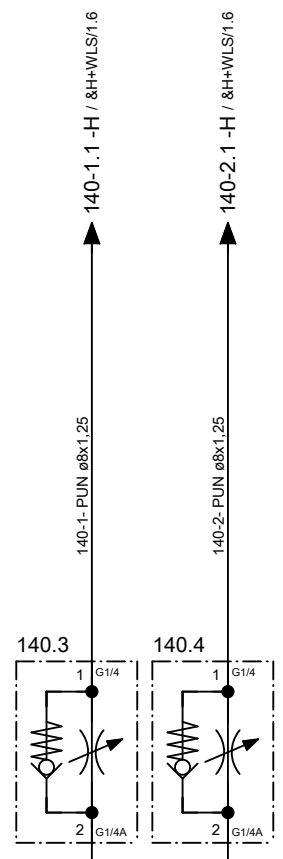
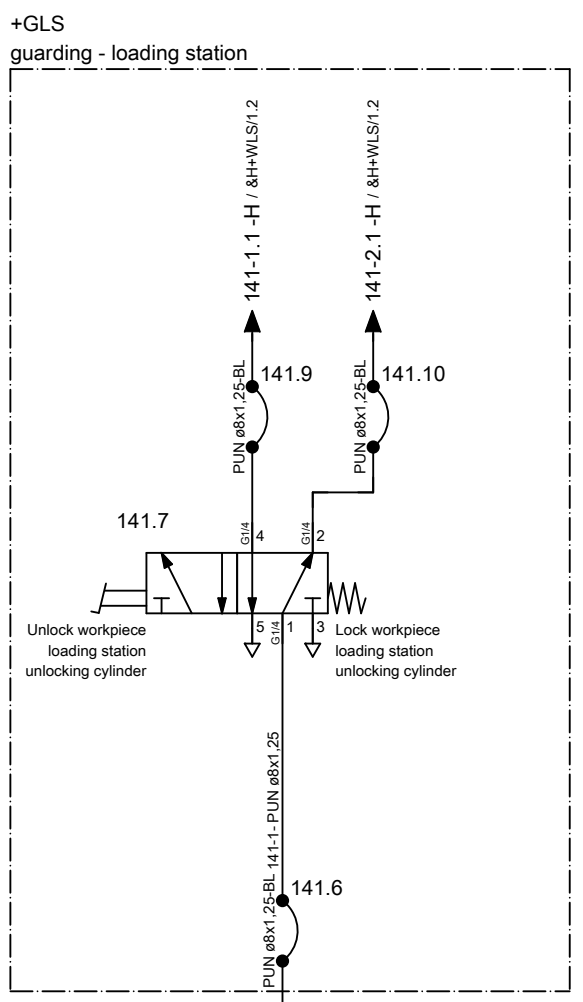
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141
Workpiece
loading station unlocking cylinder

140
Pallet at setting station

180
Workpiece
loading station safety door



← 1

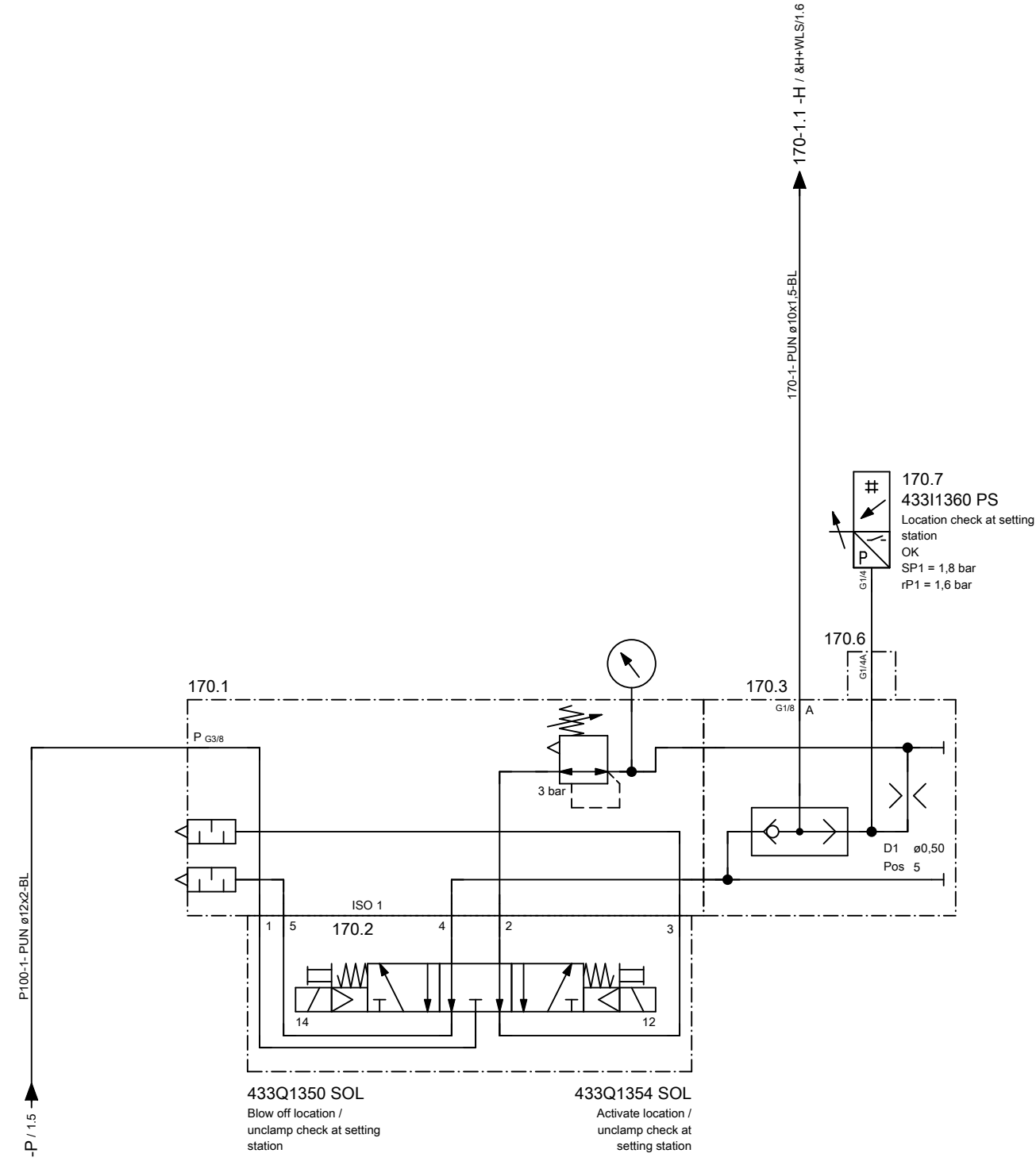
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170
Location / unclamp check
at setting station



nozzle wheel	nozzle ø
0	0,00
1	0,30
2	0,35
3	0,40
4	0,45
5	0,50
6	0,55
7	0,60
8	0,70
9	0,80
10	1,00
11	1,20
12	1,50
13	1,70
14	2,00
15	2,50

setting up the location check

Place the feeler gauge with a maximum tolerance (e.g. 0,03 mm) between workpiece and support.
Attention: do not cover discharge nozzle!
Turn nozzle wheel so many positions to the left (higher number = larger nozzle diameter) until a pressure of 1,8 bar (+ 0,2 bar) is set on the measuring connection.
Insert feeler gauge above max permissible tolerance (e.g. 0,04 mm) The pressure on the measuring connection C must be clearly below 1,8 bar.

← 2

+M/1 →

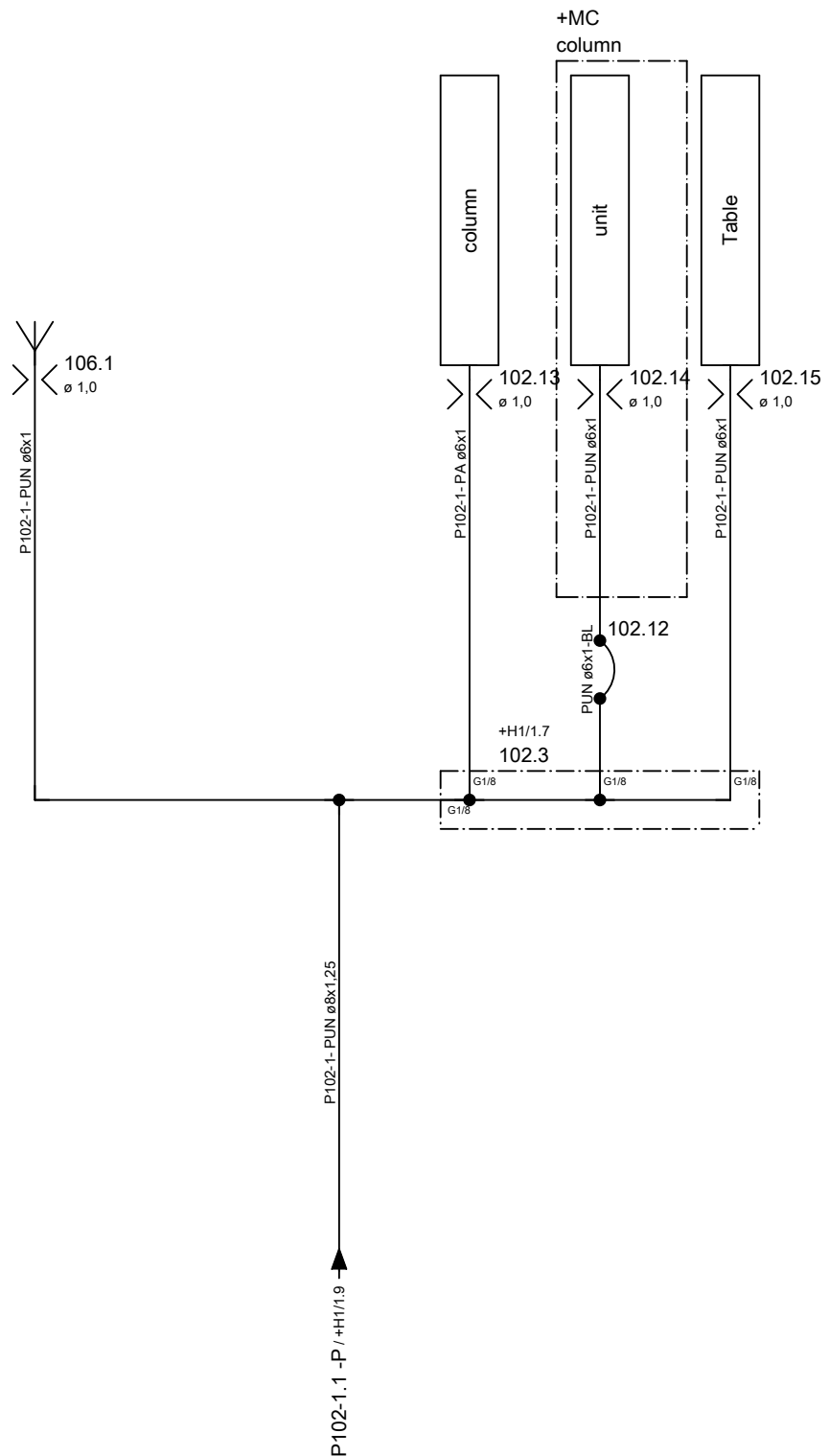
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106
seal air of tool break monitoring

+H1/1.8
102
Seal air
scale



← +H2/3

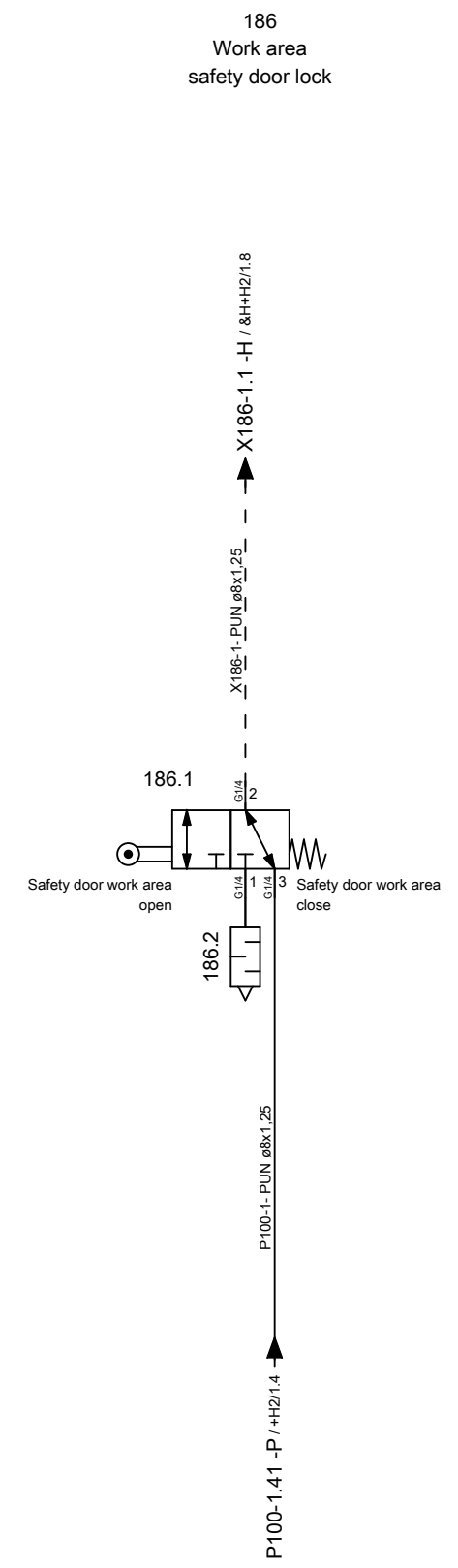
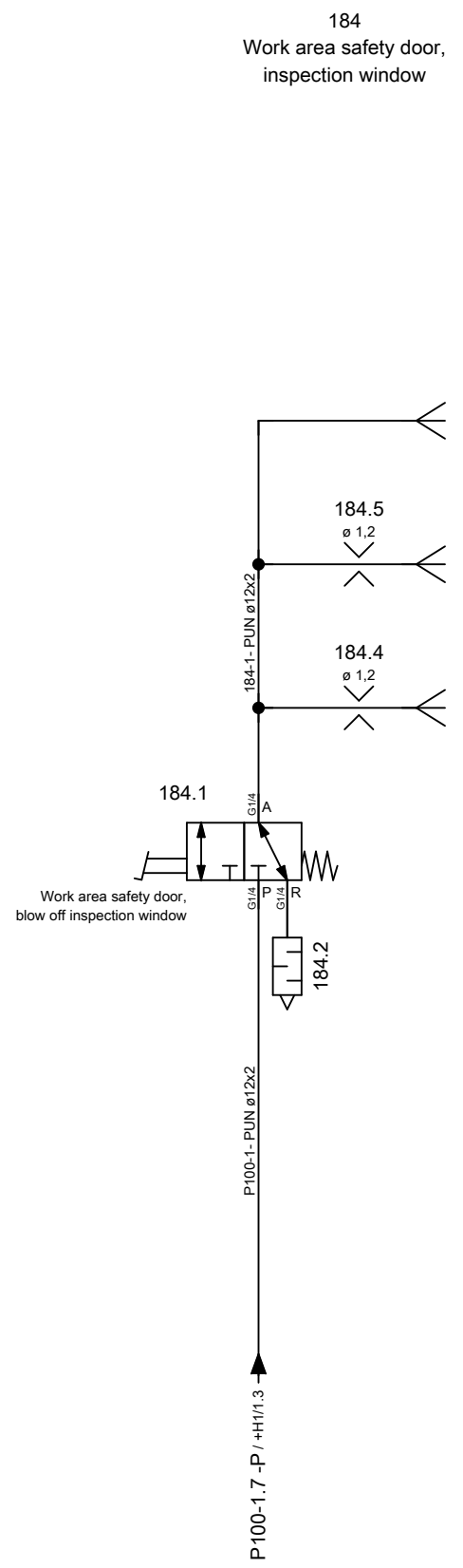
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← +M/1

