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

workpiece Cylinder Head

Project description P-009081

Part characteristic

Inventory number

HELLER project **MP.05480700_F**

Machine serial number 54807.00

Machine type H 10000 MC DL

Control

Mounting position

Job No.

Total list

Manufacturer Gebr. Heller Maschinenfabrik GmbH

Gebrüder-Heller-Straße 15

72622 Nürtingen

Project Manager

Created on 15.03.2016

Abbreviation

Phone

e-mail

Modification date 04.04.2017

Abbreviation AHFE/ZAJ

CAD system ePLAN 2.2.5

Number of pages 62

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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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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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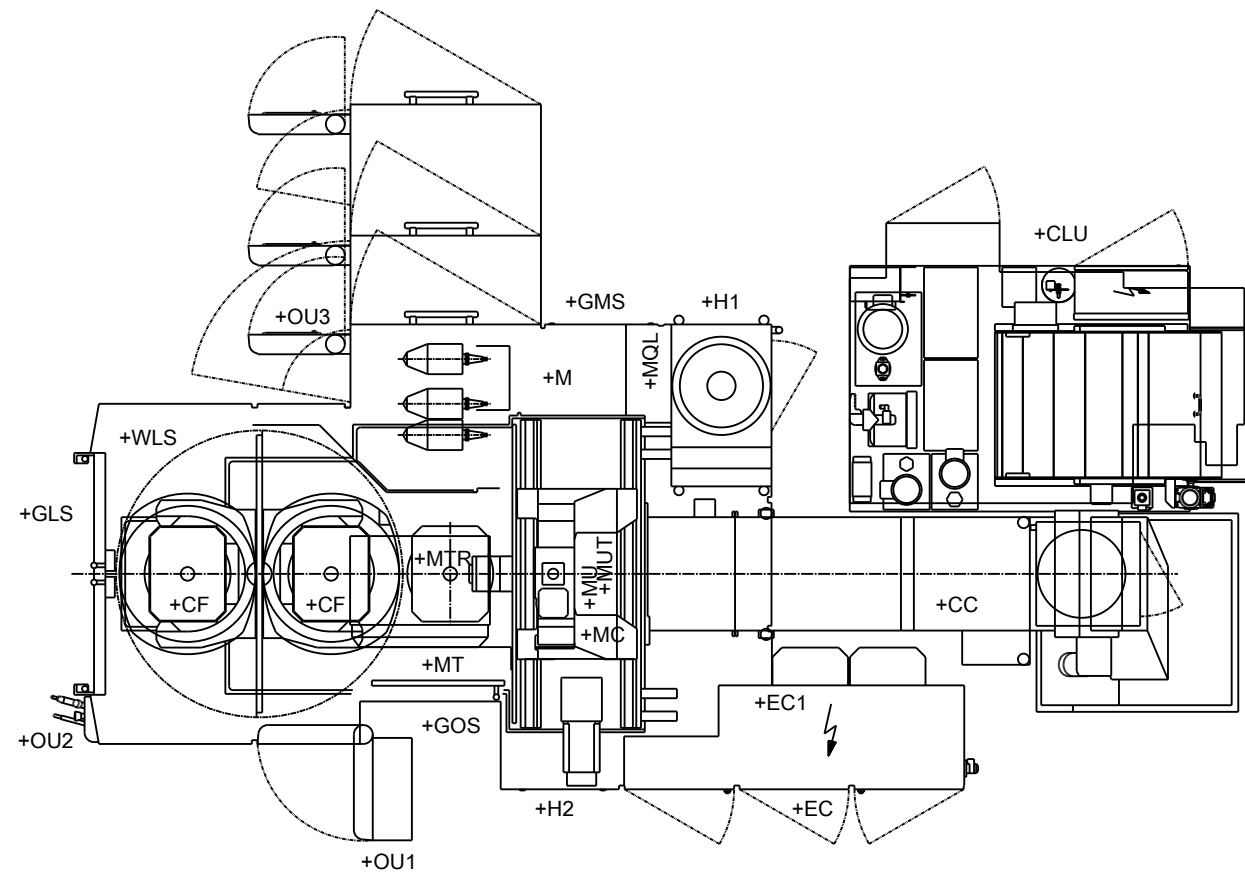
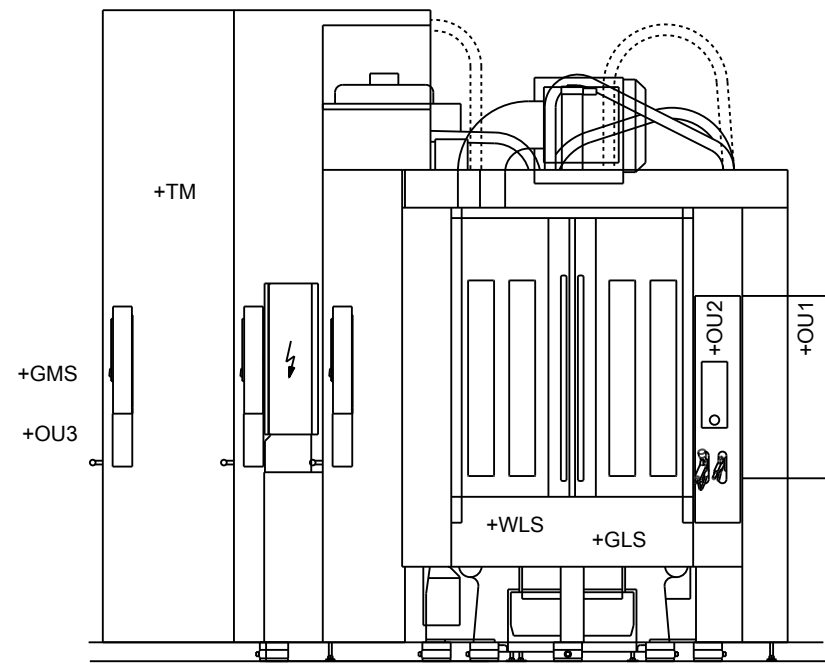
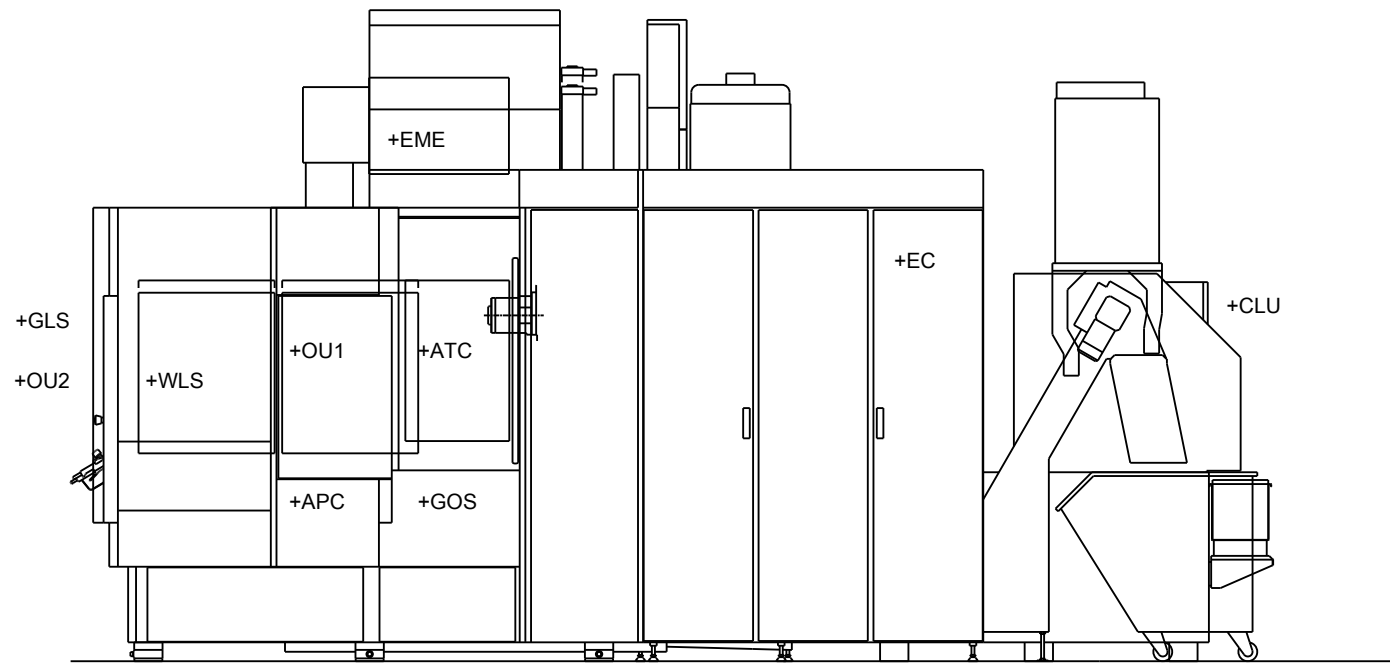
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- +ATC tool changer
- +APC pallet changer
- +CC chip conveyor
- +CF workpiece clamping fixture
- +CLU cooling lubricant unit
- +EC electrical cabinet
- +EC1 mounting panel electrical cabinet
- +EME emulsion mist extraction
- +GLS guarding - loading 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

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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>+H1-364I664PS 215.22 Uni = bar SP1 = 18 bar OU1 = Hno rP1 = 16 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-380I827PS 40.6 Uni = bar SP1 = 3 bar OU1 = Hno OU2 = Hno dS1 = 0,0 dS2 = 0,0 dr1 = 0,0 dr2 = 0,0 P-n = PnP dAP = 60 dis = d2 colr = rEd</p>	<p>+H15-452I1550 PS 60.7 Uni = bar "SP1=H1"-10 bar OU1 = Hno "rP1=H1"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1553 PS 63.7 Uni = bar "SP1=H4"-10 bar OU1 = Hno "rP1=H4"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1556 PS 66.7 Uni = bar "SP1=H4"-10 bar OU1 = Hno "rP1=H4"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1571 PS 160.8 Uni = bar SP1 = 1,8 bar OU1 = Hno rP1 = 1,6 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-8516FLS 100.37 Uni = ScFm SP1 = - L/min SP2 = - L/min OU1 = ImP OU2 = I rP1 = - L/min rP2 = - L/min ImPS = 0,1 ImPR = YES ASP = 0,0 AEP = 12,5 dAP = 0,6 dis = d3 FOU1 = OFF FOU2 = OFF rTo = OFF SELd = FLOW</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>+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>+MU-364I665 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>+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 MEI = OIL.2 colr = rEd</p>	<p>+H15-452I1551 PS 61.7 Uni = bar "SP1=H2"-10 bar OU1 = Hno "rP1=H2"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1554 PS 64.7 Uni = bar "SP1=H5"-10 bar OU1 = Hno "rP1=H5"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1557 PS 67.7 Uni = bar "SP1=H5"-10 bar OU1 = Hno "rP1=H5"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1572 PS 160.11 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>+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>+H1-380I826PS 40.8 Uni = bar SP1 = 65 bar OU1 = Hno OU2 = Hno rP1 = 63 bar dS1 = 0,0 dS2 = 0,0 dr1 = 0,0 dr2 = 0,0 P-n = PnP dAP = 60 dis = d2 colr = rEd</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>+H15-452I1552 PS 62.7 Uni = bar "SP1=H3"-10 bar OU1 = Hno "rP1=H3"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1555 PS 65.7 Uni = bar "SP1=H6"-10 bar OU1 = Hno "rP1=H6"-13 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1570 PS 160.5 Uni = bar SP1 = 1,8 bar OU1 = Hno rP1 = 1,6 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1573 PS 160.14 Uni = bar SP1 = 1,8 bar OU1 = Hno rP1 = 1,6 bar dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	

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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 = psi SP1 = 2611 psi OU1 = Hno rP1 = 2538 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>+H1-380I827PS 40.6 Uni = psi SP1 = 44 psi OU1 = Hno OU2 = Hno dS1 = 0,0 dS2 = 0,0 dr1 = 0,0 dr2 = 0,0 P-n = PnP dAP = 60 dis = d2 colr = rEd</p>	<p>+H15-452I1550 PS 60.7 Uni = psi "SP1=H1"-145 psi OU1 = Hno "rP1=H1"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1553 PS 63.7 Uni = psi "SP1=H4"-145 psi OU1 = Hno "rP1=H4"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1556 PS 66.7 Uni = psi "SP1=H4"-145 psi OU1 = Hno "rP1=H4"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1571 PS 160.8 Uni = psi SP1 = 26 psi OU1 = Hno rP1 = 23 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 = ImP OU2 = I rP1 = - L/min rP2 = - L/min ImPS = 0,1 ImPR = YES ASP = 0,0 AEP = 12,5 dAP = 0,6 dis = d3 FOU1 = OFF FOU2 = OFF rTo = OFF SELd = FLOW</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>+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>+MU-364I665 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>+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 MEI = OIL.2 colr = rEd</p>	<p>+H15-452I1551 PS 61.7 Uni = psi "SP1=H2"-145 psi OU1 = Hno "rP1=H2"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1554 PS 64.7 Uni = psi "SP1=H5"-145 psi OU1 = Hno "rP1=H5"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1557 PS 67.7 Uni = psi "SP1=H5"-145 psi OU1 = Hno "rP1=H5"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1572 PS 160.11 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>+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>+H1-380I826PS 40.8 Uni = psi SP1 = 943 psi OU1 = Hno OU2 = Hno rP1 = 914 psi dS1 = 0,0 dS2 = 0,0 dr1 = 0,0 dr2 = 0,0 P-n = PnP dAP = 60 dis = d2 colr = rEd</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>+H15-452I1552 PS 62.7 Uni = psi "SP1=H3"-145 psi OU1 = Hno "rP1=H3"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H15-452I1555 PS 65.7 Uni = psi "SP1=H6"-145 psi OU1 = Hno "rP1=H6"-189 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1570 PS 160.5 Uni = psi SP1 = 26 psi OU1 = Hno rP1 = 23 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	<p>+H1-458I1573 PS 160.14 Uni = psi SP1 = 26 psi OU1 = Hno rP1 = 23 psi dS1 = 0,0 dr1 = 0,0 dAP = 60 dis = d2</p>	

<p>ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO</p>				<p>Index</p>	<p>ZONE/ZONA</p>	<p>DATUM/DATE</p>	<p>NAME/NOME</p>	<p>PROJ./PROJ./PROJ. 54807.00</p>	<p>HELLER</p>	<p>KUNDE/CUSTOMER/CLIENTE</p>	<p>PLAN/PLAN/PLANO</p>
<p>CAD-System</p>				<p>URSPPR./ORIG.</p>	<p>GEPR./CHECK./REG.</p>	<p>BEARB./CHG./ALT.</p>	<p>AHFE/ZAJ</p>	<p>M-NR./M-NO./M-NO M54807</p>		<p>Paccar, Columbus USA</p>	<p>project MP.05480700_F</p>
<p>ePLAN 2.2.5</p>				<p>ERS./REP.</p>	<p>GEZ./DRAWN/DES.</p>	<p>04.04.2017</p>	<p>AHFE/ZAJ</p>	<p>TYP./TYPE./TIPO</p>	<p>parameter list</p>	<p>INV-NR./INV-NO./NO-INV</p>	<p>Machine =M54807</p>
<p>ERS.D./REP.W.</p>				<p>GEZ./DRAWN/DES.</p>	<p>04.04.2017</p>	<p>AHFE/ZAJ</p>	<p>WERKSTÜCK/ PART/PEÇA</p>	<p>BENENNUNG/NAME/DENOMINAÇÃO</p>	<p>parameter list</p>	<p>INV-NR./INV-NO./NO-INV</p>	<p>Document type</p>
											<p>Mounting position</p>
											<p>Page name 2</p>