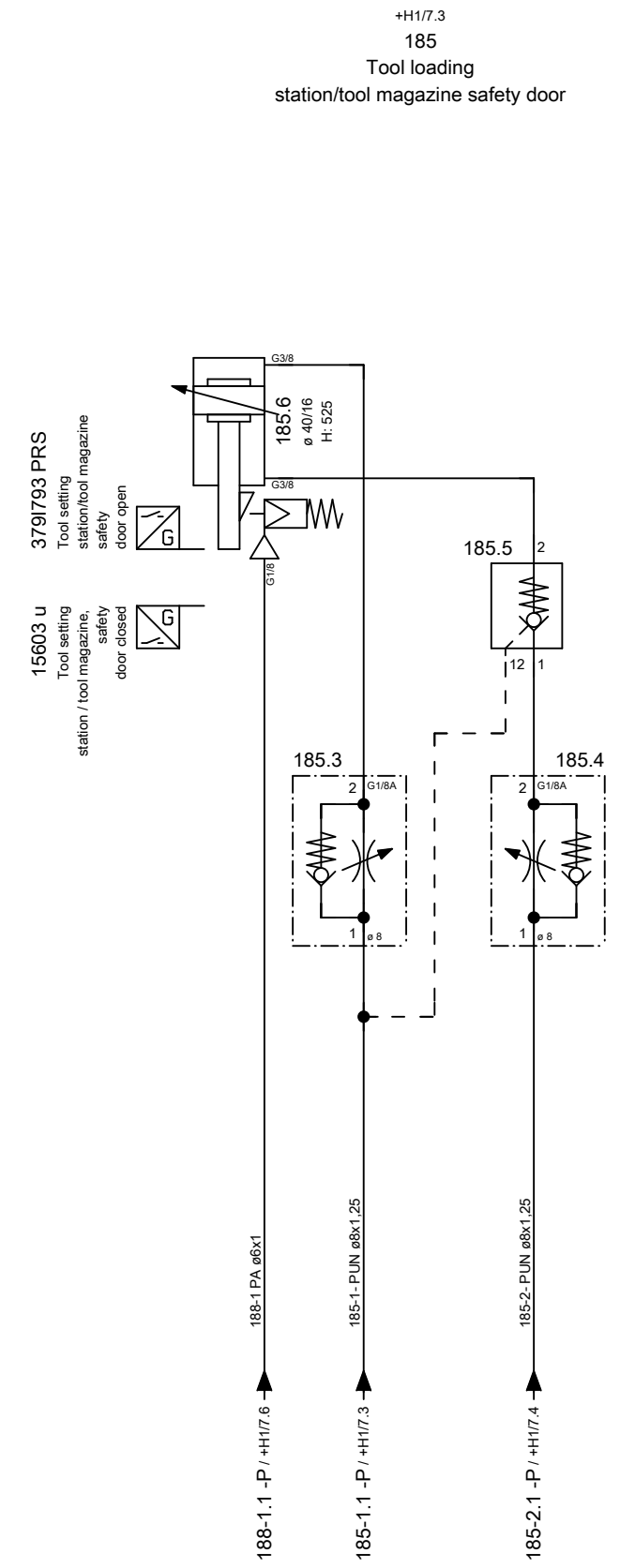
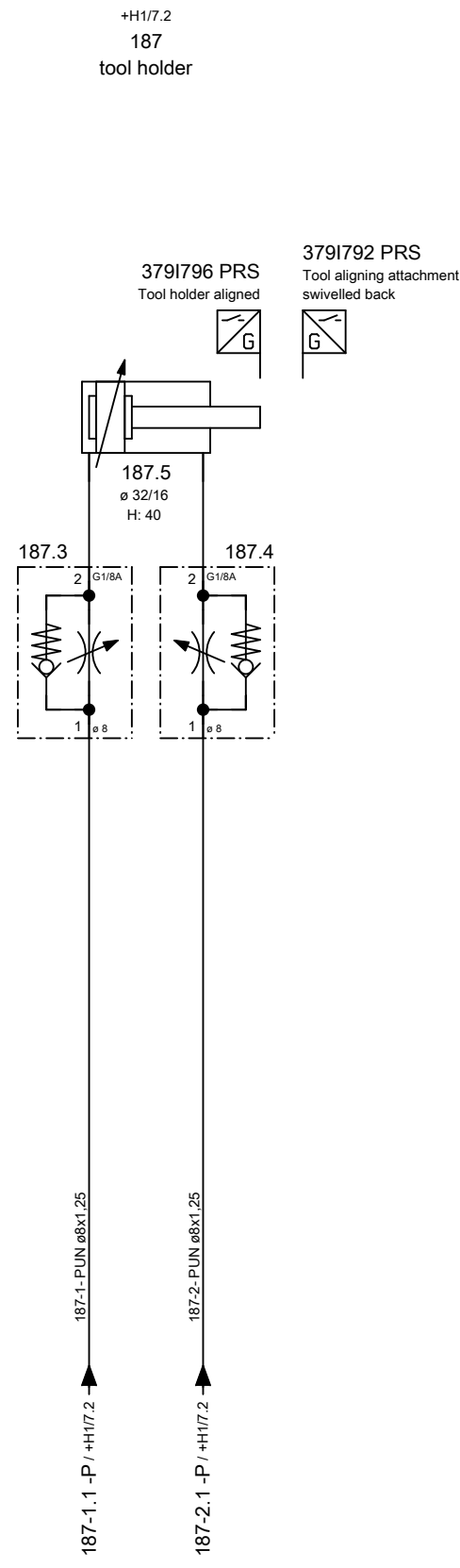
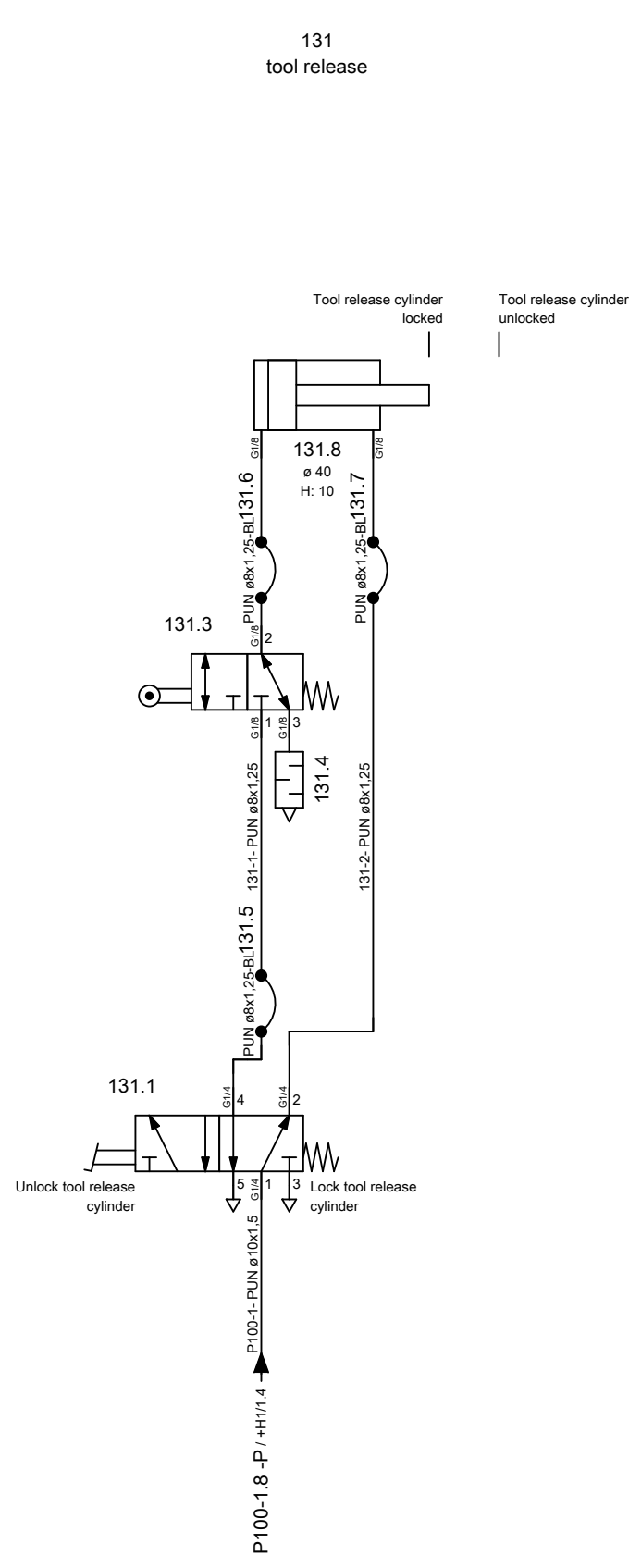
+GMS/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
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← +GOS/1 +ATC/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME
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PROJ./PROJ./PROJ.	54793.00
M-NR./M-NO/ M-NO	M54793
TYP./TYPE/ TIPO	H 10000 PC
WERKSTÜCK/ PART/PEÇA	

HELLER

pneumatic diagram

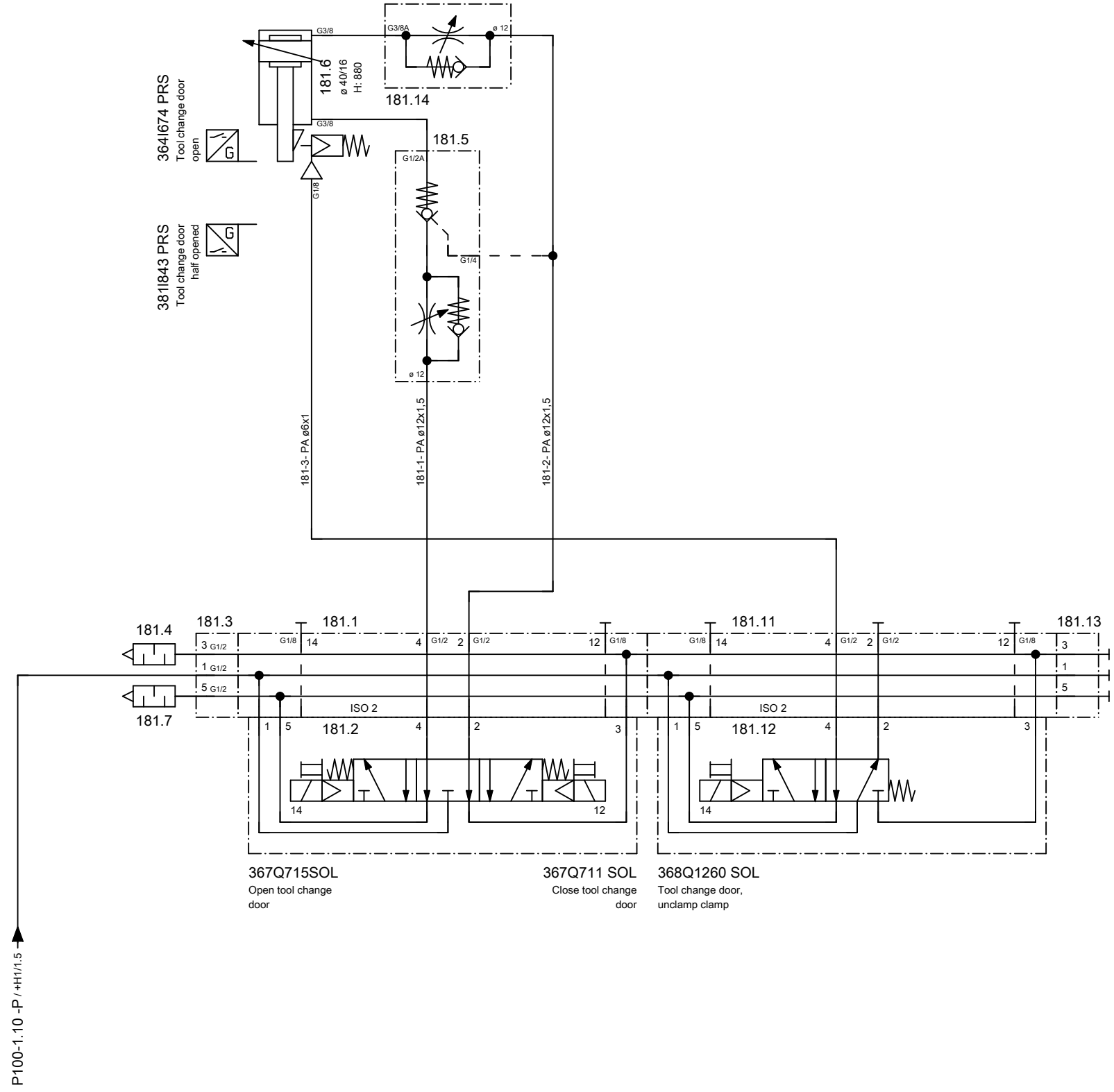
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PLAN/PLAN/PLANO	project	MP.05479300_F
	Machine	=M54793
	Document type	&P pneumatic diagram
	Mounting position	+GMS guarding -
	Page name	1 magazin/maintenance side

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181
Tool change door



+GMS/1

&L+/0

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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												Mounting position	+ATC tool changer
												Page name	1

Heller_2L

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.	device tag	number	denomination	Type	Manufacturer	Heller no.
+MU-115.11	1	plastic pipe	PA 10x1 1 820 712 105	AVENTICS	01.093306	+MU-215.3	1	pipe spiral	4x0,85-3000 PA12W 100034018	Stiefel	01.064865
+H1-200.1	1	lubrication unit	MFE5-KW6-S223+1FV 420V, 50Hz, 480V, 60Hz UL/CSA	SKF Lubrication Systems AG	01.111014	+MU-215.4	1	pipe spiral	4x0,85-3000 PA12W 100034018	Stiefel	01.064865
+H1-200.1-1	1	pump unit		SKF Lubrication Systems AG		+MU-215.5	1	pipe spiral	4x0,85-3000 PA12W 100034018	Stiefel	01.064865
+H1-200.1-2	1	filler plug	B7.06	SKF Lubrication Systems AG		+MU-215.6	1	pipe spiral	4x0,85-3000 PA12W 100034018	Stiefel	01.064865
+H1-200.1-3	1	float switch	WS35-S30+C51 (L=165mm)	SKF Lubrication Systems AG		+MU-215.10	1	pressure switch	PN7094 -1-10bar, G1/4	IFM Electronic	01.111724
+H1-200.1-4	1	pressure relief valve	WVN200-8B23	SKF Lubrication Systems AG	01.070541	+H1-215.21	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H1-200.2	1	pressure filter	50LEN0040-H3XLA00-V5,0-M-R3-M-NB R928048246	Bosch Rexroth	01.107210	+H1-215.22	1	pressure switch	PN7092 0-100bar, G1/4	IFM Electronic	01.111726
+H1-200.2-1	1	filter element	2.0040H3XL-A00-0-M R928006645	Bosch Rexroth	01.107211	+MT-241.1	1	vane pump	FLM 12- 4041+1FV 254-280V, 440-480V, 60Hz UL	SKF Lubrication Systems AG	01.111855
+H1-200.2-2	1	clogging indicator	WE-2SP-M12x1 R928028410	Bosch Rexroth	01.106289	+MT-241.2	1	flow control switch	SBN232 NPT3/4, 0,38-25l/min	IFM Electronic	01.113743
+H1-200.3	1	check valve	RHD08LOMD-0,5-CF	Parker	01.067532	+H1-290.2	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H1-200.4	1	plate	filter element	Heller Maschinenfabrik	10.500969	+H1-290.3	1	pressure switch	PN7092 0-100bar, G1/4	IFM Electronic	01.111726
+H1-206.1	1	lubrication unit	MFE5-KW6-S223+1FV 420V, 50Hz, 480V, 60Hz UL/CSA	SKF Lubrication Systems AG	01.111014	+TM-290.12	1	distributor strip	325-581	SKF Lubrication Systems AG	01.031954
+H1-206.1-1	1	pump unit		SKF Lubrication Systems AG		+TM-290.12-2	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+H1-206.1-2	1	filler plug	B7.06	SKF Lubrication Systems AG		+TM-290.12-3	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+H1-206.1-3	1	float switch	WS35-S30+C51 (L=165mm)	SKF Lubrication Systems AG		+TM-290.12-5	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+H1-206.1-4	1	pressure relief valve	WVN200-8B23	SKF Lubrication Systems AG	01.070541	+MUT-290.21	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+H1-206.2	1	pressure filter	50LEN0040-H3XLA00-V5,0-M-R3-M-NB R928048246	Bosch Rexroth	01.107210	+MUT-290.22	1	distributor strip	2-fach G1/4	Heller Maschinenfabrik	10.500823
+H1-206.2-1	1	filter element	2.0040H3XL-A00-0-M R928006645	Bosch Rexroth	01.107211	+MUT-290.22-1	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+H1-206.2-2	1	clogging indicator	WE-2SP-M12x1 R928028410	Bosch Rexroth	01.106289	+MUT-290.22-2	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+H1-206.3	1	check valve	RHD08LOMD-0,5-CF	Parker	01.067532	+MUT-290.22-3	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+H1-206.4	1	plate	filter element	Heller Maschinenfabrik	10.500969	+MUT-290.22-4	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MU-210.1	1	reservoir		Heller Maschinenfabrik		+MUT-290.22-8	1	piston-type distributor	351-000-50000-00 0,2 cm3	SKF Lubrication Systems AG	01.068111
+MU-210.2	1	gear ring pump unit	143-012-716+MXB 400V, 50Hz, 460V, 60Hz	SKF Lubrication Systems AG	01.102626	+MUT-290.23	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MU-210.3	1	ventilation filter	41 004 62 222	Mann + Hummel	01.061582	+MUT-290.24	1	distributor strip	4-fach G1/4	Heller Maschinenfabrik	10.500825
+MU-210.5	1	flow control switch	SBU323 G1/2 75l/min	IFM Electronic	01.111533	+MUT-290.25	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MU-210.6	1	hose line	DIN 20066-2SC16-NN-1000-P 462-10-1000	Parker	01.101113	+MUT-290.30	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MU-215.1	1	piston-type distributor	VOE-B/6/2-3/3/3/3/0/P	Eugen Woerner GmbH & Co.KG	01.085571	+MC-290.31	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MU-215.2	1	pipe spiral	4x0,85-3000 PA12W 100034018	Stiefel	01.064865	+MC-290.32	1	distributor strip	4-fach G1/4	Heller Maschinenfabrik	10.500825

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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5				Index GEPR./CHECK./REG. BEARB./CHG./ALT. GEZ./DRAWN/DES.	DATUM/DATE 04.04.2017 04.04.2017	NAME/NOME AHFE/ZAJ AHFE/ZAJ	PROJ./PROJ/ PROJ. 54793.00 M-NR/M-NO/ M-NO M54793 TYP/TYPE/ TIPO H 10000 PC WERKSTÜCK/ PART/PEÇA	<div style="text-align: center; font-weight: bold; font-size: 1.2em;">HELLER</div> KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA BENENNUNG/NAME/DENOMINAÇÃO <div style="text-align: center; font-weight: bold;">Device tag list lubrication</div>	PLAN/PLAN/PLANO project Machine Document type Mounting position Page name	MP.05479300_F =M54793 &L lubrication diagram 0	0.a →
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Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+MC-290.32-1	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MC-290.32-2	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MC-290.32-3	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+MC-290.32-4	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+MC-290.32-5	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MC-290.32-6	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MC-290.32-8	1	metering unit	352-020-K 0,2 cm3	SKF Lubrication Systems AG	01.008729
+MC-290.33	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MC-290.34	1	distributor strip	4-fach G1/4	Heller Maschinenfabrik	10.500825
+MC-290.35	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MC-290.40	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MT-290.41	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MT-290.42	1	distributor strip	2-fach G1/4	Heller Maschinenfabrik	10.500823
+MT-290.42-1	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MT-290.42-3	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MT-290.42-4	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MT-290.42-5	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MT-290.42-6	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+MT-290.43	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MT-290.44	1	distributor strip	4-fach G1/4	Heller Maschinenfabrik	10.500825
+MT-290.45	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+MT-290.50	1	plastic pipe	PA 8x1,25 WVN 715-RO 8x1,25	SKF Lubrication Systems AG	01.099359
+M-290.52	1	distributor strip	328-581	SKF Lubrication Systems AG	01.073896
+M-290.52-1	1	piston-type distributor	341-400-50000-00 0,16 cm3	SKF Lubrication Systems AG	01.005645
+M-290.52-5	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+M-290.52-6	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+M-290.52-7	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644
+M-290.52-8	1	piston-type distributor	341-400-20000-00 0,03 cm3	SKF Lubrication Systems AG	01.005644

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← 0

1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	<div style="text-align: center; font-weight: bold; font-size: 1.2em;">HELLER</div> BENENNUNG/NAME/DENOMINAÇÃO Device tag list lubrication	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
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		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ			Document type	MP.05479300_F
								Mounting position	=M54793
								Page name	&L lubrication diagram
									0.a

Lubrication points

Schmierformular_Dyn

lubrication point		metering
LP1	machine bed tool changer	
LP5	machine bed Counter bearing, table	0,03 cm3
LP6	machine bed Table, spindle bearing	0,03 cm3
LP7	machine bed Counter bearing, column	0,03 cm3
LP8	machine bed Column, spindle bearing	0,03 cm3
LP101	Table spindle nut	0,16 cm3
LP203	column counter bearing	0,03 cm3
LP204	column spindle bearing	0,03 cm3
LP210	column spindle nut	0,2 cm3
LP308	Spindle unit spindle nut	0,2 cm3
LP331	spindle Front bearing	0,034 cm3
LP332	spindle Front bearing	0,034 cm3
LP333	spindle Rear bearing	0,034 cm3
LP334	motor Rear hollow shaft bearing	0,034 cm3
LP335	motor Rear hollow shaft bearing	0,034 cm3
LP502	tool magazine chain	0,03 cm3
LP503	tool magazine chain	0,03 cm3
LP505	tool magazine guide frame down	0,03 cm3
total quantity per pulse		1,00 cm3

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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA	PLAN/PLAN/PLANO project Machine Document type Mounting position Page name	MP.05479300_F =M54793 &L lubrication diagram 1
CAD-System		URS. /ORIG.	GEPR./CHECK./REG.			M-NR./M-NO/ M-NO	M54793			
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP./TYPE/ TIPO	H 10000 PC	BENENNUNG/NAME/DENOMINAÇÃO lubricant table	INV-NR./INV-NO/NO-INV	A3
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA				

Lubrication points

Schmierformular_Dyn

lubrication point		metering
LP103	Table roller for runner block	0,16 cm3
LP104	Table roller for runner block	0,16 cm3
LP105	Table roller for runner block	0,16 cm3
LP106	Table roller for runner block	0,16 cm3
LP201	column roller for runner block	0,16 cm3
LP202	column roller for runner block	0,16 cm3
LP205	column roller for runner block	0,16 cm3
LP206	column roller for runner block	0,16 cm3
LP301	Spindle unit roller for runner block	0,16 cm3
LP302	Spindle unit roller for runner block	0,16 cm3
LP303	Spindle unit roller for runner block	0,16 cm3
LP304	Spindle unit roller for runner block	0,16 cm3
total quantity per pulse		1,92 cm3

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← 1

+H1/1 →

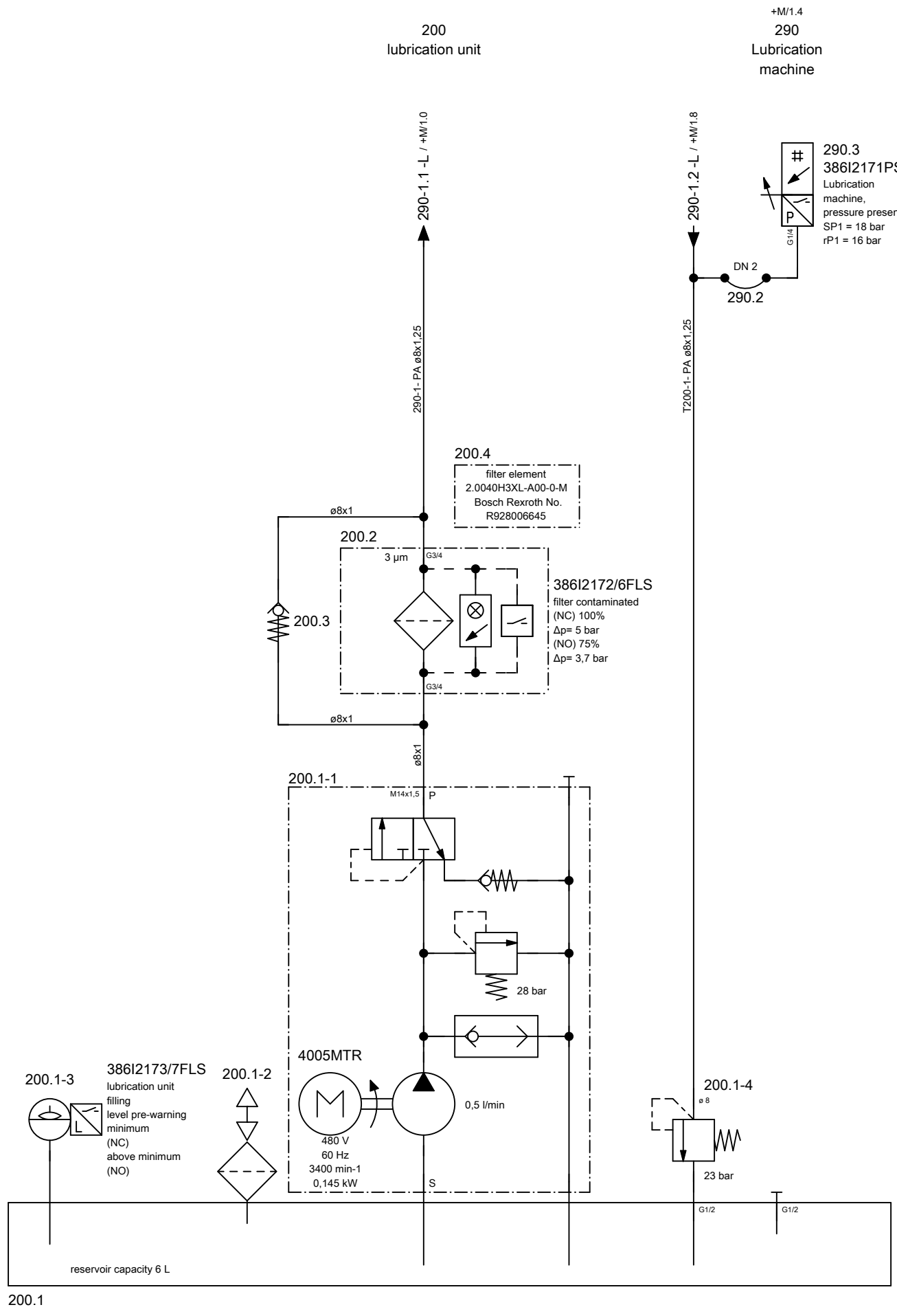
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CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		Paccar, Columbus USA	project
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	M54793	lubricant table 2	INV-NR/INV-NO/NO-INV	MP.05479300_F
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								Page name	2