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	21.022591	+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	PC100	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 AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ. PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54807		Paccar, Columbus USA	project	MP.05480700_F
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 MC - A-Axis	Device tag list hydraulics	INV-NR/INV-NO/NO-INV	Machine	=M54807
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA				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	+H15-60.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+TM-32.13	1	hydraulic cylinder	CDT3MX3/25/12/350Z20B14HXETWW R901374280	Bosch Rexroth	01.108914	+H15-60.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+H1-33.2	1	check valve	Z1S 6 P05-4X/V R901086051	Bosch Rexroth	01.081137	+H15-60.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H1-33.3	1	intermediate plate	HSZ 06 A085-3X/M00 R900514667	Bosch Rexroth	01.092767	+H15-60.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H1-33.3-1	1	nozzle	D=2,5 - M8x1 DIN 906 00137445	Bosch Rexroth	01.093578	+H15-60.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+H1-33.3-2	1	nozzle	D=1,8 - M8x1 DIN 906 00150953	Bosch Rexroth	01.092770	+MT-60.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+H1-33.4	1	pressure reducing valve	ZDR 6 DP 2-4X/75 YM NG6, 75bar R900483786	Bosch Rexroth	01.081132	+H15-61.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456
	1	measuring connection	EMA3/1/4EDCF G1/4A - M16	Parker	01.084632	+H15-61.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+H1-33.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704	+H15-61.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+TM-33.11	1	hose line	DIN 20066-2SC10-NN-1500-P 462- 6-1500	Parker	01.100681	+H15-61.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+TM-33.12	1	hose line	DIN 20066-2SC10-NN-1200-P 462- 6-1200	Parker	01.099727	+H15-61.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+TM-33.13	1	hydraulic cylinder	CHNB-25-289-DCM 2430 M D=25/12 H289	SMC	01.106047	+H15-61.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+H1-40.1	1	intermediate plate	HSZ 06 A325-3X/M01 R900521799	Bosch Rexroth	01.112676	+MT-61.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+H1-40.2	1	pressure reducing valve	ZDR 6 DP 2-4X/75 YM NG6, 75bar R900483786	Bosch Rexroth	01.081132	+H15-62.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456
+H1-40.3	1	check valve	Z1S 6 P05-4X/V R901086051	Bosch Rexroth	01.081137	+H15-62.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+H1-40.4	1	directional control valve	4WE 6 D 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098700	+H15-62.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+H1-40.5	1	hose line	S100-CR-CR-....	Hydrotechnik		+H15-62.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H1-40.6	1	pressure switch	PN7092 0-100bar, G1/4	IFM Electronic	01.111726	+H15-62.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H1-40.7	1	hose line	S100-CR-CR-....	Hydrotechnik		+H15-62.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+H1-40.8	1	pressure switch	PN7092 0-100bar, G1/4	IFM Electronic	01.111726	+MT-62.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+MT-40.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252	+H15-63.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456
+MT-41.1	1	Swivel axis		Heller Maschinenfabrik		+H15-63.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+H1-45.1	1	manifold	SA 066 DS1 10.500275	Heller Maschinenfabrik	13.500403	+H15-63.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+H1-45.2	1	cover plate	110 115-11	Gutekunst	01.105658	+H15-63.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H1-45.3	1	cover plate	110 115-11	Gutekunst	01.105658	+H15-63.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H1-45.4	1	cover plate	110 115-11	Gutekunst	01.105658	+H15-63.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+H15-60.1	1	manifold	SA 0610DS1 10.500433	Heller Maschinenfabrik	13.500775	+MT-63.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+H15-60.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456	+H15-64.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456

Änderungen nur im CAD-Original!
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ART DER ÄNDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54807		Paccar, Columbus USA	project	MP.05480700_F
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 MC - A-Axis	BENENNUNG/NAME/DENOMINAÇÃO	INV-NR/INV-NO/NO-INV	Machine	=M54807
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA			Device tag list hydraulics		Document type
										Mounting position	
										Page name	0.a

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+H15-64.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+H15-64.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+H15-64.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H15-64.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H15-64.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+MT-64.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+H15-65.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456
+H15-65.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+H15-65.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+H15-65.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H15-65.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H15-65.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+MT-65.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+H15-66.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456
+H15-66.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+H15-66.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+H15-66.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H15-66.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H15-66.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+MT-66.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+H15-67.2	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456
+H15-67.3	1	pilot operated check valve	Z2S 6 B1-6X/- R900347501	Bosch Rexroth	01.034271
+H15-67.4	1	pressure reducing valve	ZDR 6 DP 2-4X/210 YM NG6, 210bar	Bosch Rexroth	01.086716
+H15-67.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H15-67.6	1	hose line	S100-CR-CR-....	Hydrotechnik	
+H15-67.7	1	pressure switch	PN7071 0-250bar, G1/4	IFM Electronic	01.111727
+MT-67.11	1	hose line	DIN 20066-2SC10-NN-3940-P 462- 6-3940	Parker	01.100252
+H15-81.2	1	intermediate plate	HSZ 06 A027-3X/M01 R900515513	Bosch Rexroth	01.105657

device tag	number	denomination	Type	Manufacturer	Heller no.
+H15-81.3	1	throttle check valve	Z2FS 6 2-4X/1QV R900481623	Bosch Rexroth	01.093456
+H15-81.4	1	pressure reducing valve	ZDR 6 DP 2-4X/75 YM NG6, 75bar R900483786	Bosch Rexroth	01.081132
+H15-81.5	1	directional control valve	4WE 6 J 6X/-EG24N9K73L/SO407, 8W	Bosch Rexroth	01.098704
+H15-81.6	1	measuring connection	GMA3/18LOMDCF	Parker	01.084636
+H15-81.7	1	measuring connection	GMA3/18LOMDCF	Parker	01.084636
+H15-81.8	1	cover plate	110 115-11	Gutekunst	01.105658
+GOS-81.17	1	hydraulic cylinder	CDT3MS2/32/22/950Z20S11HHEMWWZ22838	Bosch Rexroth	01.108896
+GOS-81.18	1	hydraulic cylinder	CDT3MS2/32/22/950Z20S11HHEMWWZ22838	Bosch Rexroth	01.108896
+MT-103.12	1	plastic pipe	PUN-10x1,5-BL 159668	Festo	01.092359
+MU-107.10	1	plastic pipe	PA 10x1 1 820 712 105	AVENTICS	01.093306
+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
+MT-160.21	1	plastic pipe	PUN-10x1,5-BL 159668	Festo	01.092359
+MT-160.22	1	plastic pipe	PUN-10x1,5-BL 159668	Festo	01.092359
+MT-160.23	1	plastic pipe	PUN-10x1,5-BL 159668	Festo	01.092359
+MT-160.24	1	plastic pipe	PUN-10x1,5-BL 159668	Festo	01.092359
+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
+MT-492-41.1					

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← 0.a

+H1/1 →

ART DER ÄNDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54807.00	<div style="text-align: center; font-weight: bold; font-size: 1.2em;">HELLER</div> KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA	PLAN/PLAN/PLANO project Machine Document type Mounting position Page name	MP.05480700_F =M54807 &H hydraulic diagram 0.b
CAD-System		URS/PR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54807			
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP./TYPE/ TIPO	H 10000 MC - A-Axis	BENENNUNG/NAME/DENOMINAÇÃO Device tag list hydraulics	INV-NR/INV-NO/NO-INV	A3
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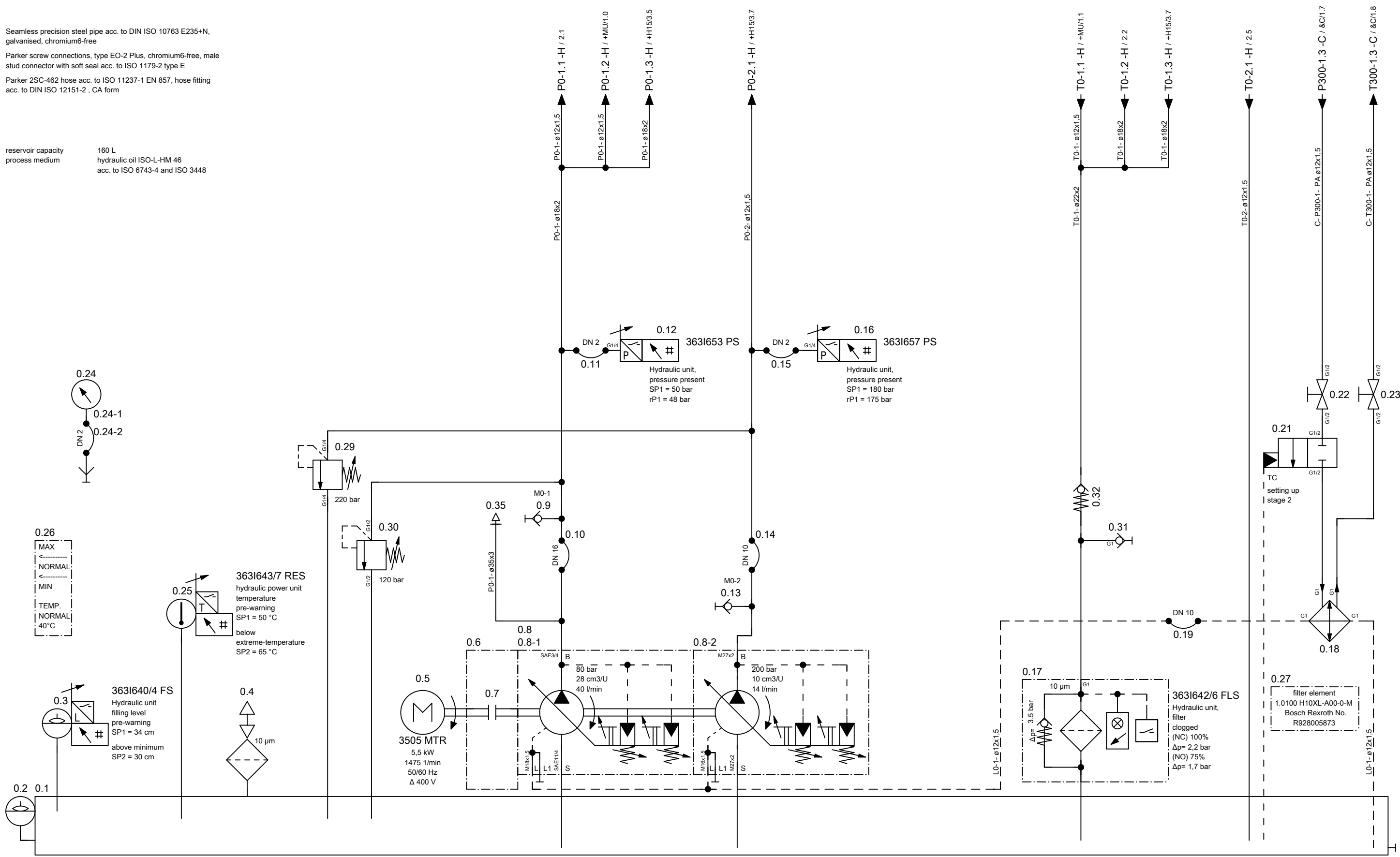
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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanized, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 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

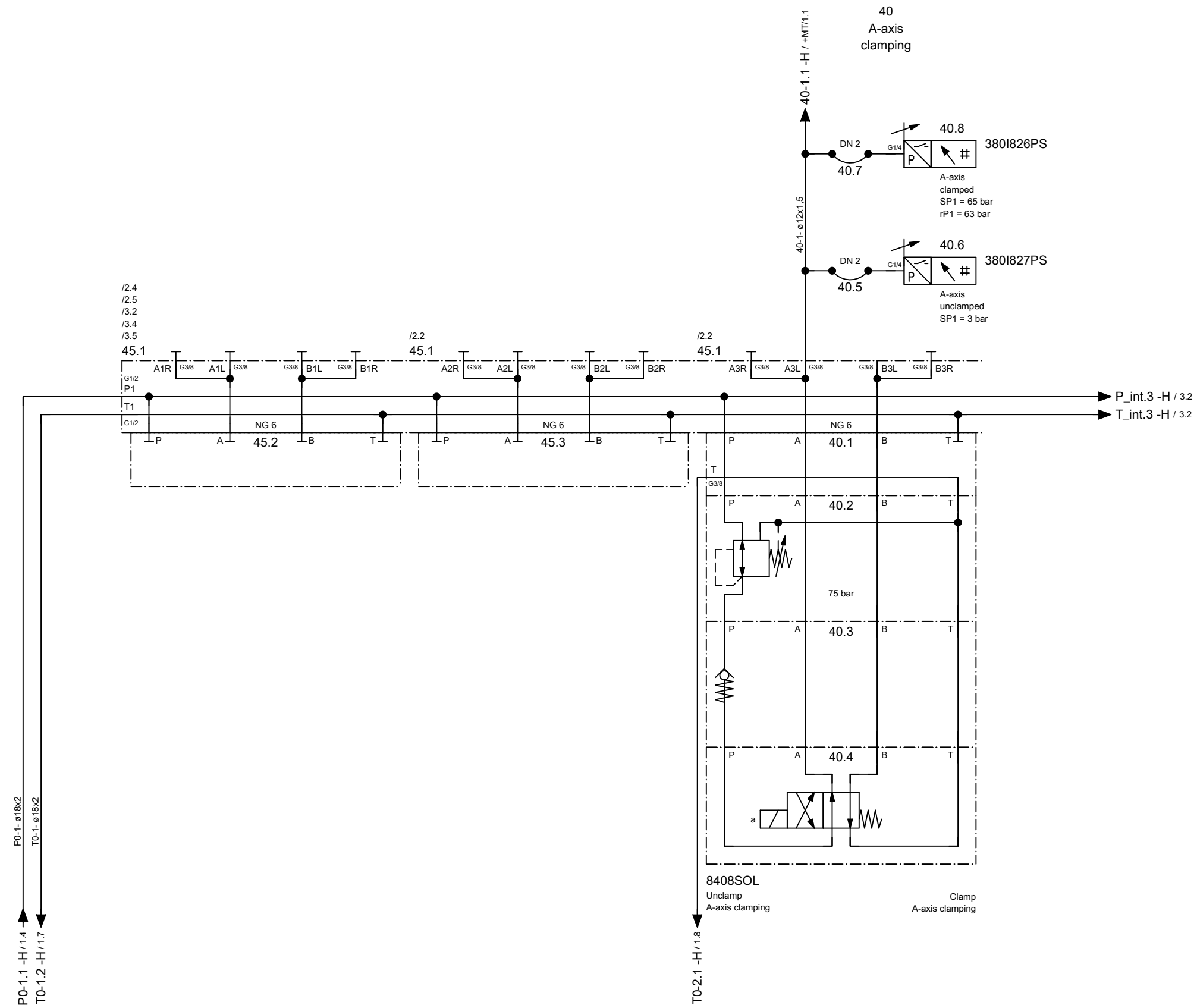
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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	54807.00	<h1 style="text-align: center;">HELLER</h1> <p style="text-align: center;">hydraulic diagram</p>	KUNDE/CUSTOMER/CLIENTE	Paccar, Columbus USA	PLAN/PLAN/PLANO	project	MP.05480700_F
CAD-System				URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54807		INV-NR/INV-NO/NO-INV	13.503932, 13.503916, 13.503921, 13.503925	Machine	=M54807	
ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 MC - A-Axis		WERKSTÜCK/ PART/PEÇA		Document type	&H hydraulic diagram	
				ERS.D./REP.W.	GEZ./DRAWN/DES.	15.03.2016	AHFE/HOP					Mounting position	+H1 HELP1		
												Page name	1	A3	

Heller_ZL

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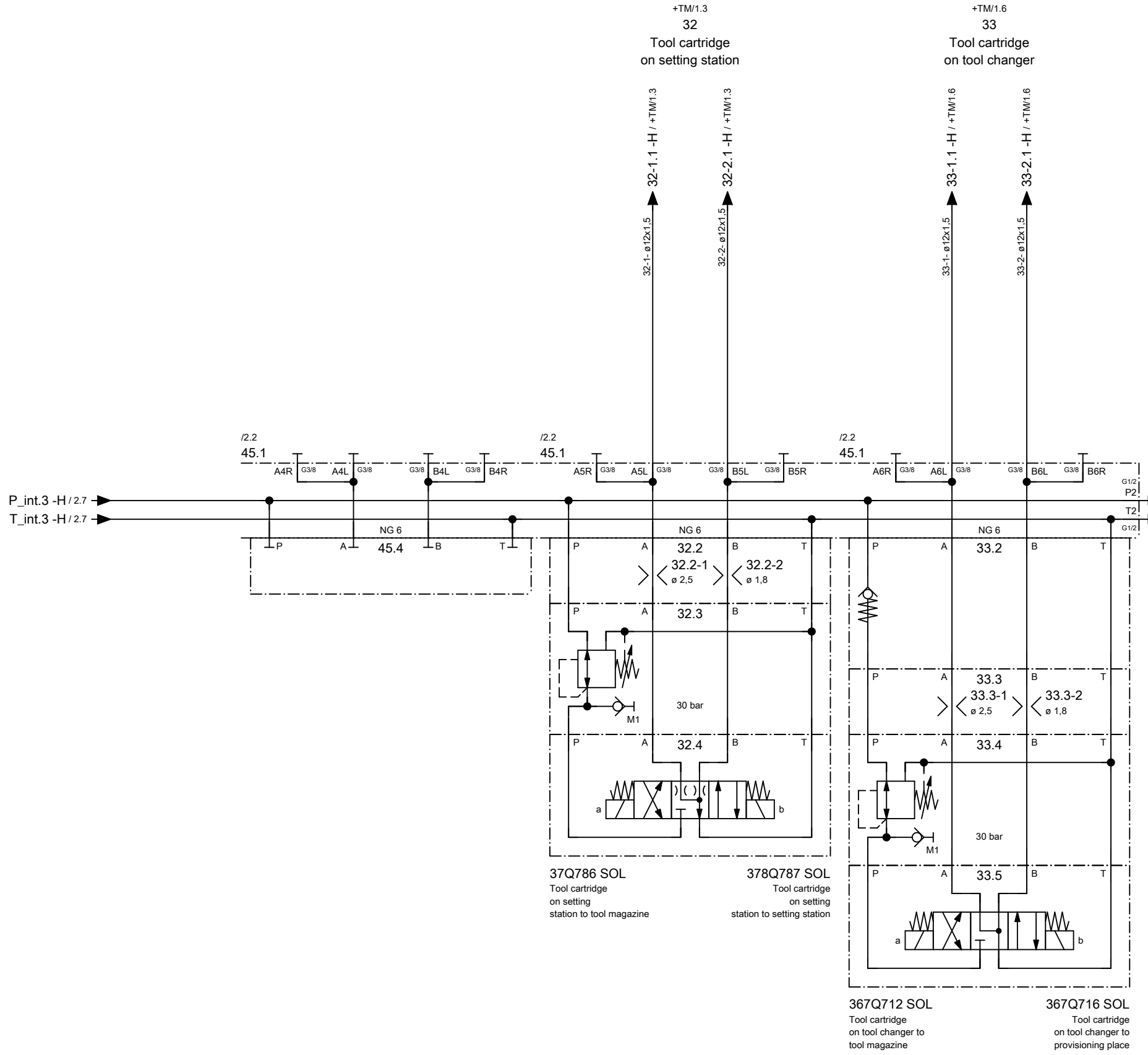


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												Mounting position	+H1 HELP1
												Page name	2

Heller_2L

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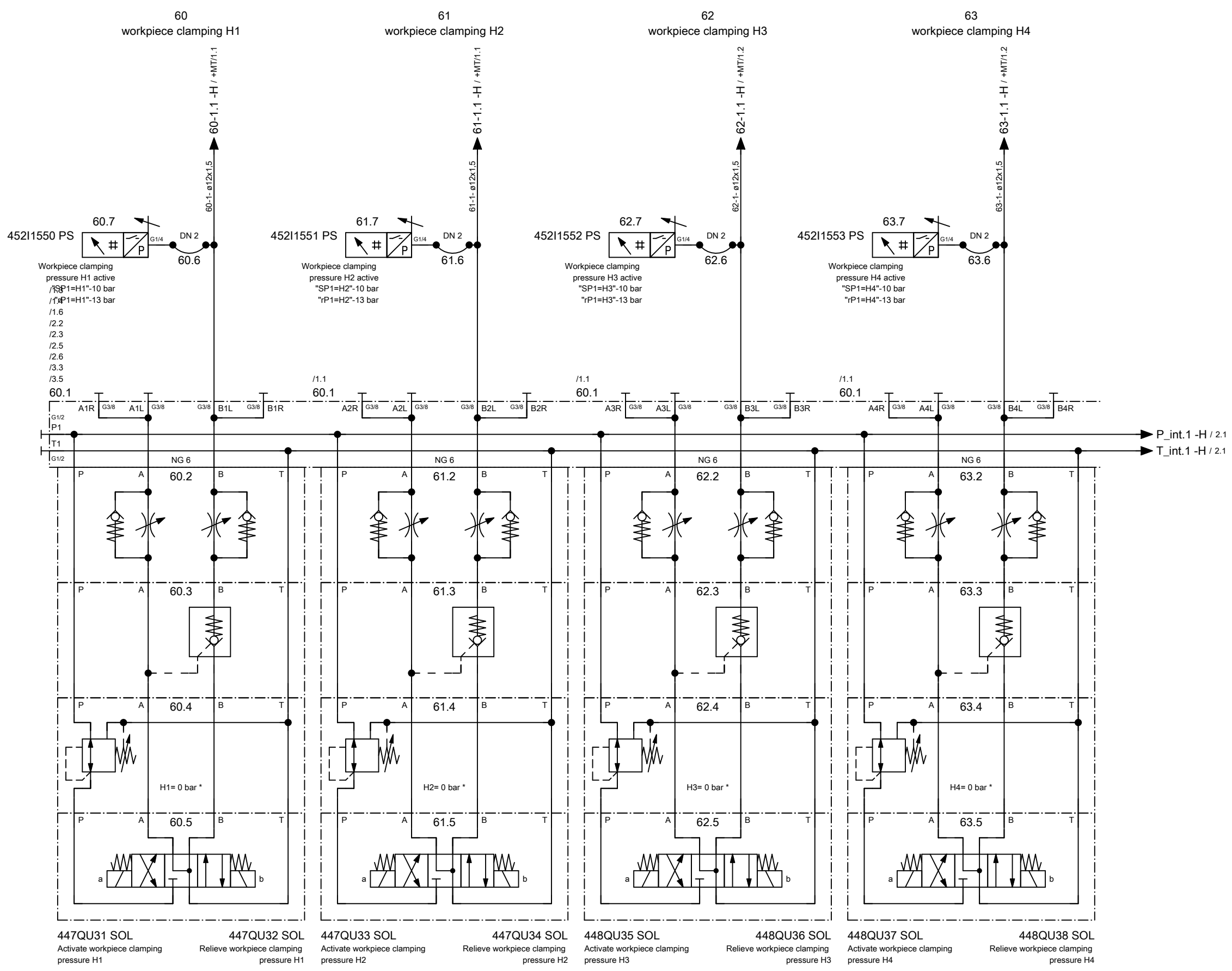
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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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* for pressure setting see the hydraulic diagram of the clamping fixture

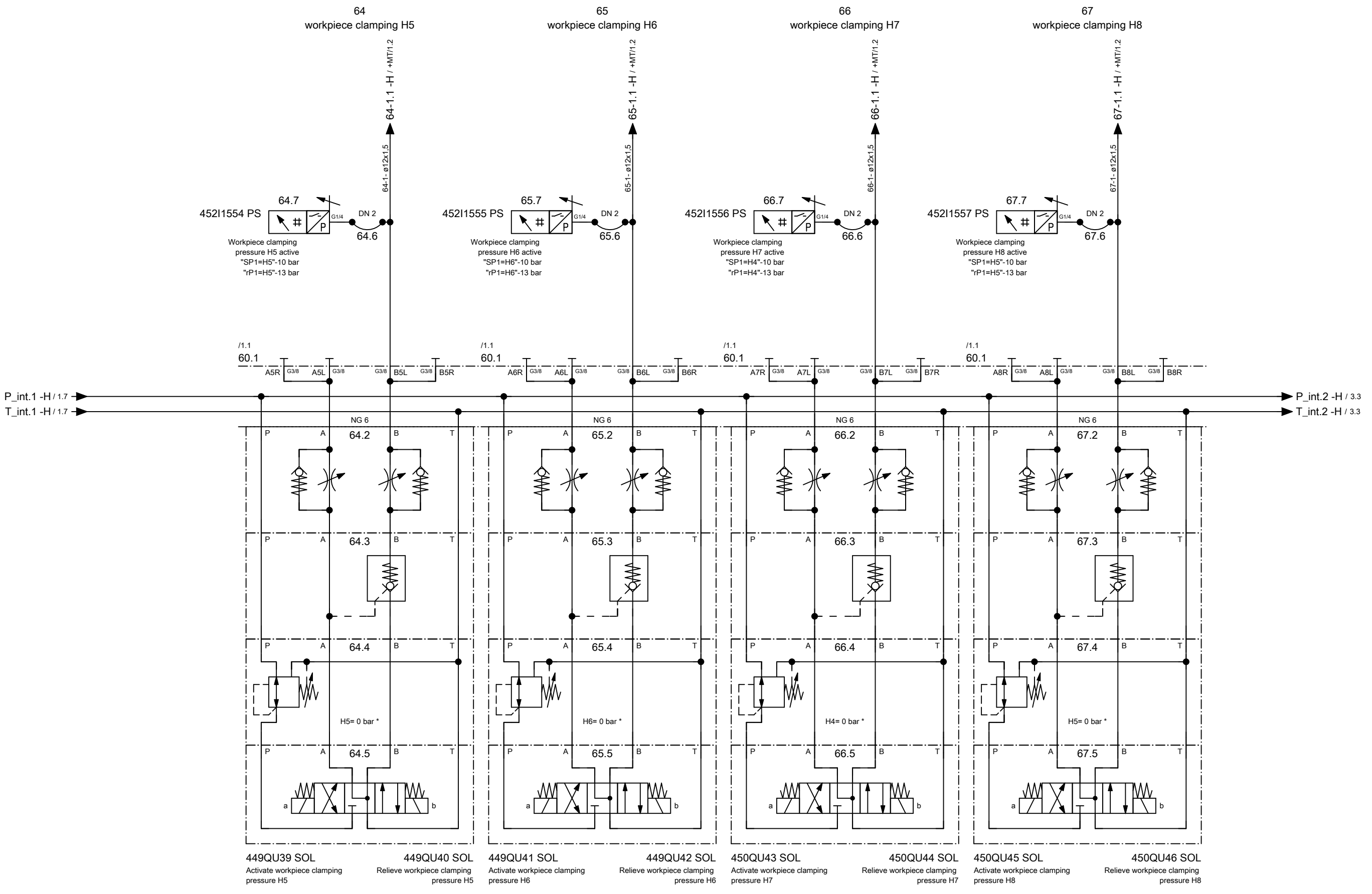
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ART DER ÄNDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	HELLER BENENNUNG/NAME/DENOMINAÇÃO hydraulic diagram	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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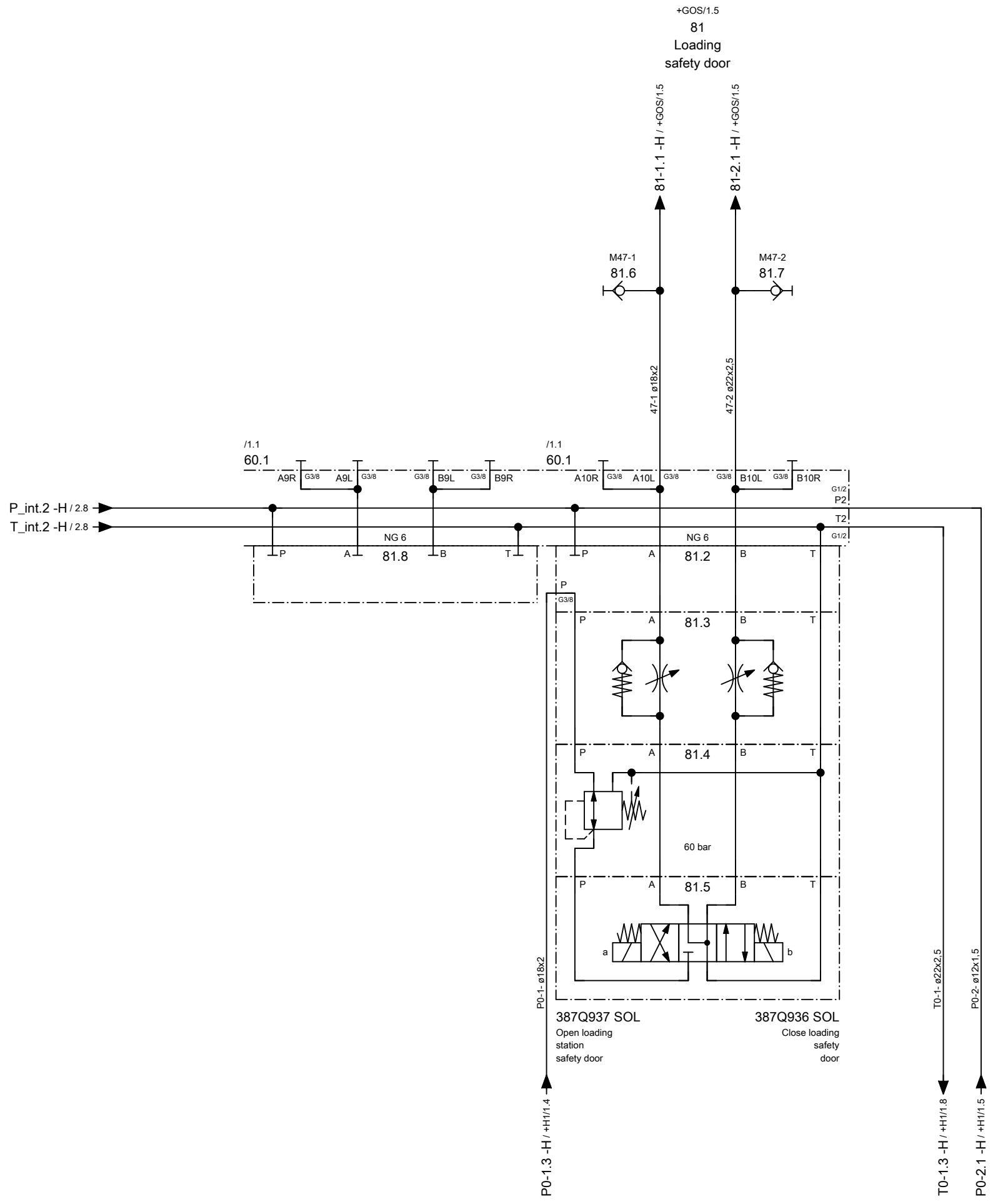


* for pressure setting see the hydraulic diagram of the clamping fixture

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				PROJ./PROJ./PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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ERS.D./REP.W.				WERKSTÜCK/ PART/PEÇA			Page name	2	