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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
 Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
 Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
 SKF WVN 715-RO PA plastic pipes, PA12 HIPHL and double tapered ring duct unions

reservoir capacity 6 L
 process medium lubrication oil ISO-L-CKC 68 acc. to ISO 6743-6 and ISO 3448

lubrication interval 10 min



PROJ./PROJ./PROJ. 54793.00 M-NR/M-NO/M-NO M54793 TYP/TYP/ TIPO H 10000 PC WERKSTÜCK/ PART/PEÇA				HELLER BENENNUNG/NAME/DENOMINAÇÃO lubrication diagram		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA INV-NR/INV-NO/NO-INV 13.503922		PLAN/PLAN/PLANO project MP.05479300_F Machine =M54793 Document type &L lubrication diagram Mounting position +H1 HELP1 Page name 1	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5		Index GEPR./CHECK./REG. BEARB./CHG./ALT. GEZ./DRAWN/DES.	ZONE/ZONA DATUM/DATE 04.04.2017 09.09.2015	NAME/NOME AHFE/ZAJ AHFE/HOP					2 →

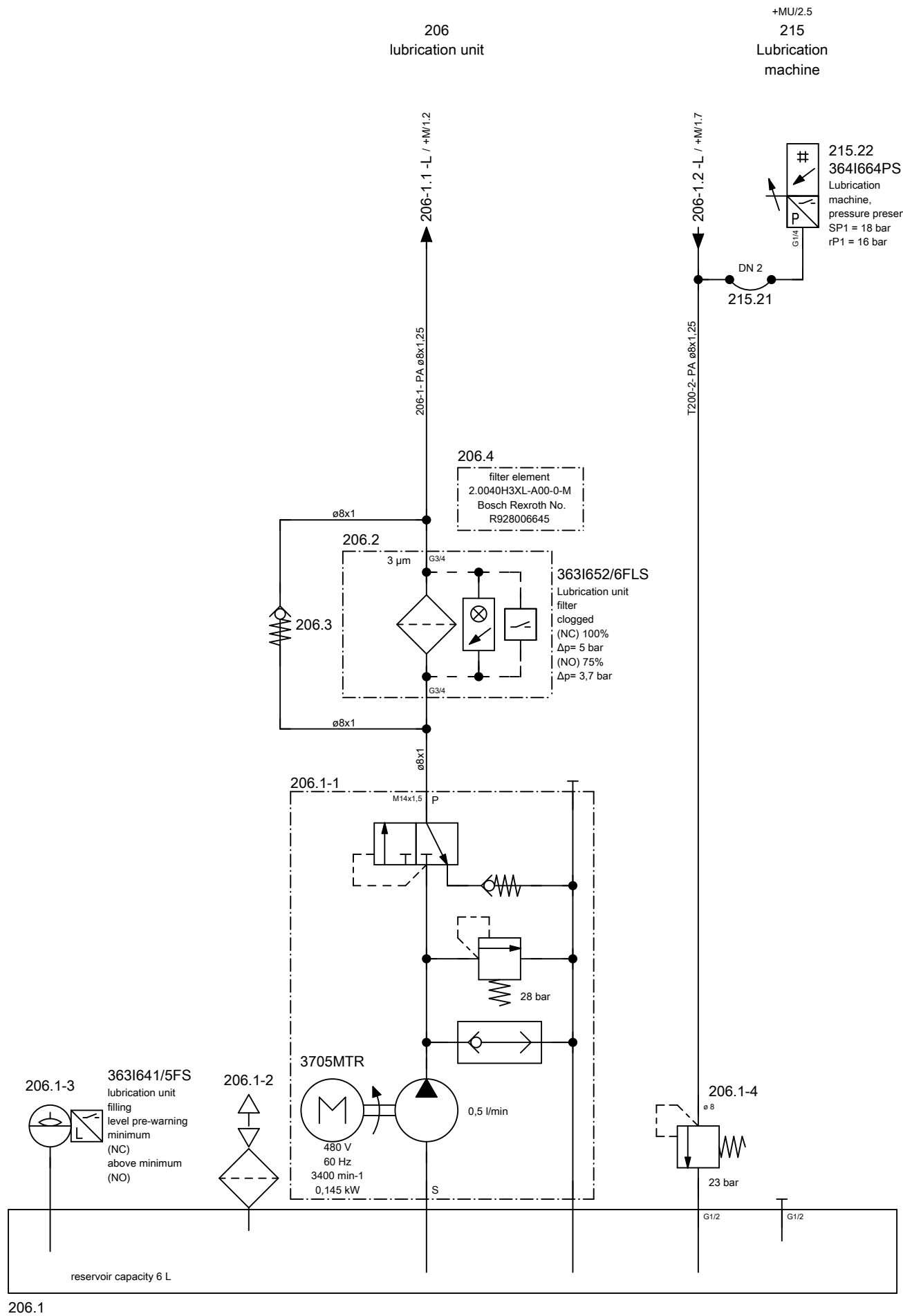
Heller_2L

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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N,
 galvanised, chromium6-free
 Parker screw connections, type EO-2 Plus, chromium6-free, male
 stud connector with soft seal acc. to ISO 1179-2 type E
 Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting
 acc. to DIN ISO 12151-2, CA form
 SKF WVN 715-RO PA plastic pipes, PA12 HIPHL and double
 tapered ring duct unions

reservoir capacity 6 L
 process medium lubrication oil ISO-L-CKC 68
 acc. to ISO 6743-6 and ISO 3448

lubrication interval 10 min



← 1

+MT/1 →

PROJ./PROJ./PROJ. 54793.00 M-NR/M-NO/M-NO M54793 TYP/TYP/ TIPO H 10000 PC				HELLER BENENNUNG/NAME/DENOMINAÇÃO lubrication diagram		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO project MP.05479300_F Machine =M54793	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5						INV-NR/INV-NO/NO-INV 13.503922		Document type &L lubrication diagram Mounting position +H1 HELP1 Page name 2	

Heller_ZL

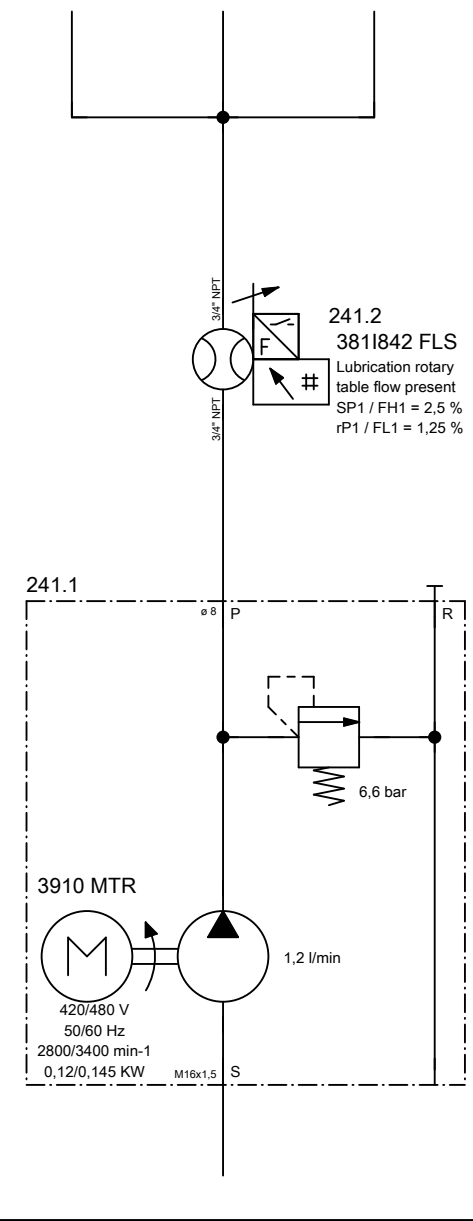
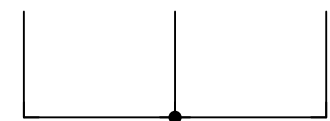
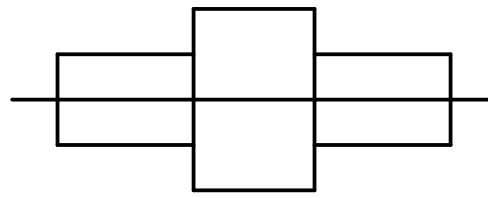
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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N,
 galvanised, chromium6-free
 Parker screw connections, type EO-2 Plus, chromium6-free, male
 stud connector with soft seal acc. to ISO 1179-2 type E
 Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting
 acc. to DIN ISO 12151-2, CA form
 SKF WVN 715-RO PA plastic pipes, PA12 HIPHL and double
 tapered ring duct unions

H 10000-14000
 reservoir capacity 17 L
 process medium lubrication oil SAE 80W
 acc. to SAE J 306 and ISO 51512

241
rotary feed table



← +H1/2

+MU/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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				ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP	WERKSTÜCK/ PART/PEÇA				Document type	&L
											Mounting position	+MT	table
											Page name	1	

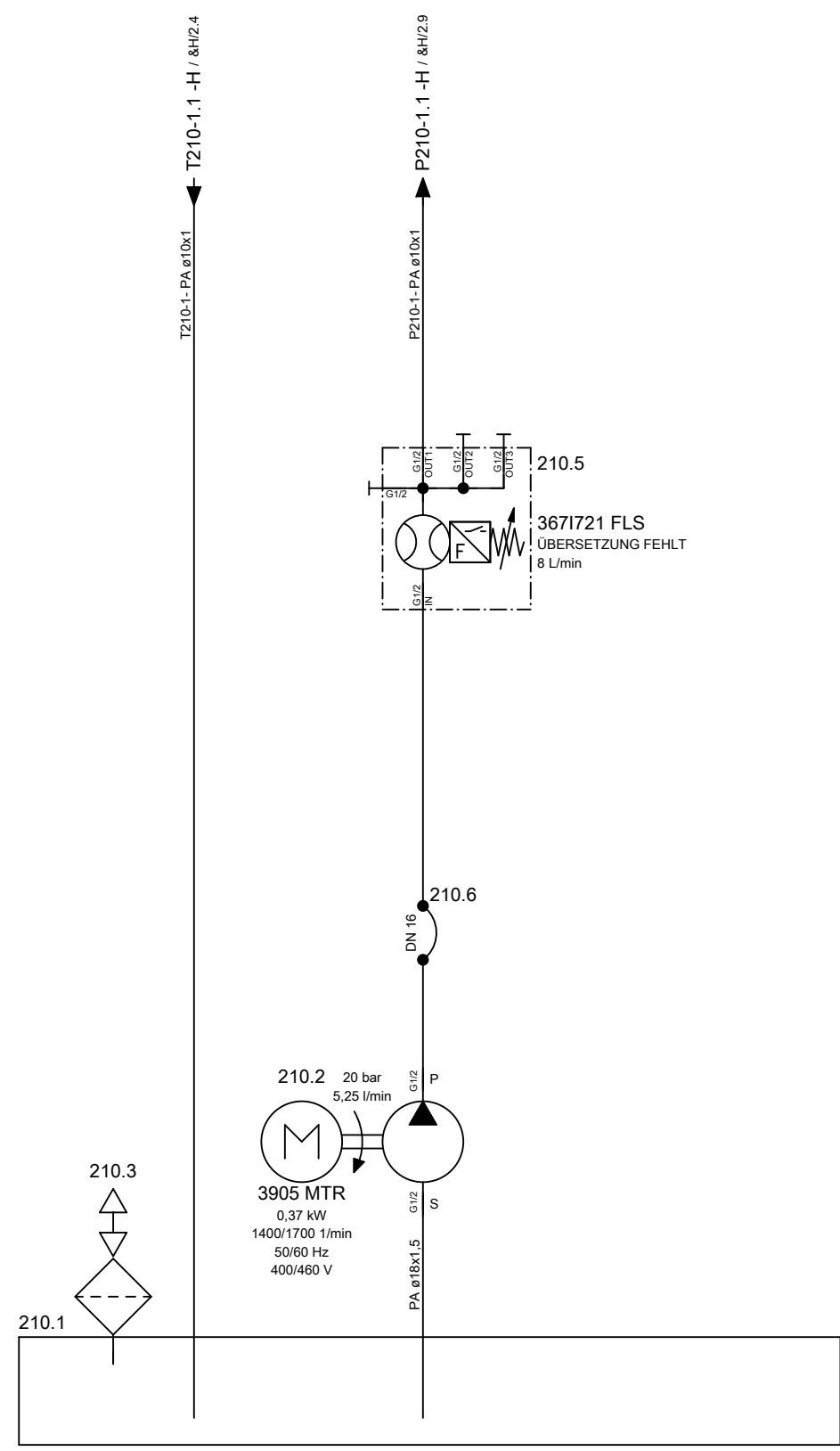
Heller_2L

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reservoir capacity 5 L
process medium lubrication oil ISO-L-CKC 46
acc. to ISO 6743-6 and ISO 3448