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← 2

+MT/1 →

				PROJ./PROJ./PROJ.	54807.00	HELLER		KUNDE/CUSTOMER/CLIENTE		PLAN/PLAN/PLANO	
				M-NR./M-NO/ M-NO	M54807			Paccar, Columbus USA		project	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	INV-NR./INV-NO/NO-INV		Machine	
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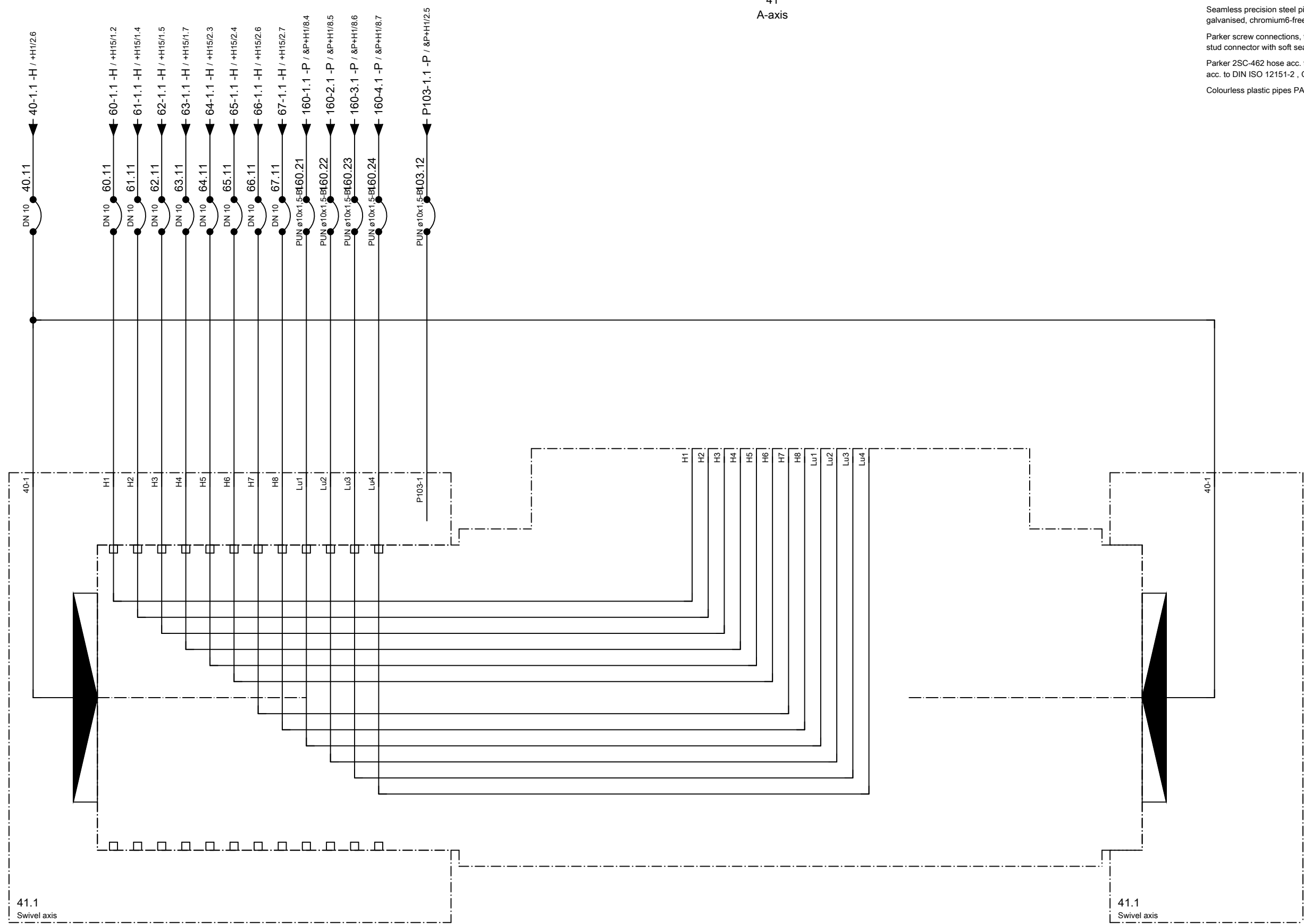
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A3

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41
A-axis

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

41.1
Swivel axis

41.1
Swivel axis

← +H15/3

+MU/1 →

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Heller_2L

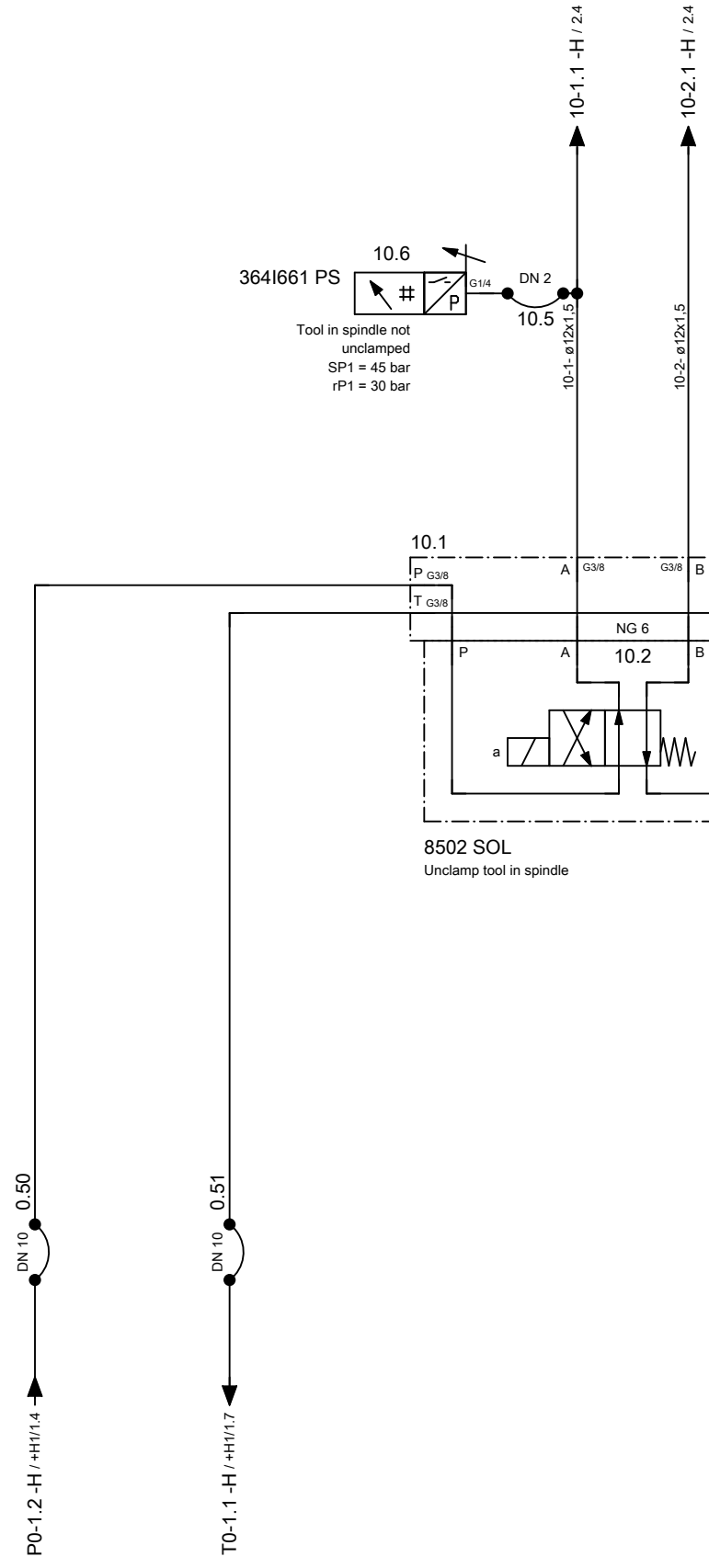
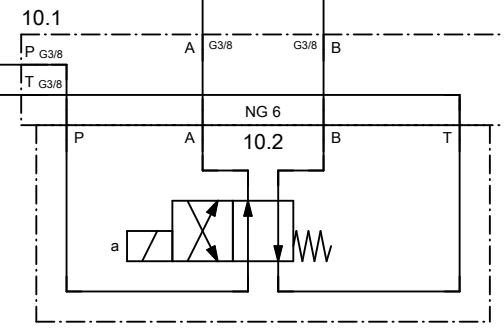
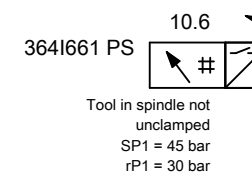
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/2.4
10
tool in spindle



← +MT/1

2 →

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	ERS.D./REP.W.		GEZ./DRAWN/DES.		15.03.2016	AHFE/HOP		WERKSTÜCK/ PART/PEÇA					Page name	1	

Heller_2L

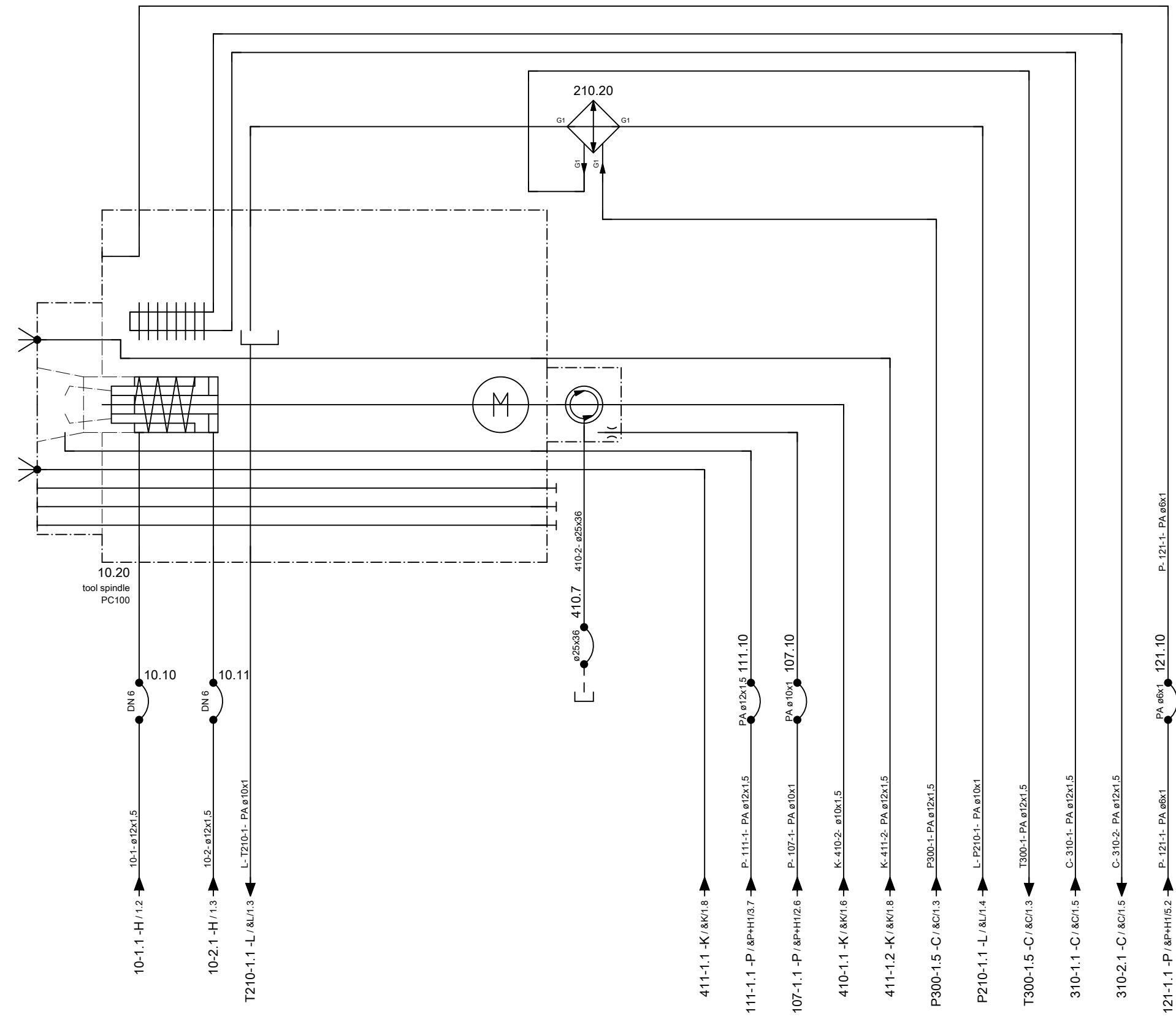
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/1.2
10
tool in spindle

&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

+GOS/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME
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PROJ./PROJ./PROJ.		54807.00		M-NR/M-NO/ M-NO	
				M54807	
				TYP/TYPE/ TIPO	
				H 10000 MC - A-Axis	
				WERKSTÜCK/ PART/PEÇA	

HELLER

BENENNUNG/NAME/DENOMINAÇÃO

hydraulic diagram

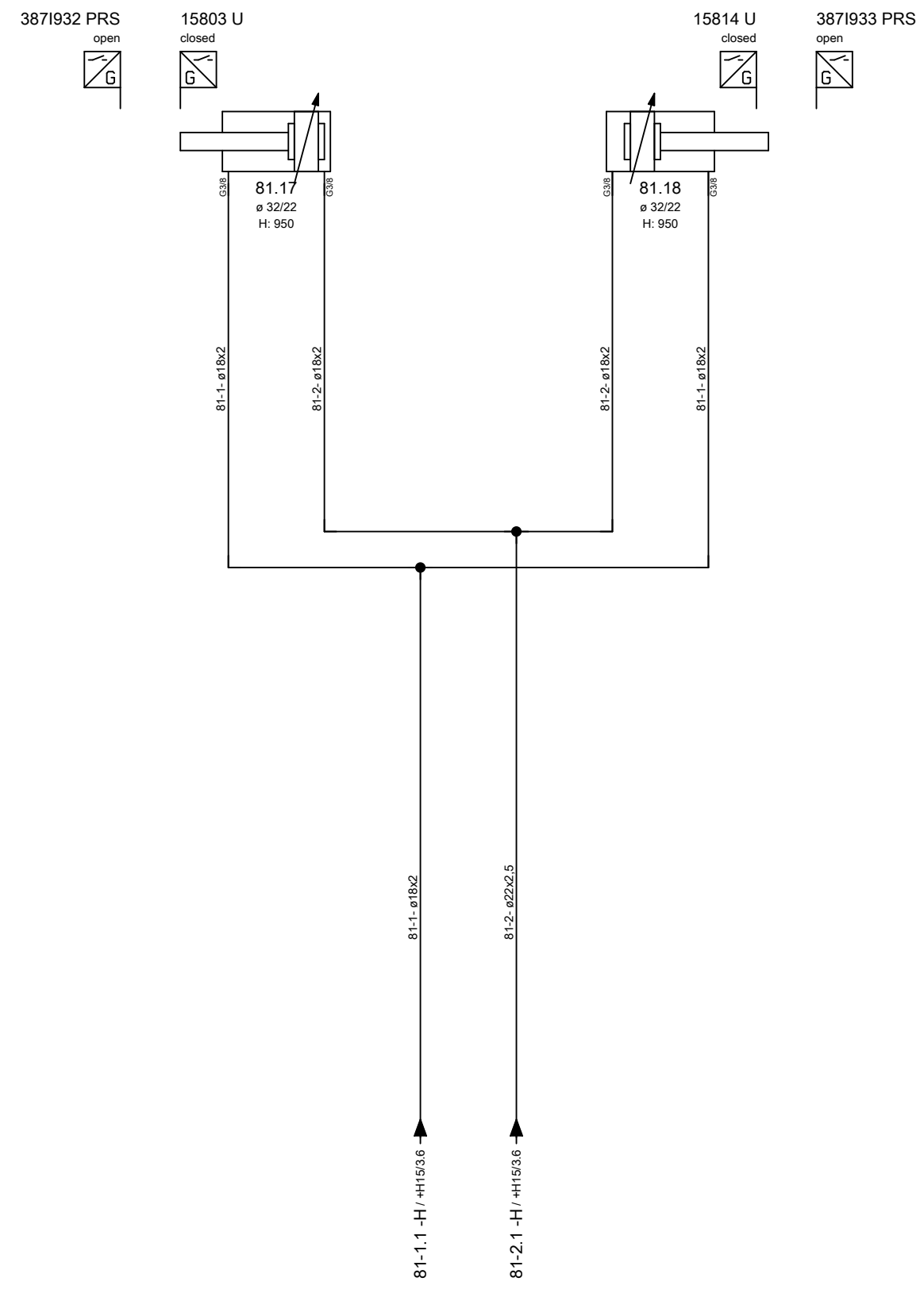
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INV-NR/INV-NO/NO-INV	

PLAN/PLAN/PLANO	project	MP.05480700_F
	Machine	=M54807
	Document type	&H hydraulic diagram
	Mounting position	+MU unit
	Page name	2

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+H15/3.6
81
loading hatch



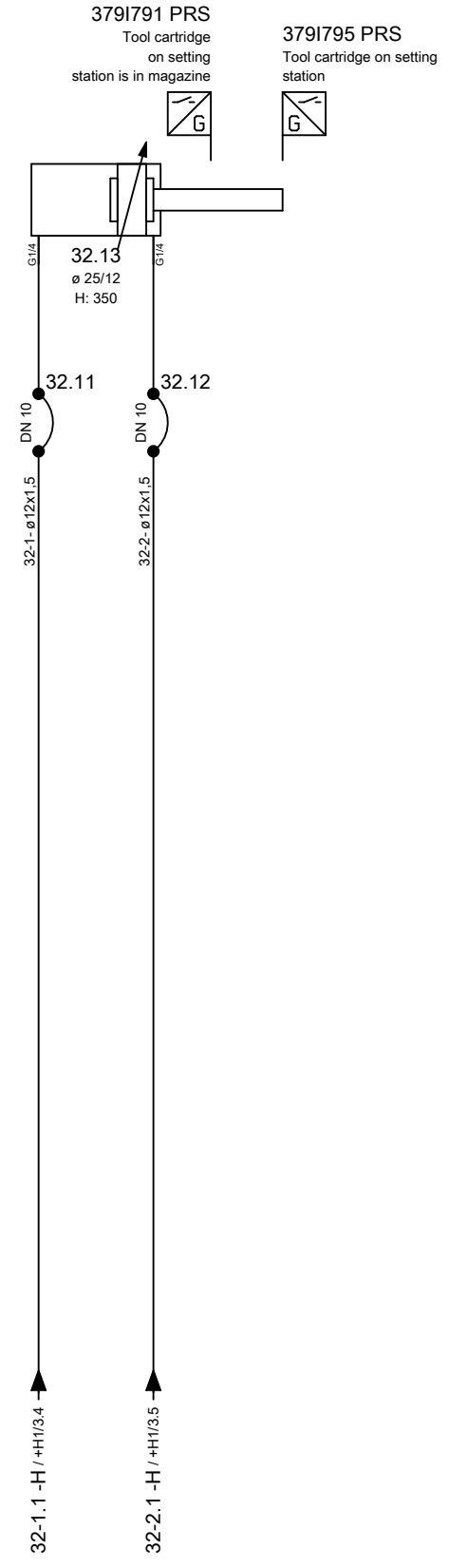
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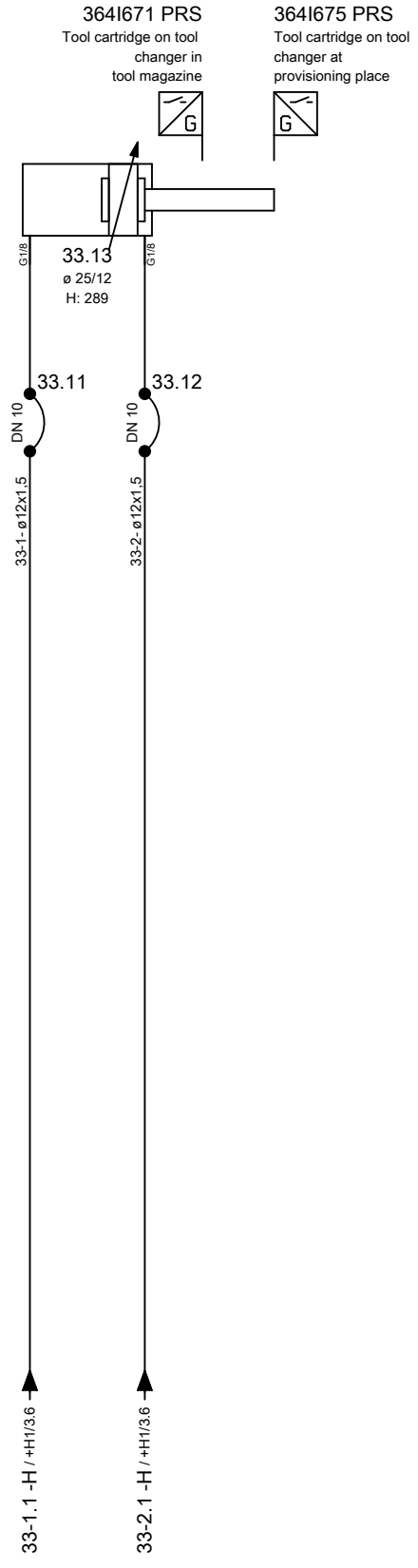
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+H1/3.5
32
Tool cartridge
on setting station



+H1/3.6
33
Tool cartridge
on tool changer



← +GOS/1 &P+0 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54807		Paccar, Columbus USA	project	MP.05480700_F
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPER/ TIPO	H 10000 MC - A-Axis	hydraulic diagram	INV-NR/INV-NO/NO-INV	Machine	=M54807
		ERS.D./REP.W.	GEZ./DRAWN/DES.	15.03.2016	AHFE/HOP	WERKSTÜCK/ PART/PEÇA				Document type	&H
									Mounting position	+TM	tool magazine
									Page name	1	

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
+H1-100.10	1	manifold	MS9-AGF 552956	Festo	01.107189	+H1-102.8	1	plate	filter element	Heller Maschinenfabrik	10.500965
+H1-100.11	1	fastening angle	MS9-WP 552947	Festo	01.107190	+H1-102.9	1	plate	filter element	Heller Maschinenfabrik	10.500966
+H1-100.12	1	fastening angle	MS9-WP 552947	Festo	01.107190	+H1-102.10	1	fastening angle	MS4-WP 532184	Festo	01.106320
+H1-100.30	1	distributor block	FR-8-1/4 2078	Festo	01.035408	+H1-102.11	1	fastening angle	MS4-WP 532184	Festo	01.106320
+H1-100.31	1	hose line	S100-CR-CR-0140 DN2 1400mm 250bar	Hydrotechnik	01.098903	+M-102.12	1	plastic pipe	PUN-6x1-BL 159664	Festo	01.092357
+H1-100.32	1	pressure switch	PN7094 -1-10bar, G1/4	IFM Electronic	01.111724	+M-102.13	1	connecting piece	226-270-02	Heidenhain	01.064398
+H1-100.33	1	Condensate separator		Heller Maschinenfabrik	00.789878	+MC-102.14	1	connecting piece	226-270-02	Heidenhain	01.064398
+H1-100.34	1	ball valve	QH-1/4 9541	Festo	01.101540	+M-102.15	1	connecting piece	226-270-02	Heidenhain	01.064398
+H1-100.35	1	silencer	AMTE-M-LH-G1 1205865	Festo	01.112166	+H1-103.1	1	porting block	MS6-FRM-1/2 529853	Festo	01.104403
+H1-100.36	1	shut-off valve	HE-G1-LO 197136	Festo	01.093956	+H1-103.2	1	pressure regulator valve	MS6-LRPB-1/2-D2-A8 535007	Festo	01.109947
+H1-100.37	1	flow control switch	SD6001 0,25-75 Nm3/h M12x1 NPT	IFM Electronic	01.112294	+H1-103.3	1	pressure gauge	MAP-40-1-1/8-EN 161126	Festo	01.083257
+H2-100.40	1	distributor block	FR-4-1/2-B 6704	Festo	01.035406	+H1-103.10	1	fastening angle	MS6-WP 532195	Festo	01.106329
+H1-100.49	1	plastic pipe	PUN-12x2-BL 159670	Festo	01.089975	+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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ART DER ÄNDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	HELLER BENENNUNG/NAME/DENOMINAÇÃO Device tag list pneumatic		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO project Machine Document type Mounting position Page name	
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			PROJ./PROJ./PROJ. 54807.00 M-NR/M-NO/ M-NO M54807 TYP/TYPE/ TIPO H 10000 MC - A-Axis WERKSTÜCK/ PART/PEÇA		INV-NR/INV-NO/NO-INV		MP.05480700_F =M54807 &P pneumatic diagram 0	
ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ						
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ					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	+H1-160.1	1	input module	19 504 230	Norgren	01.095501
+H1-115.5	1	directional control valve	MDH-5/2-D-1-M12-FR-C 533010	Festo	01.095684	+H1-160.1-1	1	pressure regulator valve	19 24 001	Norgren	01.095502
+H1-115.7	1	connecting set	MS4-6-AMV 543489	Festo	01.109948	+H1-160.1-2	1	pressure gauge	01 00 930	Norgren	01.095503
+H1-115.8	1	pressure regulator valve	MS4-LRB-1/4-D6-A8 527692	Festo	01.109945	+H1-160.2	1	directional control valve	MDH-5/3E-D-1-M12-C 197126	Festo	01.095685
+H1-115.9	1	pressure gauge	MA-40-10-1/8-EN 162835	Festo	01.109949	+H1-160.3	1	function module	19 50 426	Norgren	01.095504
+H1-115.10	1	plug	NSC-1/4-1-ISO 11550	Festo	01.108866	+H1-160.4	1	adapter	19 50 447	Norgren	01.095500
+H1-115.13	1	intermediate plate	ISO3-1 3815065	Festo	01.110980	+H1-160.5	1	pressure switch	PN7094 -1-10bar, G1/4	IFM Electronic	01.111724
+H1-115.14	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270	+H1-160.6	1	function module	19 50 426	Norgren	01.095504
+H1-115.15	1	silencer	AMTE-M-LH-G38 1205862	Festo	01.112270	+H1-160.7	1	adapter	19 50 447	Norgren	01.095500
+H1-116.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+H1-160.8	1	pressure switch	PN7094 -1-10bar, G1/4	IFM Electronic	01.111724
+H1-116.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700	+H1-160.9	1	function module	19 50 426	Norgren	01.095504
+H1-117.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+H1-160.10	1	adapter	19 50 447	Norgren	01.095500
+H1-117.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700	+H1-160.11	1	pressure switch	PN7094 -1-10bar, G1/4	IFM Electronic	01.111724
+H1-121.1	1	subplate	NAV-1/4-1C-ISO 10173	Festo	01.065867	+H1-160.12	1	function module	19 50 429	Norgren	01.095505
+H1-121.2	1	directional control valve	MDH-5/2-D-1-M12-FR-C 533010	Festo	01.095684	+H1-160.13	1	adapter	19 50 447	Norgren	01.095500
+H1-122.2	1	cover plate	NDV-1-ISO 9489	Festo	01.083700	+H1-160.14	1	pressure switch	PN7094 -1-10bar, G1/4	IFM Electronic	01.111724
+GMS-131.1	1	directional control valve	F-5-1/4-B 8992	Festo	01.087927	+H1-161.1	1	subplate	NAV-1/2-3C-ISO 10175	Festo	01.082248
	1	safety hood	FH 4500	Festo	01.087928	+H1-161.2	1	cover plate	NDV-3-ISO 10340	Festo	01.100120

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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54807		Paccar, Columbus USA	project
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		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	WERKSTÜCK/ PART/PEÇA			Device tag list pneumatic	
										Document type
										&P pneumatic diagram
										Mounting position
										Page name
										0.a

0.b

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+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
+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

device tag	number	denomination	Type	Manufacturer	Heller no.
+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
+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

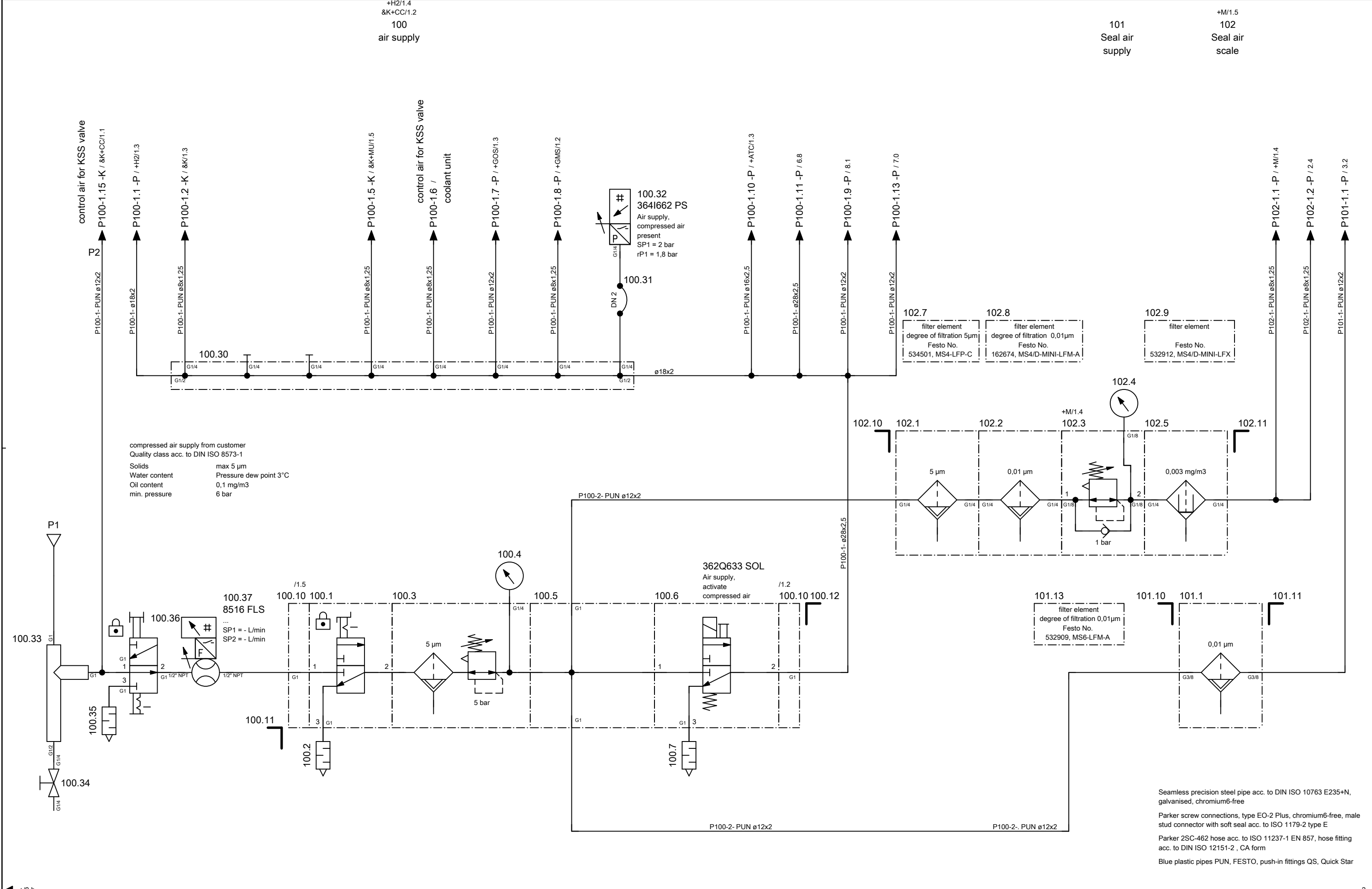
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URSPPR./ORIG.		KUNDE/CUSTOMER/CLIENTE	
ERS./REP.		Paccar, Columbus USA	
ERS.D./REP.W.		PLAN/PLAN/PLANO	
GEPR./CHECK./REG.		project MP.05480700_F	
BEARB./CHG./ALT.		Machine =M54807	
04.04.2017 AHFE/ZAJ		Document type &P pneumatic diagram	
04.04.2017 AHFE/ZAJ		Mounting position	
		Page name 0.b	
		A3	