gear lubrication
210



← +MT/1

2 →

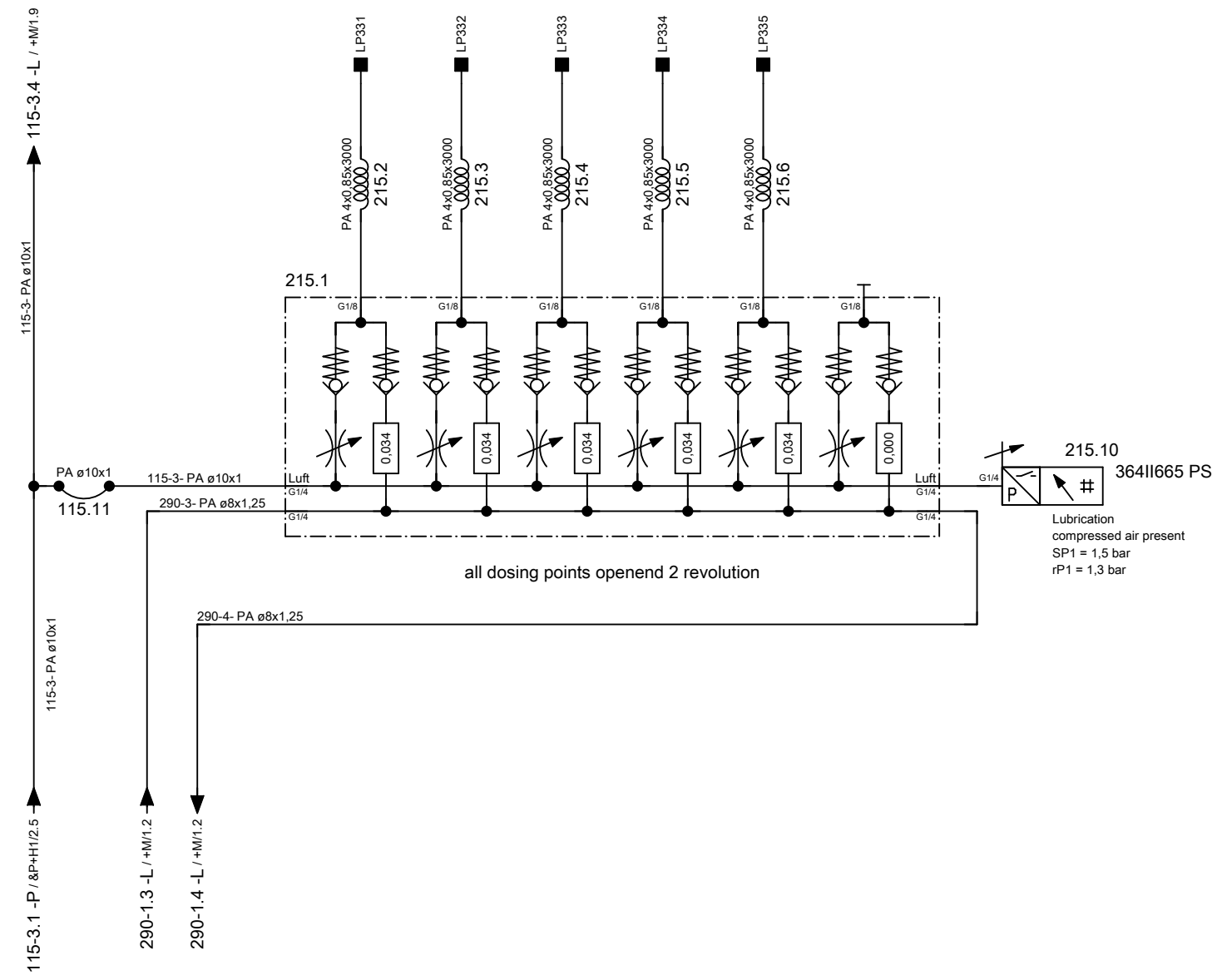
Heller_2L

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System				URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR./M-NO/ M-NO	M54793		Paccar, Columbus USA	project	MP.05479300_F
ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 PC	lubrication diagram	INV-NR./INV-NO/NO-INV	Machine	=M54793
				ERS.D./REP.W.	GEZ./DRAWN/DES.	10.09.2015	AHFE/HOP	WERKSTÜCK/ PART/PEÇA				Document type	&L lubrication diagram
											Mounting position	+MU unit	
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+H1/2.6
215
Lubrication
tool spindle



← 1

+M/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.			M-NR./M-NO/ M-NO	M54793		Paccar, Columbus USA	project	MP.05479300_F
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Heller_2L		ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP	WERKSTÜCK/ PART/PEÇA				Document type	&L
									Mounting position	+MU	unit
									Page name	2	

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+H1/1.6
290
Lubrication
machine

+MUT
machine table swivel axis

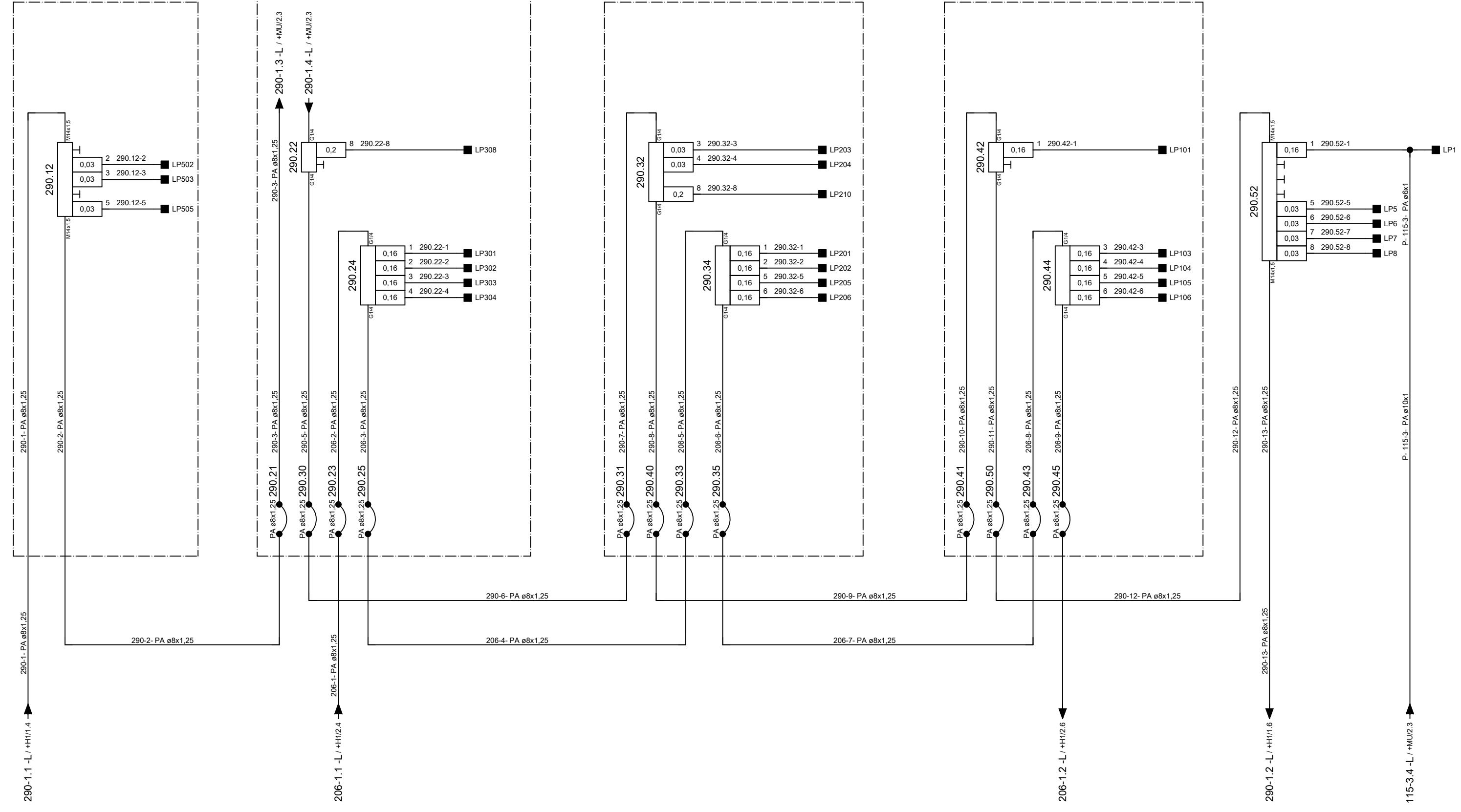
+MC
column

+MT
table

machine bed

machine bed

+TM
tool magazine



ePLAN 2.2.5		URSPR./ORIG.		GEPR./CHECK./REG.		PROJ./PROJ./PROJ.		<p style="text-align: center;">HELLER</p> KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		ERS./REP.		BEARB./CHG./ALT.		M-NR/M-NO/ M-NO				project	
CAD-System		ERS.D./REP.W.		GEZ./DRAWN/DES.		TYP/TYPE/ TIPO		BENENNUNG/NAME/DENOMINAÇÃO lubrication diagram		Machine	
						H 10000 PC				INV-NR/INV-NO/NO-INV	
						04.04.2017				Document type	
						AHFE/ZAJ				&L lubrication diagram	
						AHFE/HOP				Mounting position	
										+M machine	
										Page name	
										1	

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+H1-300.1	1	cooling unit	ERK10W-PWT-R134a Heller-UL 400V 50Hz, 460V 60Hz 5,2kW	BKW	01.112899
+EC-300.2	1	control cabinet cooling			
+EC-300.3	1	control cabinet cooling			
+MC-300.5	1	adapter flange		Heller Maschinenfabrik	
+H1-300.6	1	ball valve	75-104-01-01 3/4" NPT	Apollo	01.113288
+H1-300.7	1	ball valve	75-104-01-01 3/4" NPT	Apollo	01.113288
+MC-300.9	1	control valve	223.1209.000 DN15 3-12 l/min	Taconova	01.100682
+MU-300.20	1	plastic pipe	PA 12x1,5 1 820 712 103	AVENTICS	01.093304
+MU-300.21	1	plastic pipe	PA 12x1,5 1 820 712 103	AVENTICS	01.093304
+MC-300.30	1	hose line	DIN 20066-2SC 10 -NN-2350-P 462-6-2350	Parker	01.104632
+MC-300.31	1	hose line	DIN 20066-2SC 10 -NN-2350-P 462-6-2350	Parker	01.104632
+MU-310.1	1	directional control valve	SGH130A-30G10Y-5WZ G3/8 30bar M12x1	SMC	01.102730
+MU-310.2	1	plastic pipe	PA 8x1 1 820 712 102	AVENTICS	01.093303
	1	check valve	RHD12LOMD-CF	Parker	01.002260

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← &L+M/1

+H1/1 →

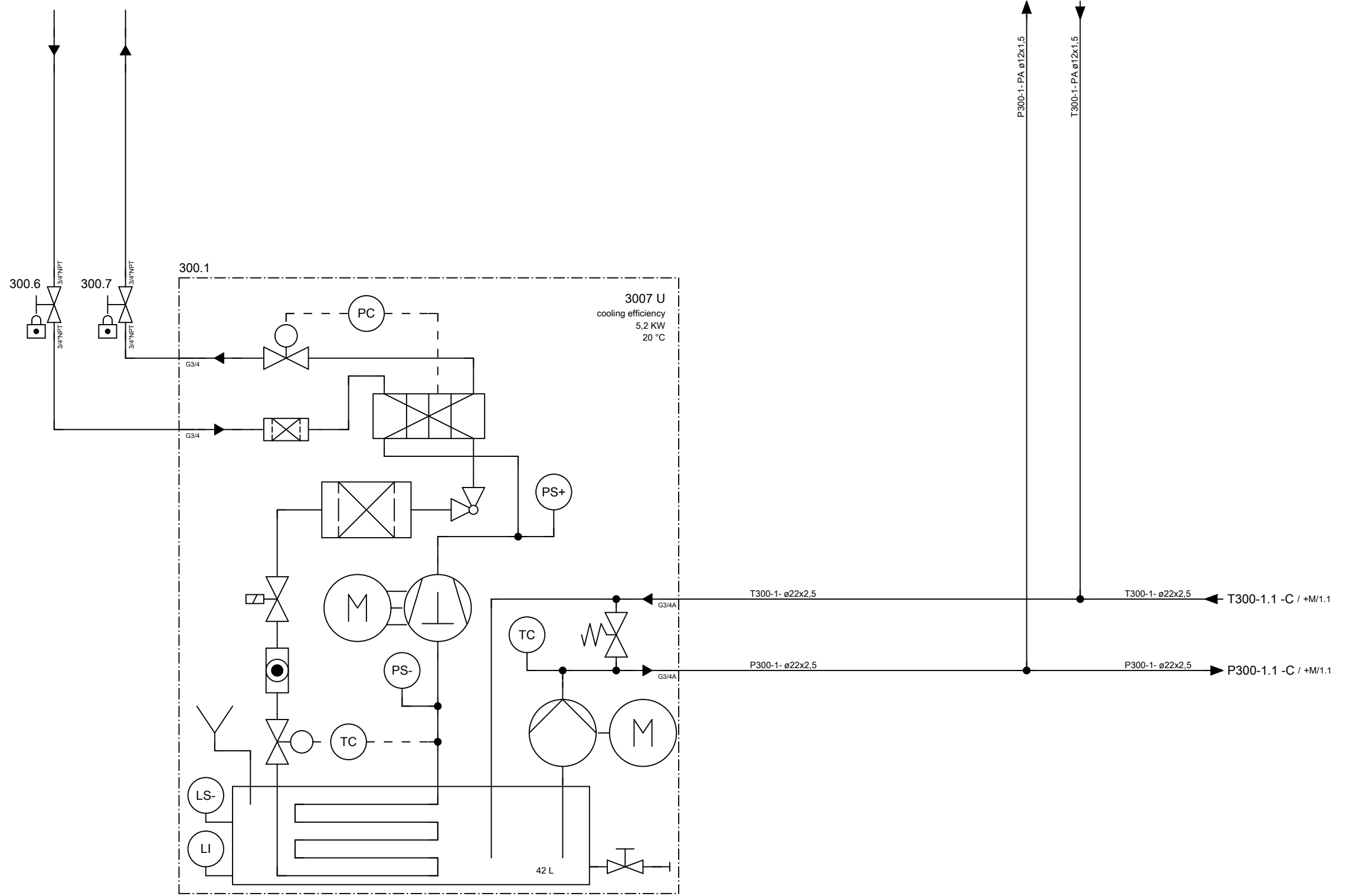
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CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54793			
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPER/ TIPO	H 10000 PC	BENENNUNG/NAME/DENOMINAÇÃO Device tag list cooling water		
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA				