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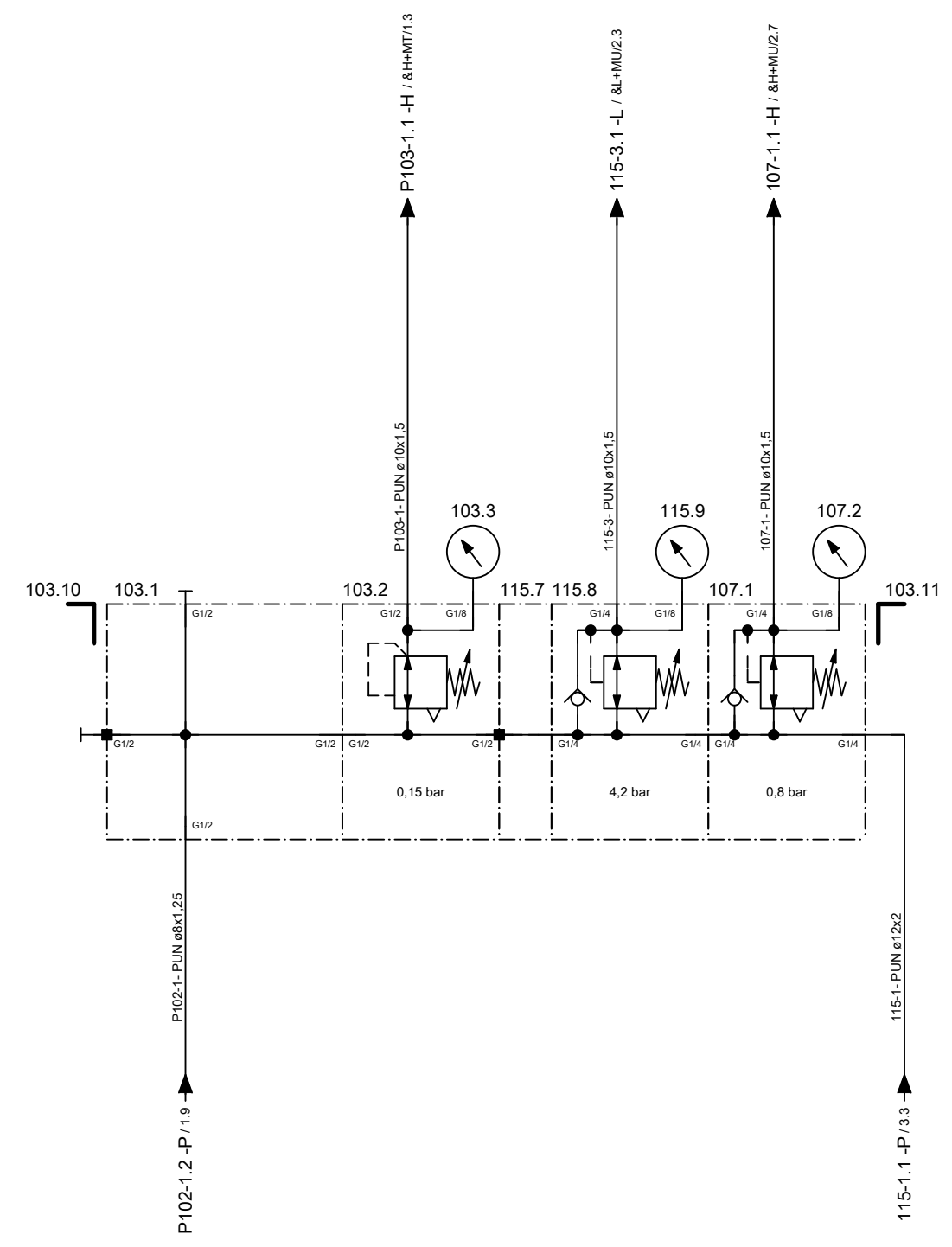
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Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

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ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 MC - A-Axis		WERKSTÜCK/ PART/PEÇA		Document type	&P pneumatic diagram	
				ERS.D./REP.W.	GEZ./DRAWN/DES.	15.03.2016	AHFE/HOP					Mounting position	+H1 HELP1	Page name	1

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103 Seal air, A-axis /3.3 115 lubrication compressed air 107 Seal air rotary distributor



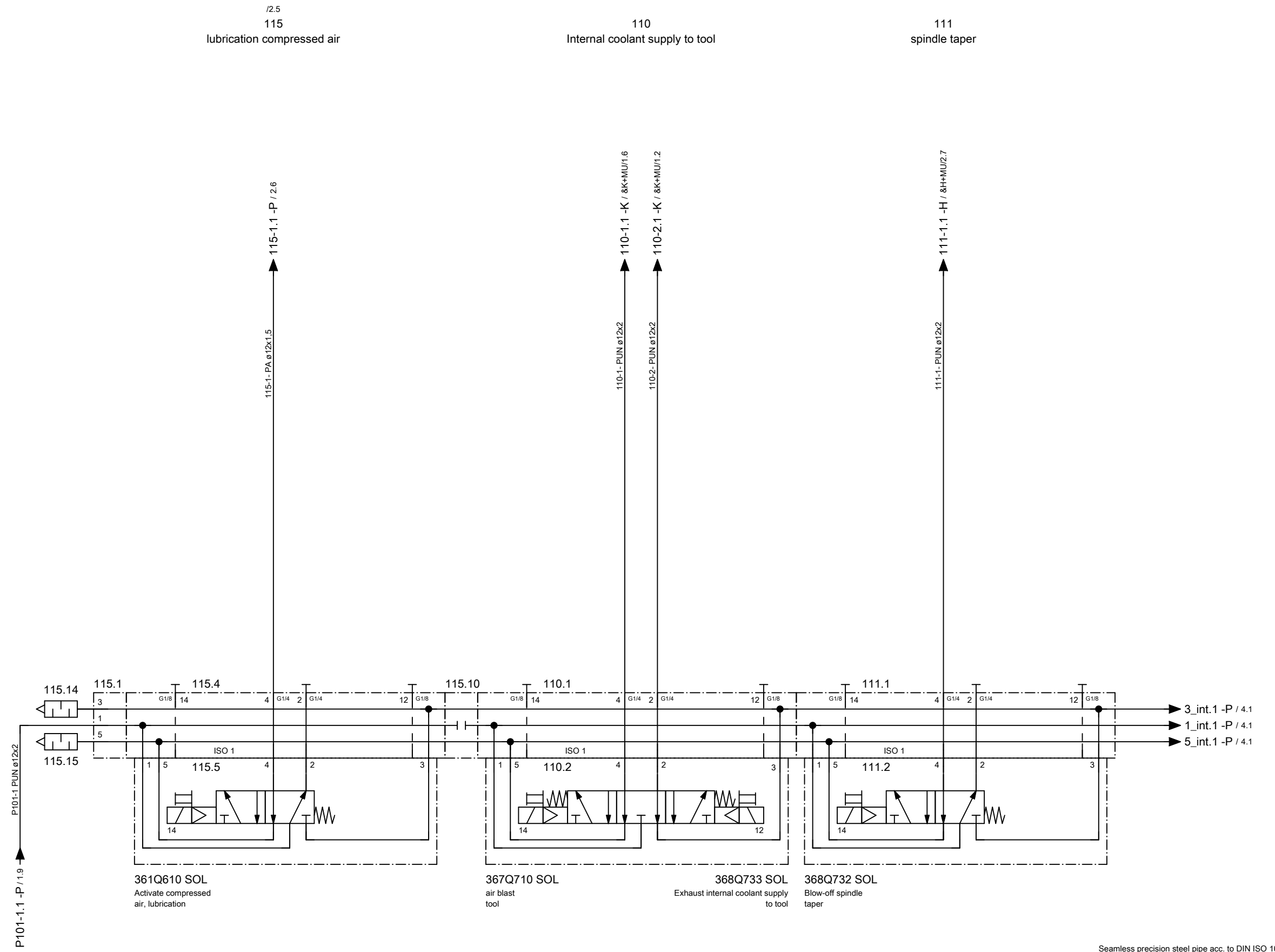
Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue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

PROJ./PROJ./PROJ. 54807.00 M-NR./M-NO/ M-NO M54807 TYP./TYPE/ TIPO H 10000 MC - A-Axis WERKSTÜCK/ PART/PEÇA				HELLER pneumatic diagram		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA INV-NR./INV-NO/NO-INV 13.503596		PLAN/PLAN/PLANO project MP.05480700_F Machine =M54807 Document type &P pneumatic diagram Mounting position +H1 HELP1 Page name 2	
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 15.03.2016	NAME/NOME AHFE/ZAJ AHFE/HOP					3 →

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.	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		Paccar, Columbus USA	project
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Heller_2L		ERS.D./REP.W.	GEZ./DRAWN/DES.	15.03.2016	AHFE/HOP	H 10000 MC - A-Axis		INV-NR/INV-NO/NO-INV	Document type
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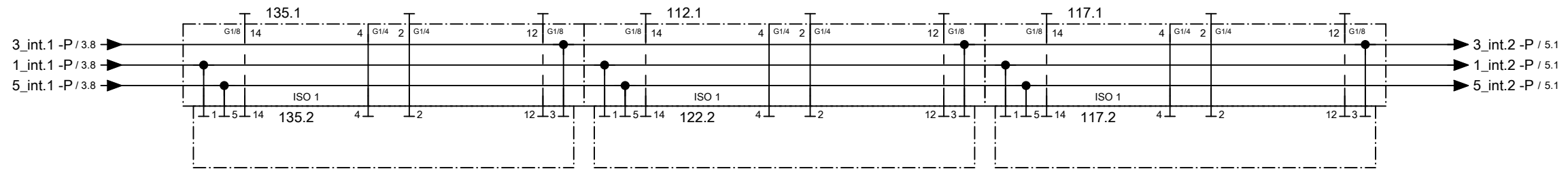
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135
Air
for tool cleaning

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		
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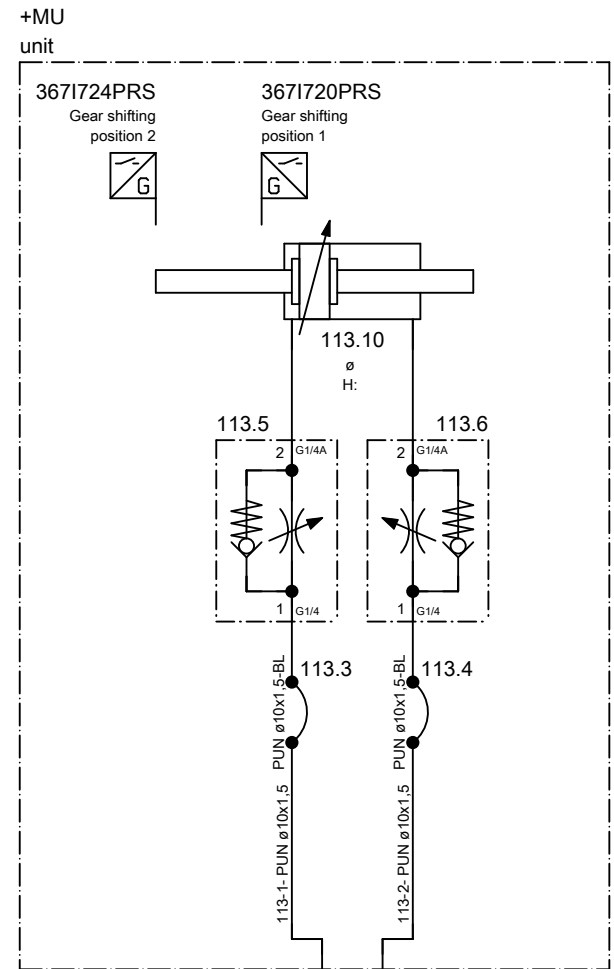
Heller_2L

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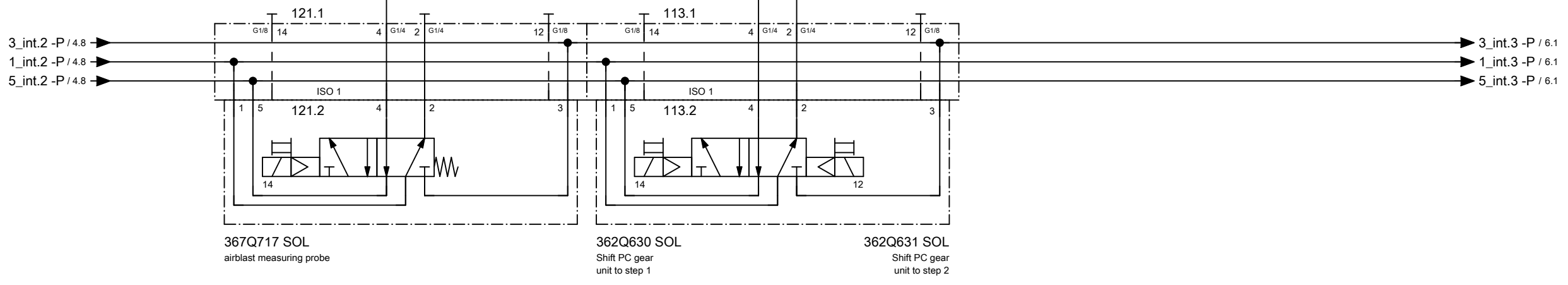
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121
airblast measuring probe

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. 54807.00 M-NR/M-NO/M-NO M54807 TYP/TYPE/TIPO H 10000 MC - A-Axis WERKSTÜCK/PART/PEÇA				HELLER pneumatic diagram		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO project MP.05480700_F Machine =M54807	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO CAD-System ePLAN 2.2.5				Index ZONE/ZONA DATUM/DATE NAME/NOME BEARB./CHG./ALT. 04.04.2017 AHFE/ZAJ GEZ./DRAWN/DES. 15.03.2016 AHFE/HOP		INV-NR/INV-NO/NO-INV 13.503063, 13.503064		Document type &P pneumatic diagram Mounting position +H1 HELP1 Page name 5	

Heller_2L

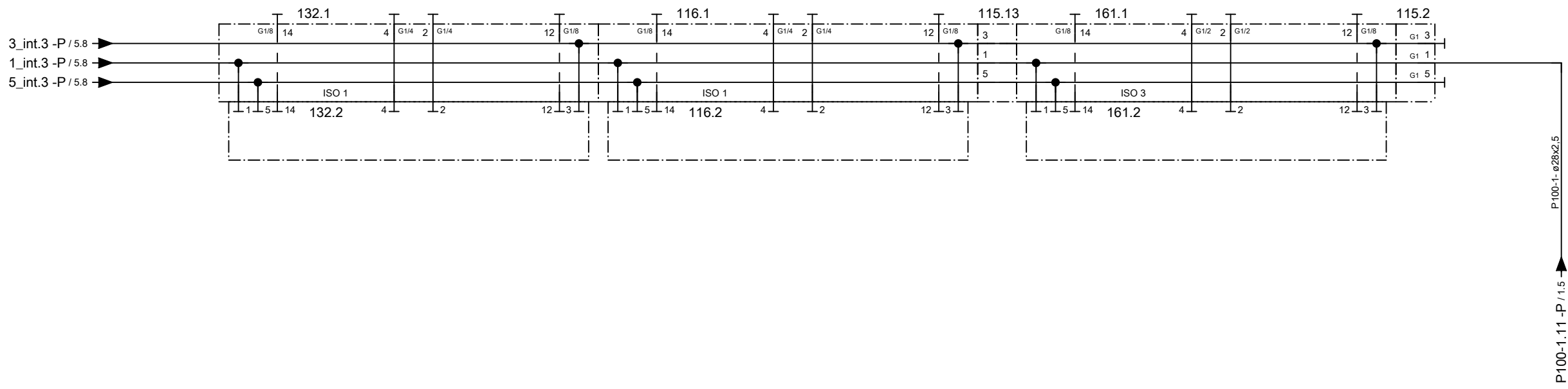
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132
Tool in gripper