+M/1.5
300
machine cooling system

Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
 Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
 Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form

reservoir capacity 42 L
 process medium Demineralised water with anti-corrosion agent
 mixing ratio see plates on cooling unit

cooling water provided by customer
 max. 35°C



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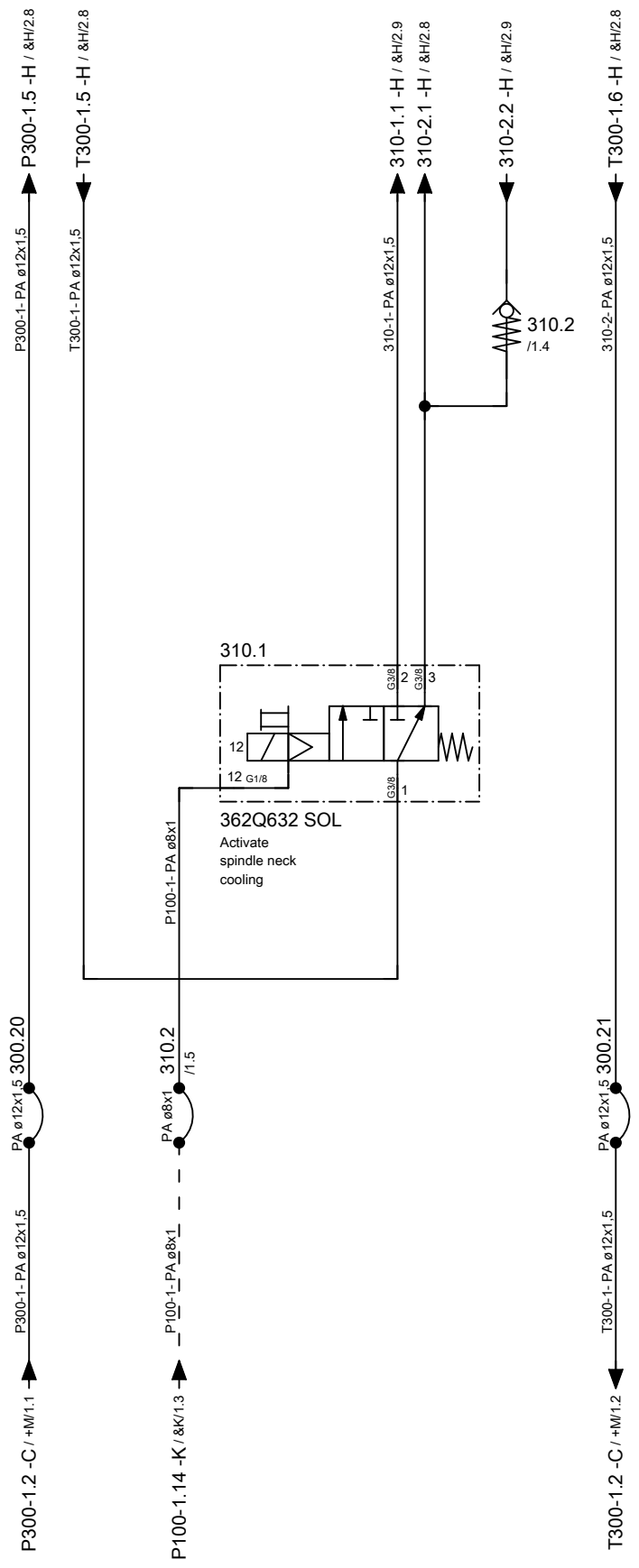
← +/0										+MU/1 →		
				PROJ./PROJ./PROJ. 54793.00 M-NR./M-NO./M-NO. M54793 TYP./TYPE./TIPO H 10000 PC		<h1 style="margin: 0;">HELLER</h1>		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO project MP.05479300_F Machine =M54793		
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	BENENNUNG/NAME/DENOMINAÇÃO <h2 style="margin: 0;">cooling water diagram</h2>		INV-NR./INV-NO./NO-INV 01.106964		Document type &C cooling water diagram Mounting position +H1 HELP1 Page name 1
CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.									
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		ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP						A3	

Heller_2L

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310
Spindle
neck cooling



← +H1/1

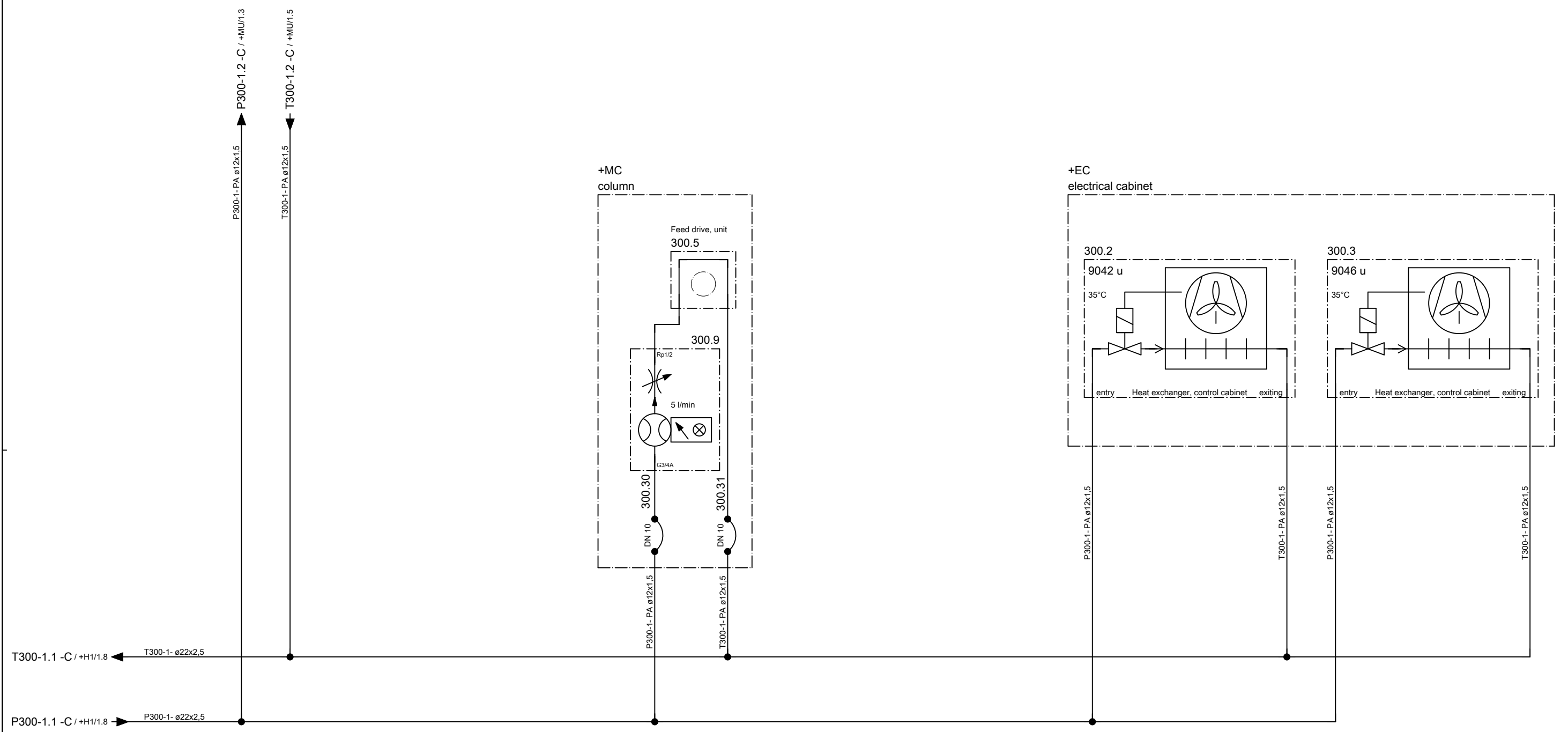
+M/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		Paccar, Columbus USA	project
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	26.08.2016	AHFE/ZAJ	M54793	cooling water diagram	INV-NR/INV-NO/NO-INV	Machine
Heller_2L		ERS.D./REP.W.	GEZ./DRAWN/DES.	09.09.2015	AHFE/HOP	H 10000 PC			Document type
						WERKSTÜCK/ PART/PEÇA		Mounting position	&C cooling water diagram
								Page name	+MU unit
									1

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+H1/1.4
300
machine cooling system



← +MU/1

&K+0 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ. PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System				URSPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54793		Paccar, Columbus USA	project	MP.05479300_F
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											Mounting position	+M	machine
											Page name	1	

Heller_2L

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+CC-100.50	1	shut-off valve	HE-G1/2-LO 197134	Festo	01.093008
+CC-100.51	1	silencer	AMTE-M-LH-G1 1205865	Festo	01.112166
+CC-100.52	1	fastening angle	MS4-WP 532184	Festo	01.106320
+CC-100.53	1	filter pressure regulator	MS4-LFR-1/4-D6-CUV-A4 526489	Festo	01.109895
+CC-100.53-1	1	filter element	MS4-LFP-C 534501	Festo	01.109899
+CC-100.54	1	pressure gauge	MA-50-10-1/4 359873	Festo	01.092062
+MU-100.60	1	plastic pipe	PA 8x1 1 820 712 102	AVENTICS	01.093303
+MU-110.10	1	plastic pipe	PA 12x1,5 1 820 712 103	AVENTICS	01.093304
+MU-110.11	1	check valve	NG6 G1/4 0 821 003 002	AVENTICS	01.031611
+MU-110.12	1	vacuum generator	ähnl EBP-240 R412007716	AVENTICS	01.100344
+MU-110.13	1	plastic pipe	PA 14x1,5 1 820 712 104	AVENTICS	01.093305
+MU-110.20	1	plastic pipe	PA 12x1,5 1 820 712 103	AVENTICS	01.093304
+MU-110.21	1	check valve	RHZ12LREDO MD-CF ITL71 ST 1.4571	Parker	01.062111
+H1-400.11	1	hose line	DIN 20066-2SC40-NN-....-P 462-40-....	Parker	
+H1-410.1	1	flow control switch	SBU323 G1/2 75l/min	IFM Electronic	01.111533
+MU-410.2	1	hose line	DIN 20066-2SC16-NN-3750-P 462-10-3750	Parker	01.099742
+MU-410.3	1	check valve	RHZ18LREDO MD-CF ITL71 ST 1.4571	Parker	01.062112
+MU-410.4	1	block		Heller Maschinenfabrik	00.788814
+MU-410.5	1	hose line	DIN 20066-2SC10-NN- 630-P 462- 6- 630	Parker	01.099880
+MU-410.6	1	hose line	DIN 20066-2SC10-NN- 630-P 462- 6- 630	Parker	01.099880
+MU-410.8	1	directional control valve	5-VMK10 DR/NO 3/2 G1/2 0-80bar, M12x1	Müller co-ax	02.001914
+MU-410.8-1	1	directional control valve	VMK 10 DR NO-Namur 0-80bar, G1/2	Müller co-ax	01.102636
+MU-410.8-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683
+MU-410.8-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+MU-410.8-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+H1-410.11	1	hose line	DIN 20066-2SC16-NN-....-P 462-10-....	Parker	
+H1-411.1	1	directional control valve	5-VMK15 NC 2/2 G1/2 0-64bar, M12x1	Müller co-ax	02.001242
+H1-411.1-1	1	directional control valve	VMK15NC, 2/2, 0-64bar G1/2	Müller co-ax	01.097317

device tag	number	denomination	Type	Manufacturer	Heller no.
+H1-411.1-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683
+H1-411.1-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+H1-411.1-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+MU-411.10	1	plastic pipe	18x1,5 PA12 HIPHL-nf DIN 73378	Stiefel	01.060217
+H1-411.11	1	hose line	DIN 20066-2SC25-NN-....-P 462-16-....	Parker	
+H1-417.11	1	hose line	DIN 20066-2SC16-NN-....-P 462-10-....	Parker	
+H1-480.1	1	directional control valve	5-VMK25 NC 2/2 G11/4 0-64bar, M12x1	Müller co-ax	02.001243
+H1-480.1-1	1	directional control valve	VMK 25 NC-Namur 0-64bar, G11/4	Müller co-ax	01.094865
+H1-480.1-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683
+H1-480.1-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+H1-480.1-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+GOS-485.1	1	ball valve	BVG 4-3/8 L	Parker	01.094579
+GOS-485.2	1	ball valve	BVG 4-3/8 L	Parker	01.094579
+GOS-485.3	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+GMS-485.4	1	ball valve	BVG 4-3/8 L	Parker	01.094579
+GMS-485.5	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+GMS-485.6	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+GLS-490.1	1	coiled hose	HEL 09.03.30 DN12 2xG3/8a L=3300 blau	Stäubli	01.100442
+GLS-490.2	1	wash gun	G1/2 412.009	EWO	01.110254
+H1-490.3	1	coupling	DN9, G3/8 SP-009-2-WR517-11-2-Z02	Walther	01.112139
+H1-490.4	1	coupling	DN9, G 3/8A SP-009-0-WR017-11-1	Walther	01.039222
+H1-490.5	1	ball valve	BVG 4-3/8 L	Parker	01.094579

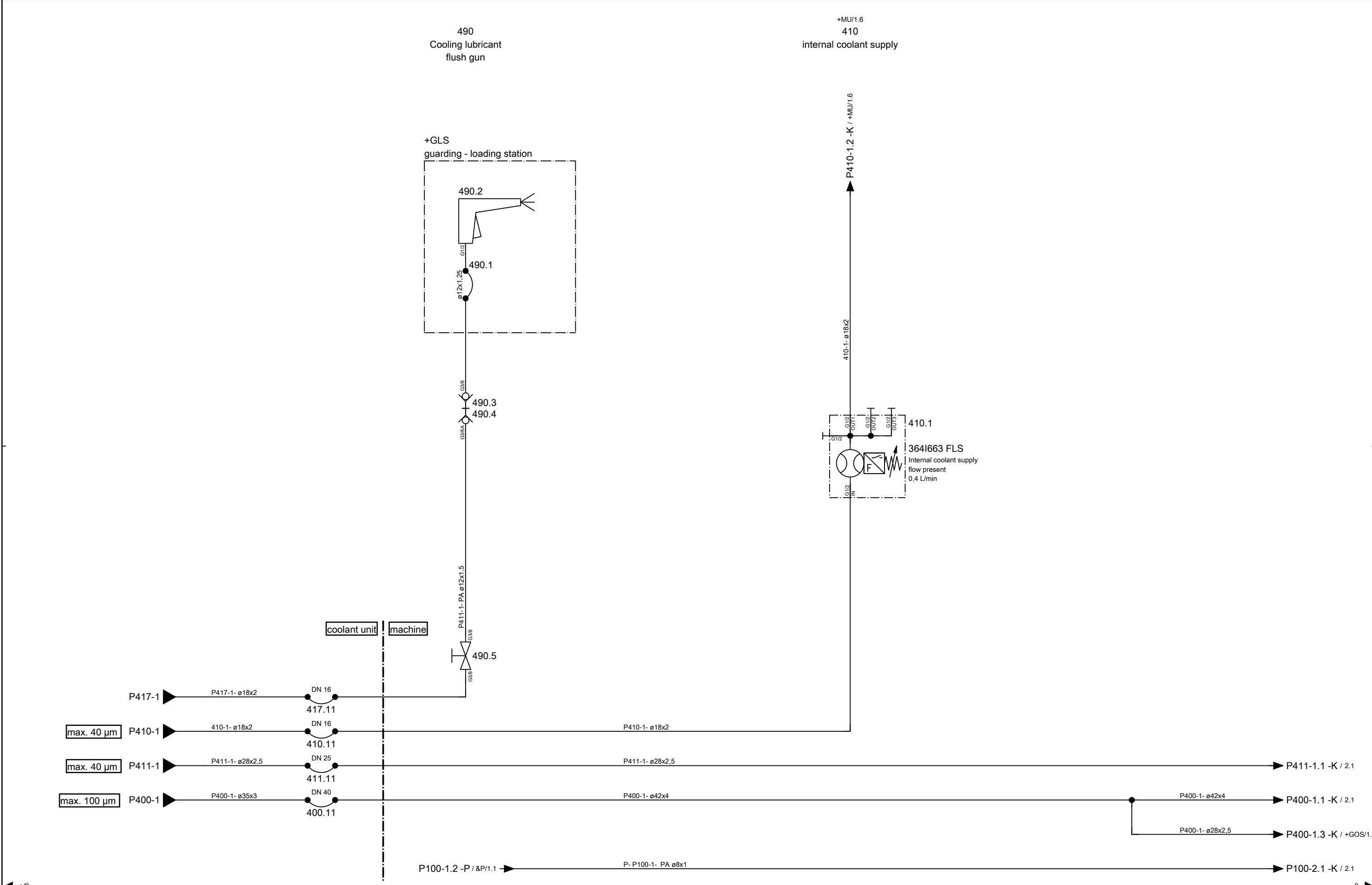
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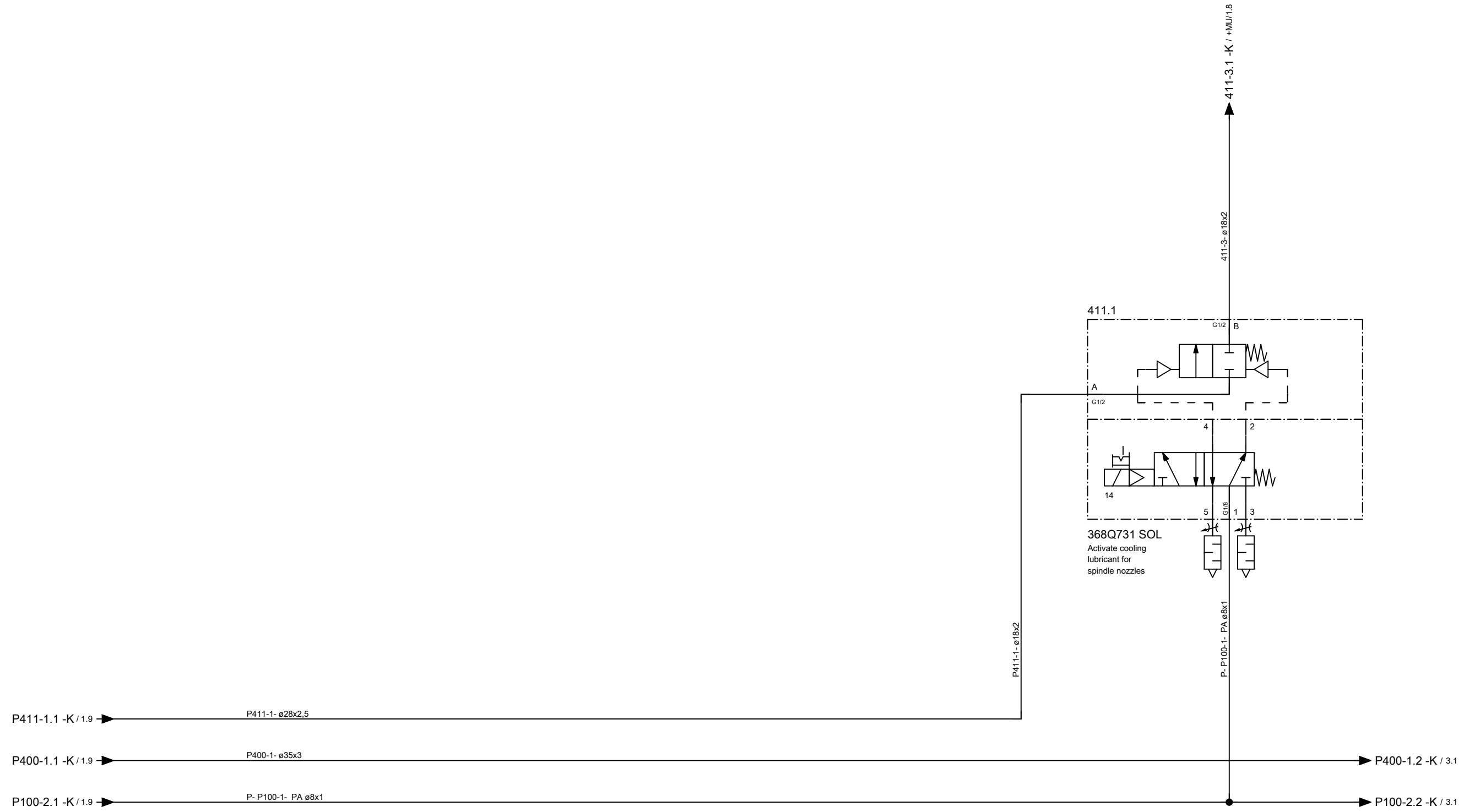
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413
Cooling lubricant
multi-spindle head

+MU/1.8
411
Cooling lubricant
spindle nozzles



← 1 3 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO	Index	ZONE/ZONA	DATUM/DATE	NAME/NOME
CAD-System	URSPR./ORIG.	GEPR./CHECK./REG.		
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	ERS.D./REP.W.	GEZ./DRAWN/DES.	11.09.2015	AHFE/HOP

PROJ./PROJ/PROJ.	54793.00
M-NR/M-NO/M-NO	M54793
TYP/TYPE/TIPO	H 10000 PC
WERKSTÜCK/PART/PEÇA	

HELLER

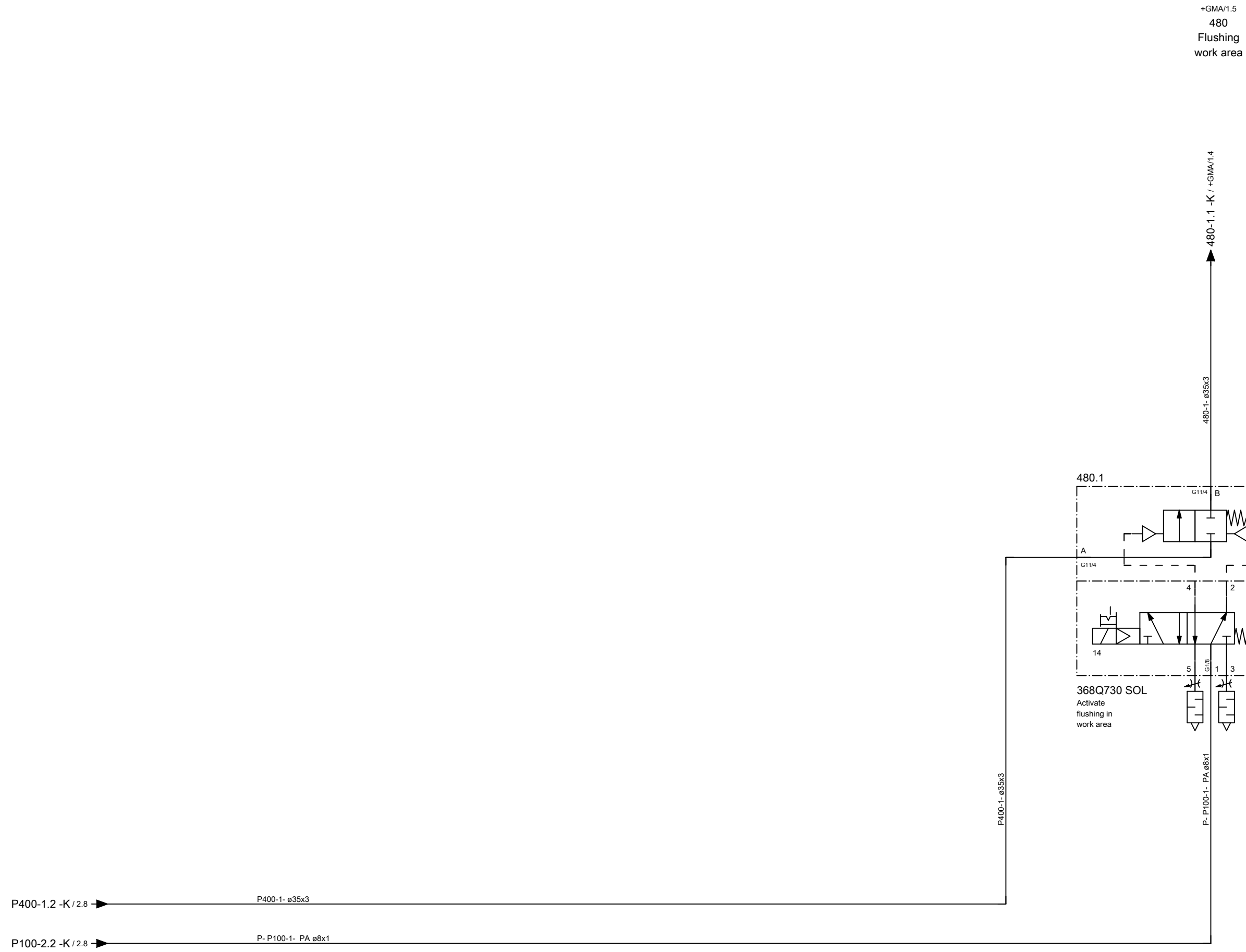
coolant diagram

KUNDE/CUSTOMER/CLIENTE	Paccar, Columbus USA
INV-NR/INV-NO/NO-INV	

PLAN/PLAN/PLANO	project	MP.05479300_F
	Machine	=M54793
	Document type	&K coolant diagram
	Mounting position	+H1 HELP1
	Page name	2

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← 2

+MU/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO	Index	ZONE/ZONA	DATUM/DATE	NAME/NOME
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	ERS.D./REP.W.	GEZ./DRAWN/DES.	11.09.2015	AHFE/HOP