116
Air
for spindle nozzles

161
Blow off work
area

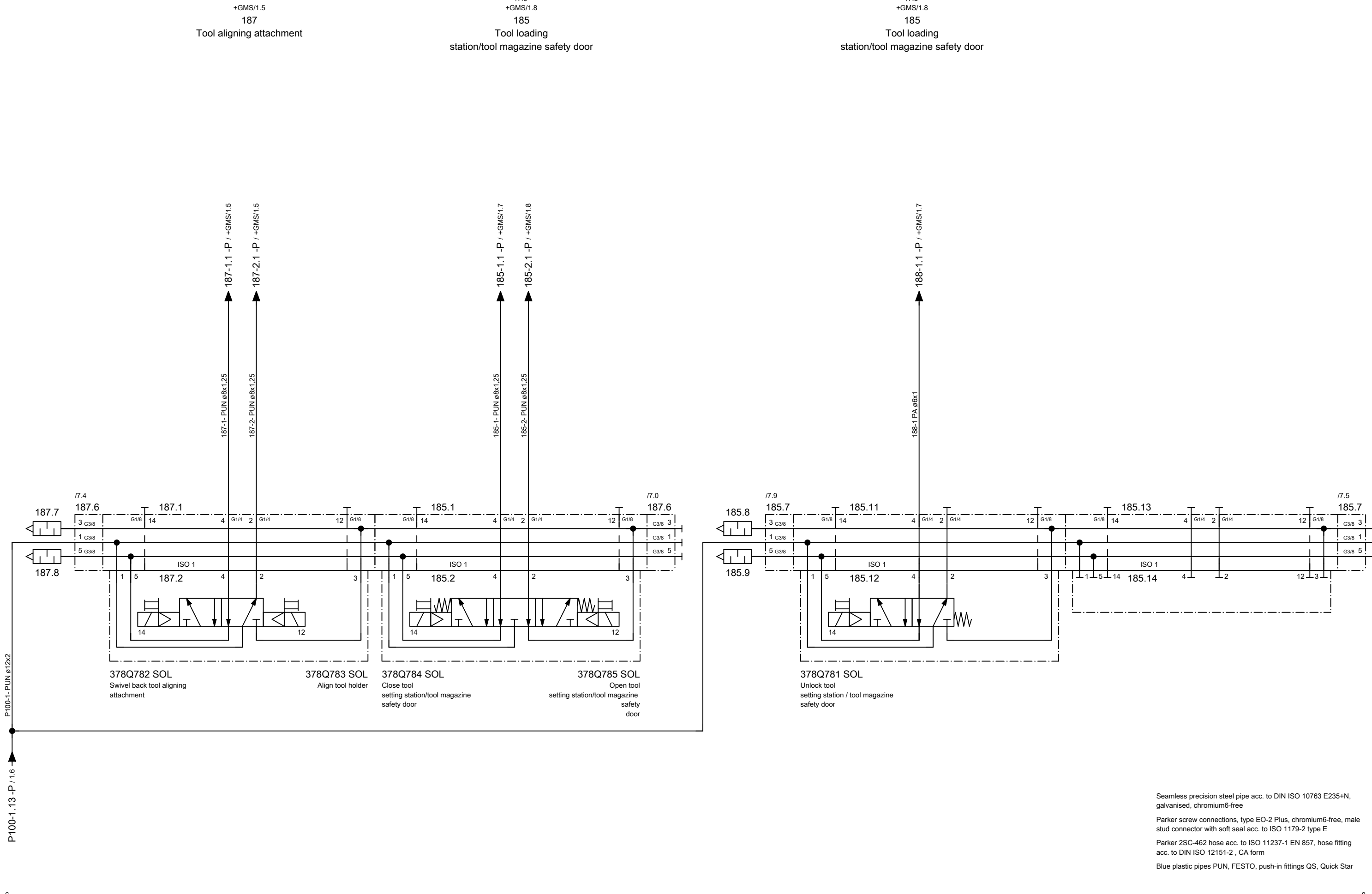


Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN 857, hose fitting acc. to DIN ISO 12151-2, CA form
Blue 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.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO		
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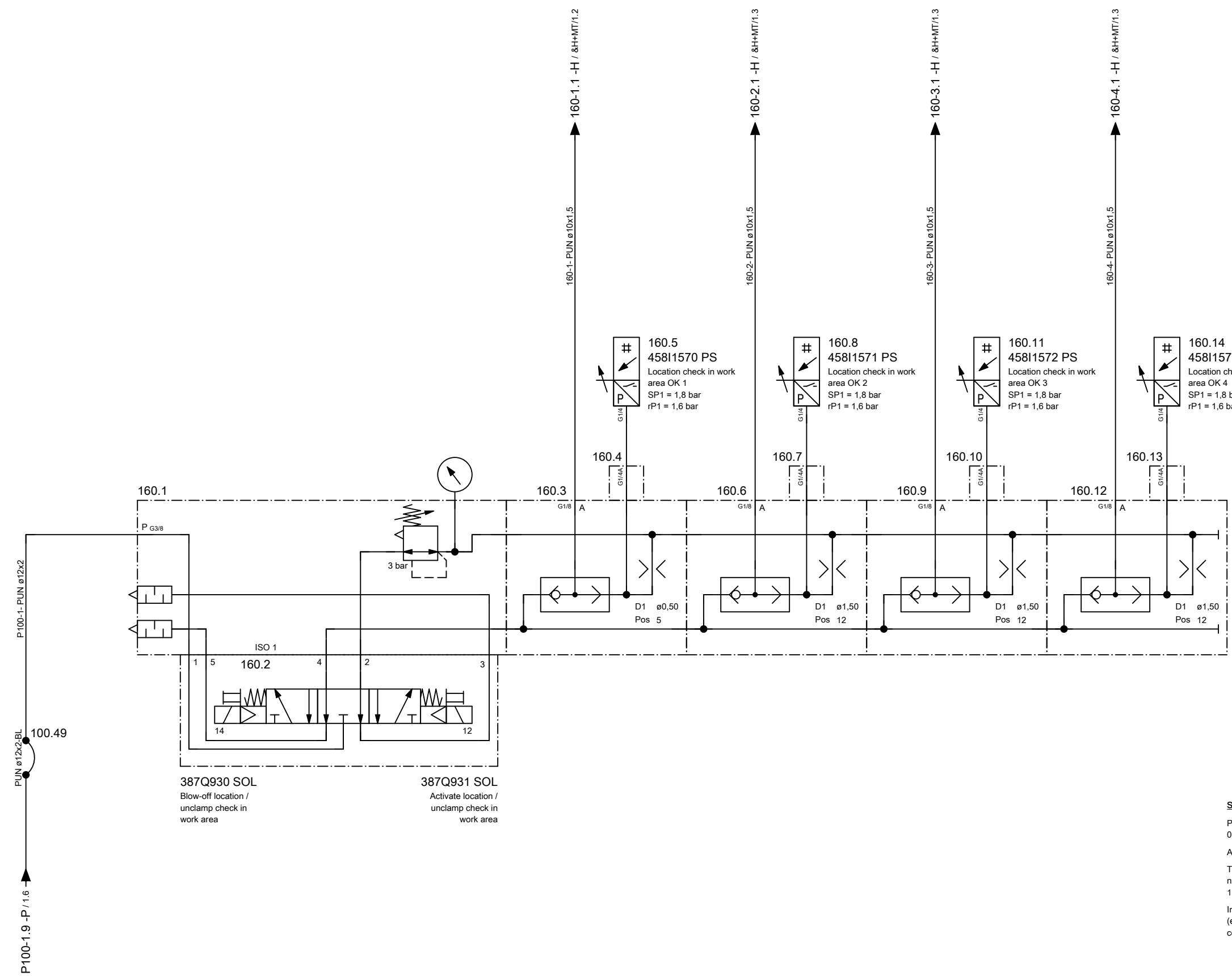
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Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
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Blue plastic pipes PUN, FESTO, push-in fittings QS, Quick Star

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	<h1>HELLER</h1>	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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160
Location/unclamp check
work area



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.

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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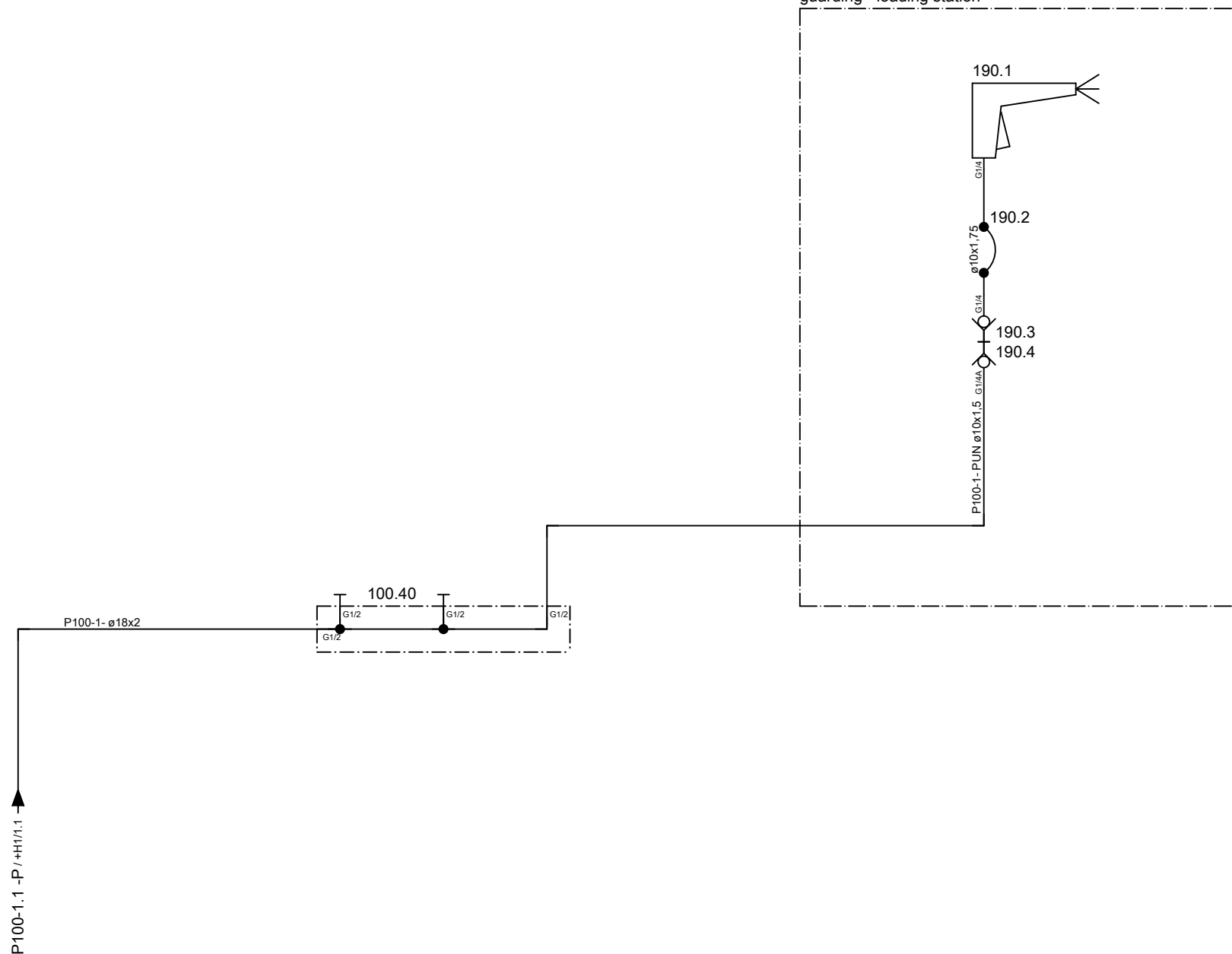
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+H1/1.3
100
air supply

190
blowing valve

+GLS
guarding - loading station



← +H1/8

+M/1 →

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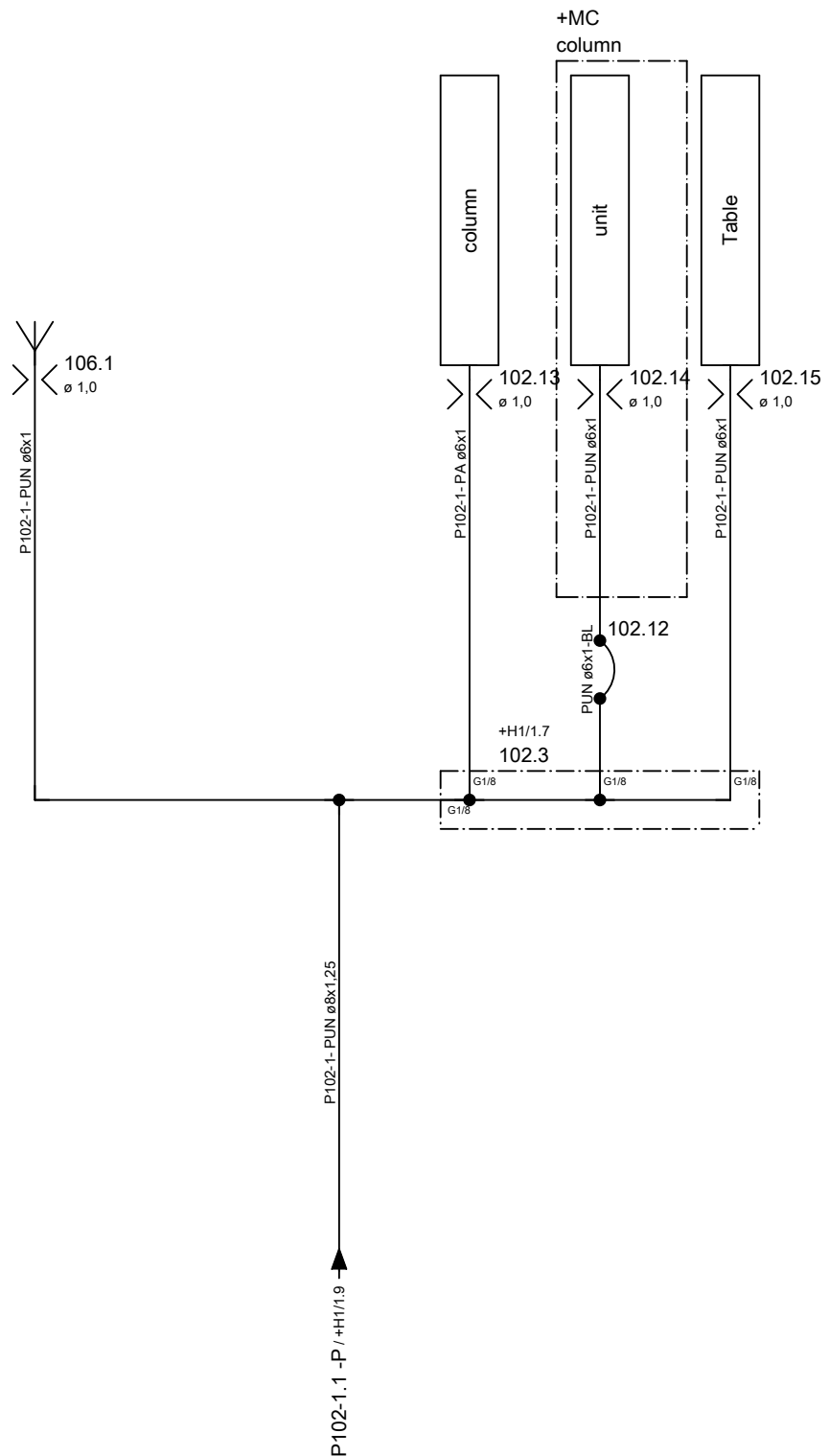
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106
seal air of tool break monitoring

+H1/1.8
102
Seal air
scale



← +H2/1

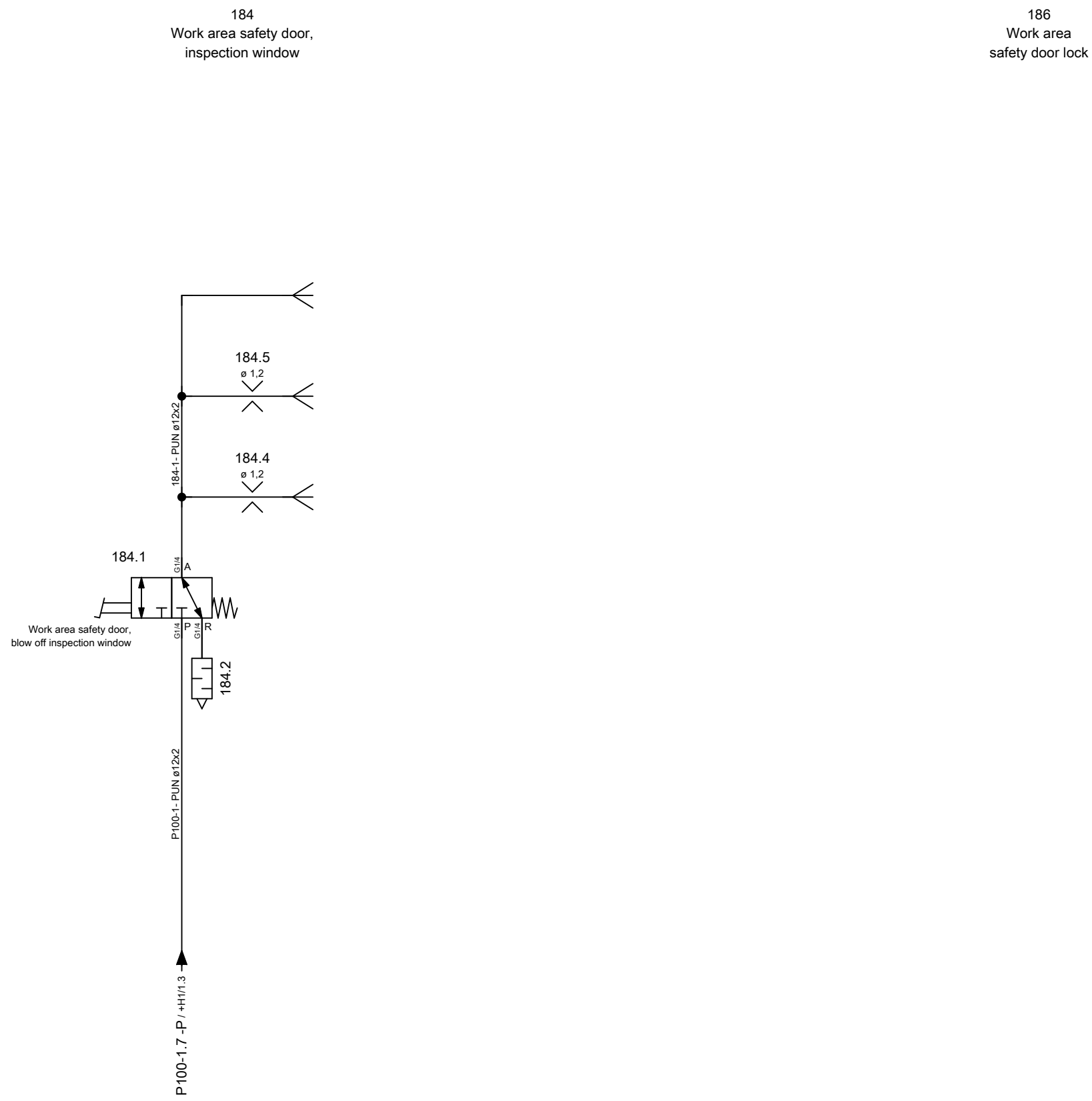
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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ. PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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← +M/1