PROJ./PROJ/PROJ.	54793.00
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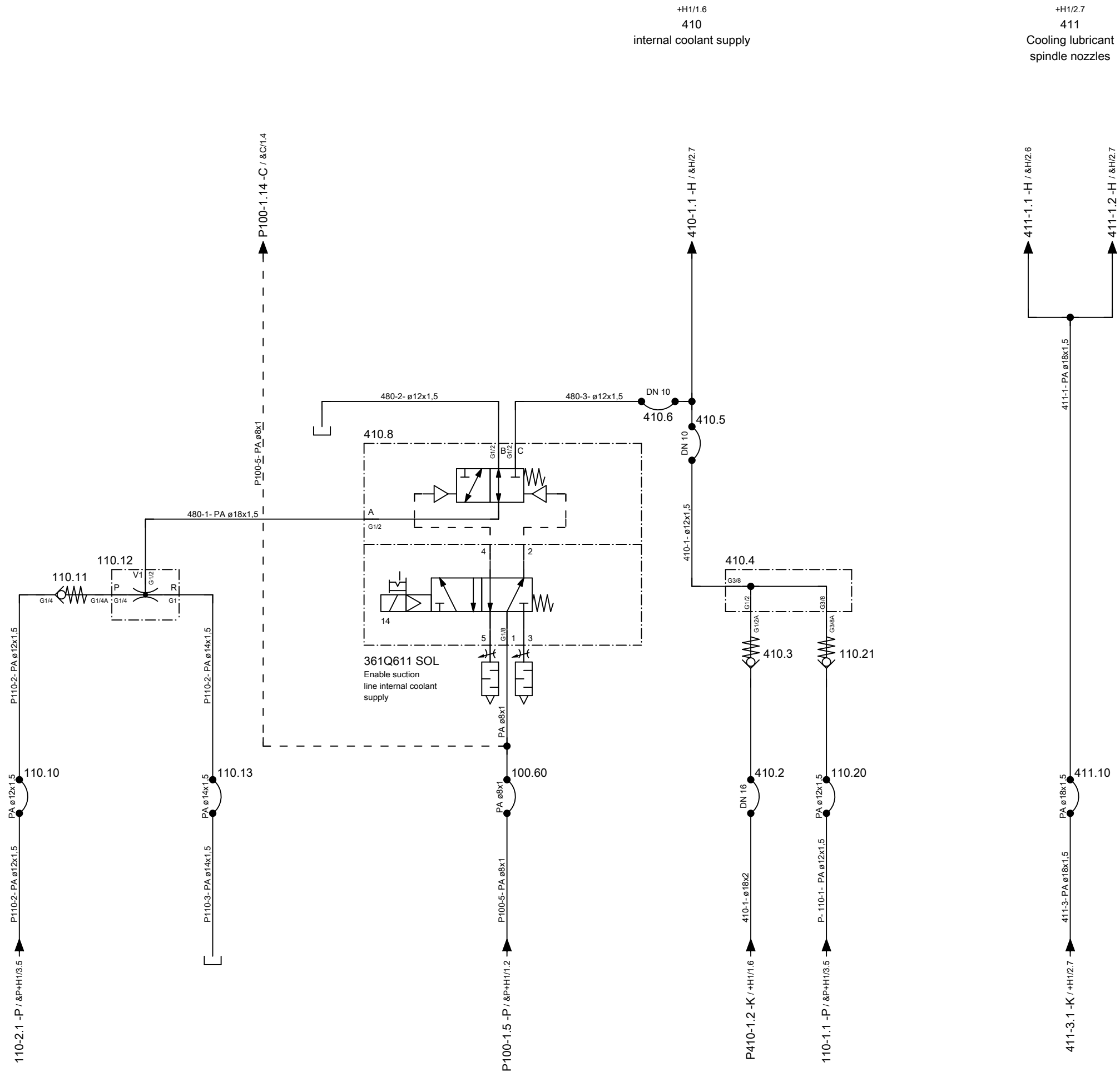
HELLER	
coolant diagram	

KUNDE/CUSTOMER/CLIENTE	Paccar, Columbus USA
INV-NR/INV-NO/NO-INV	

PLAN/PLAN/PLANO	project	MP.05479300_F
	Machine	=M54793
	Document type	&K coolant diagram
	Mounting position	+H1 HELP1
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				PROJ./PROJ./PROJ. 54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA	PLAN/PLAN/PLANO project MP.05479300_F	
				M-NR/M-NO/ M-NO M54793		BENENNUNG/NAME/DENOMINAÇÃO coolant diagram	INV-NR/INV-NO/NO-INV	Machine =M54793
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	Document type &K coolant diagram
CAD-System ePLAN 2.2.5		URSPR./ORIG.	GEPR./CHECK./REG.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA	Mounting position +MU unit
		ERS.D./REP.W.	GEZ./DRAWN/DES.	11.09.2015	AHFE/HOP			Page name 1

Heller_2L

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485
machine bed flushing

operating side

magazine side

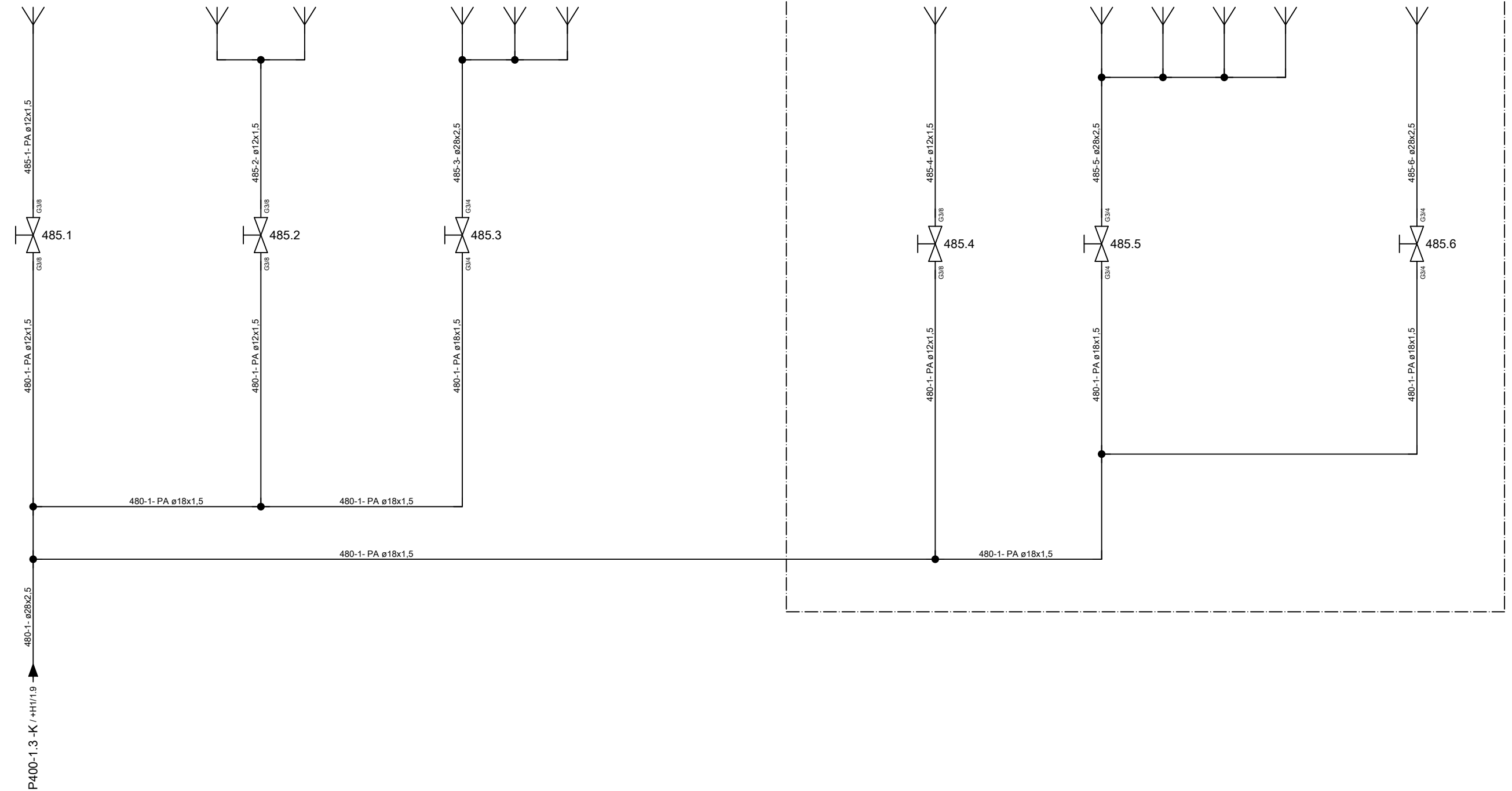
Flushing below
the Z-cover

Flush X-axis

machine bed flushing

Flush X-axis

machine bed flushing



+GMS
guarding - magazin/maintenance side

← +MU/1

+GMA/1 →

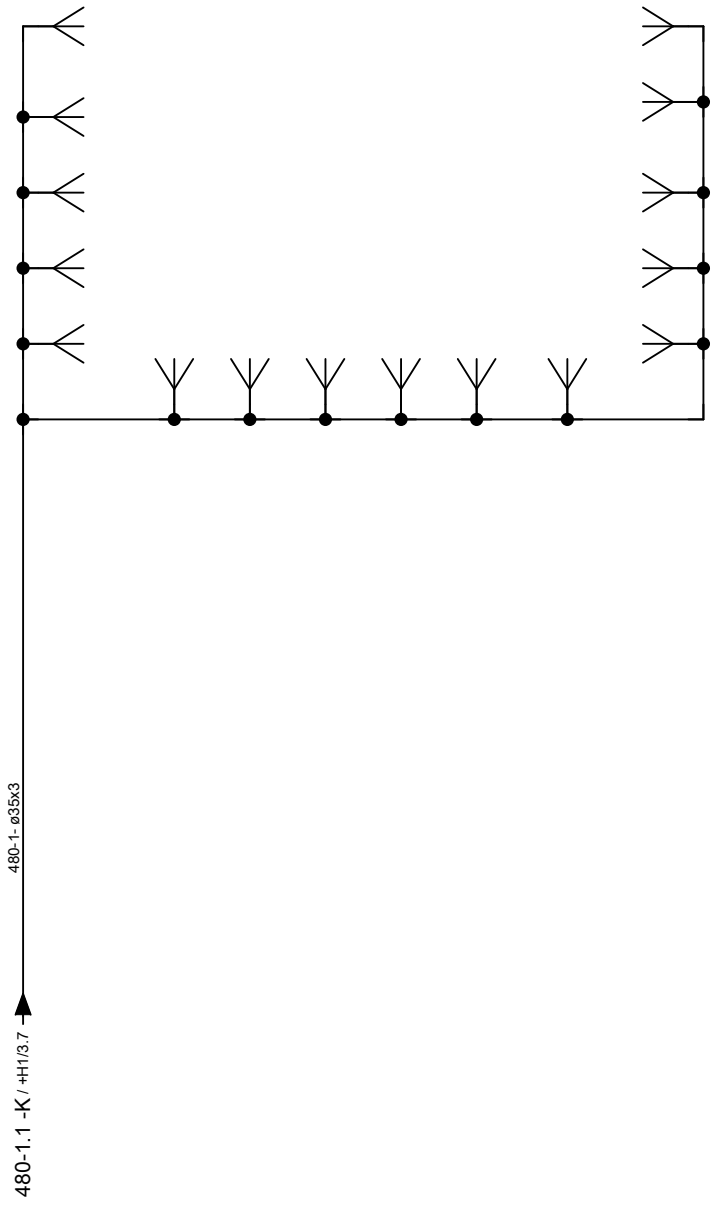
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CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.	BEARB./CHG./ALT.	AHFE/ZAJ	M-NR./M-NO/ M-NO	M54793		Paccar, Columbus USA	project
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								INV-NR./INV-NO/NO-INV	Mounting position	+GOS guarding - operating side
									Page name	1
										A3

Heller_2L

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+H1/3.7
480
Flush
workpiece
in work area



← +GOS/1

+CC/1 →

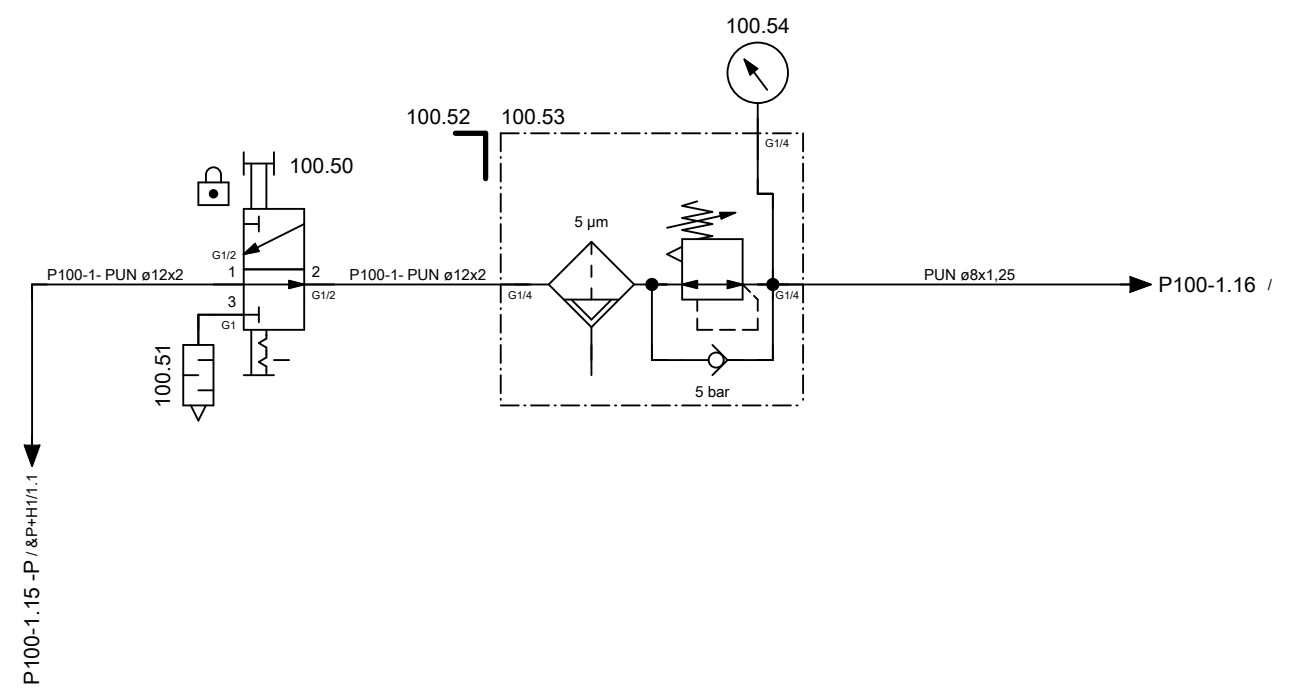
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						WERKSTÜCK/ PART/PEÇA		Mounting position	+GMA	guarding - machining area
								Page name	1	

Heller_2L

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&P+H1/1.3
100
air supply
recirculating station



← +GMA/1

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54793.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System				URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54793		Paccar, Columbus USA	project	MP.05479300_F
ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	26.08.2016	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 PC	coolant diagram	INV-NR/INV-NO/NO-INV	Machine	=M54793
				ERS.D./REP.W.	GEZ./DRAWN/DES.	28.01.2016	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA			13.504083	Document type	&K coolant diagram
												Mounting position	+CC chip conveyor
												Page name	1

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