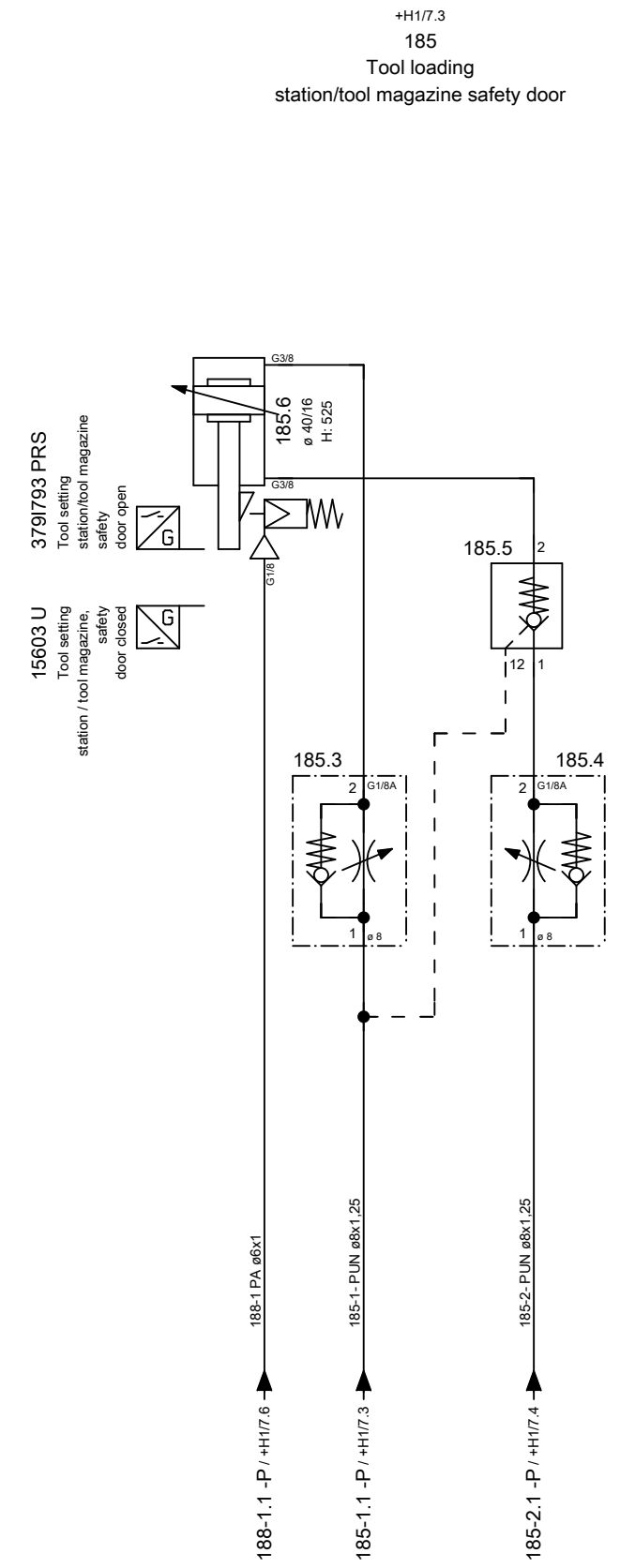
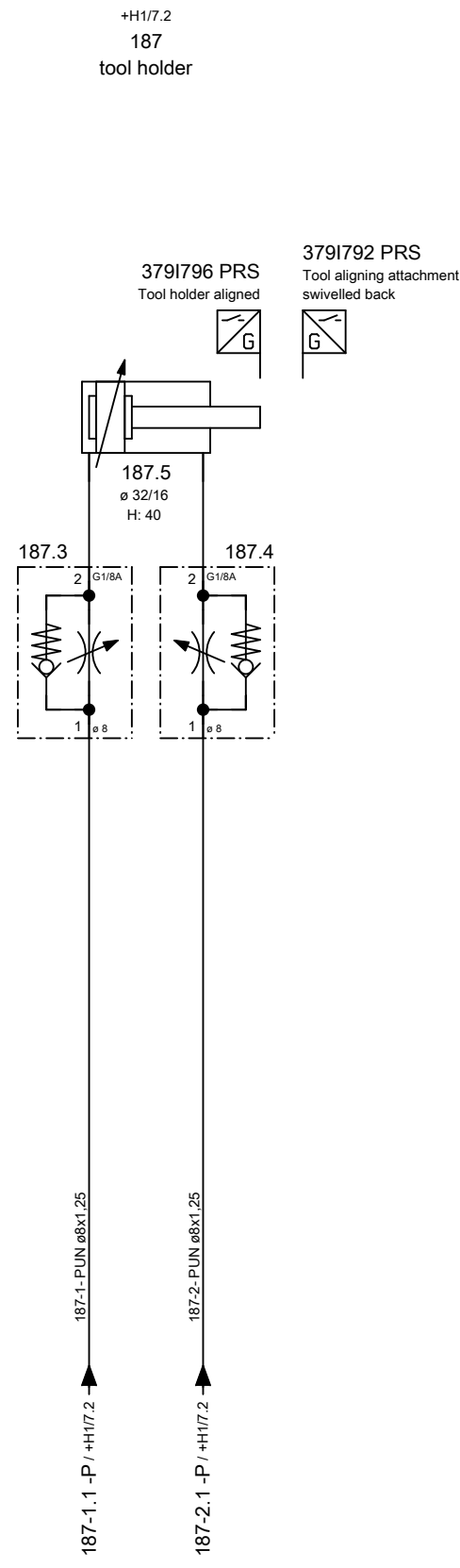
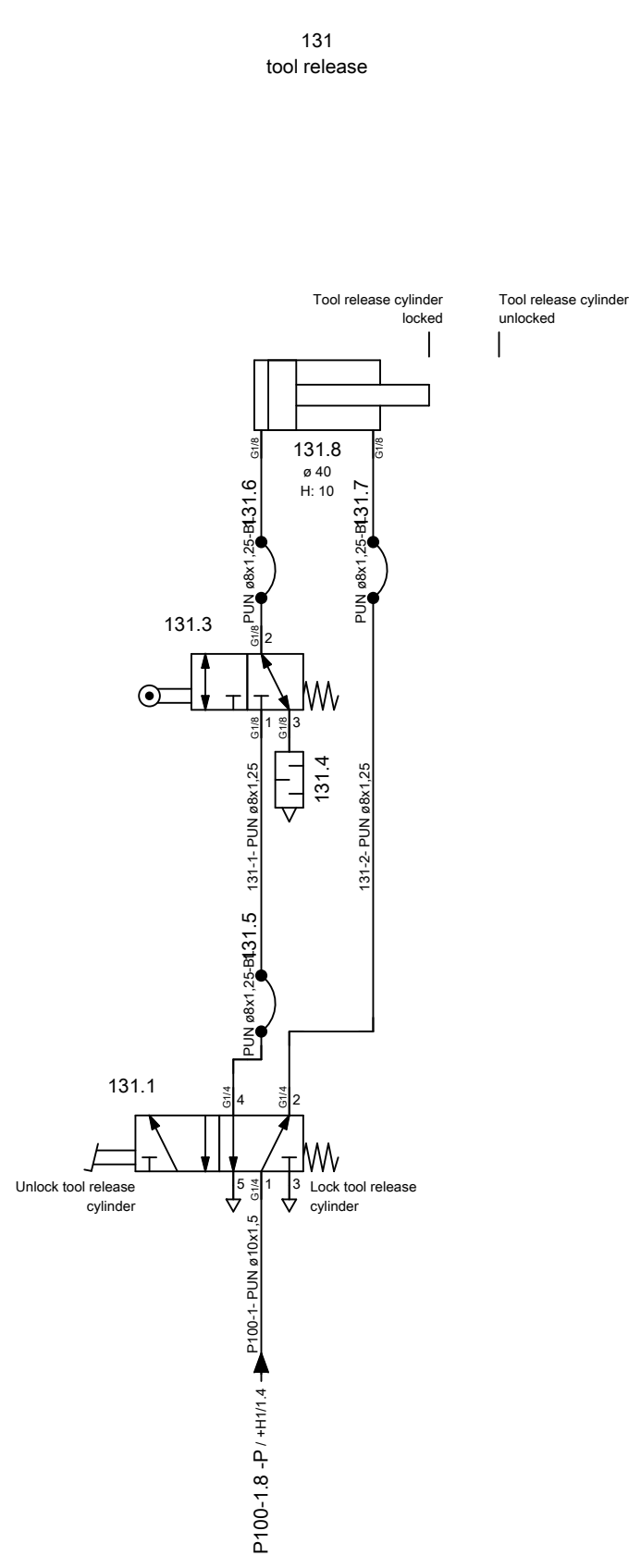
+GMS/1 →

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← +GOS/1 +ATC/1 →

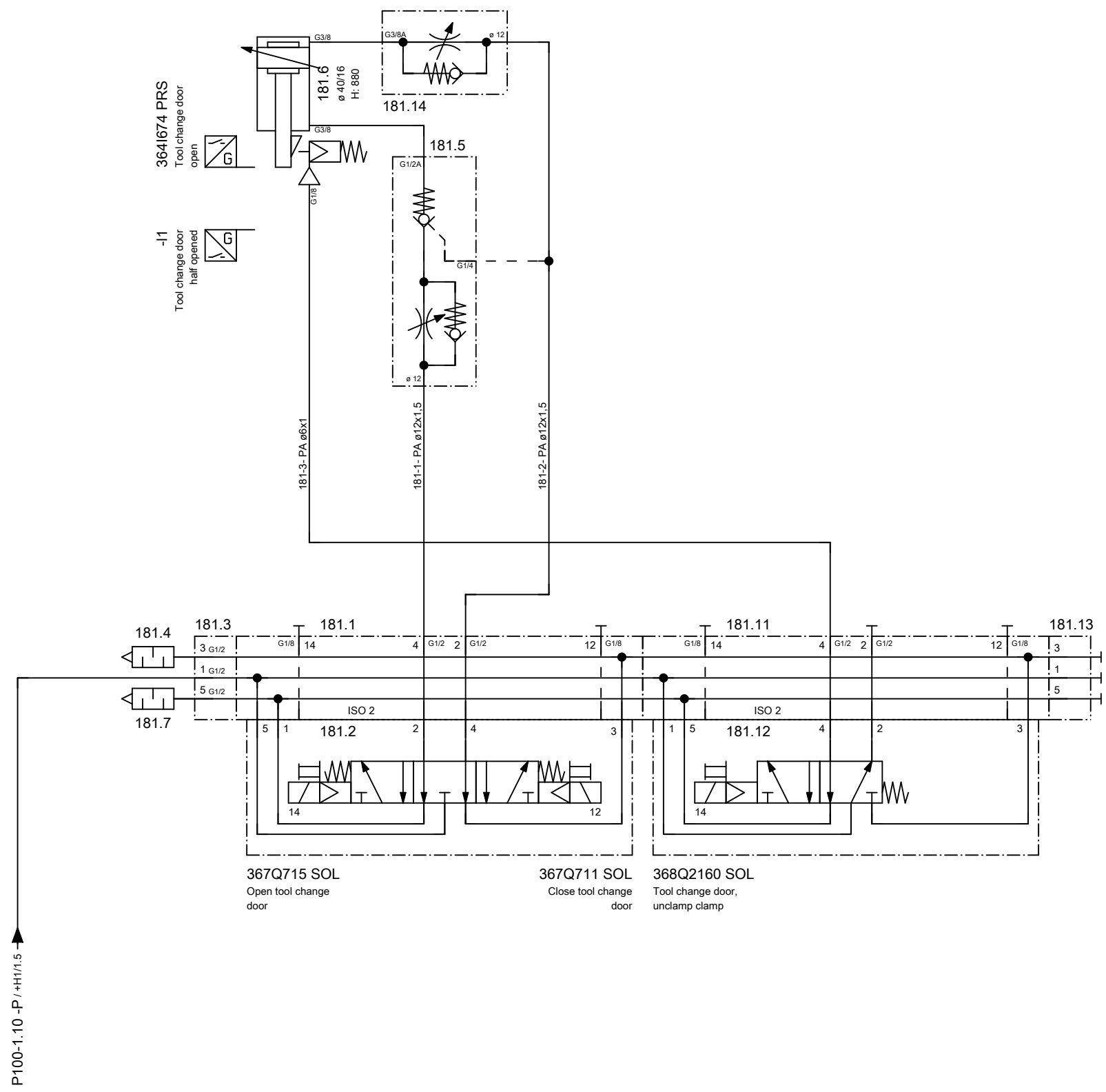
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181
Tool change door



+GMS/1

&L+/0

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											Mounting position	+ATC	tool changer
											Page name	1	

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	143-012-127+564 280/480V, 60Hz, UL/CSA	SKF Lubrication Systems AG	01.101488	+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 ÄNDERUNG/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 04.04.2017	NAME/NOME AHFE/ZAJ AHFE/ZAJ	PROJ./PROJ./PROJ. 54807.00 M-NR/M-NO/ M-NO M54807 TYP/TYPE/ TIPO H 10000 MC - A-Axis WERKSTÜCK/ PART/PEÇA	<div style="text-align: center; font-weight: bold; font-size: 1.2em;">HELLER</div> BENENNUNG/NAME/DENOMINAÇÃO <div style="text-align: center; font-weight: bold;">Device tag list lubrication</div>	KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA INV-NR/INV-NO/NO-INV	PLAN/PLAN/PLANO project Machine Document type Mounting position Page name MP.05480700_F =M54807 &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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CAD-System				URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO	M54807		Paccar, Columbus USA	project	MP.05480700_F
ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPER/ TIPO	H 10000 MC - A-Axis	Device tag list lubrication	INV-NR/INV-NO/NO-INV	Machine	=M54807
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											Mounting position		
											Page name	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 bearing 1	0,034 cm3
LP332	spindle bearing 2	0,034 cm3
LP333	spindle bearing 3	0,034 cm3
LP334	at the rear hollow shaft bearing 4	0,034 cm3
LP335	at the rear hollow shaft bearing 5	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.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
CAD-System		URSPR./ORIG.	GEPR./CHECK./REG.	BEARB./CHG./ALT.	04.04.2017	M-NR/M-NO/ M-NO	M54807		Paccar, Columbus USA	project	MP.05480700_F
ePLAN 2.2.5		ERS./REP.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 MC - A-Axis	lubricant table	INV-NR/INV-NO/NO-INV	Machine	=M54807
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									Mounting position		
									Page name	1	
										A3	

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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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>	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
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ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	M54807	lubricant table 2	INV-NR/INV-NO/NO-INV	MP.05480700_F
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	H 10000 MC - A-Axis			Machine
						WERKSTÜCK/ PART/PEÇA		Document type	&L lubrication diagram
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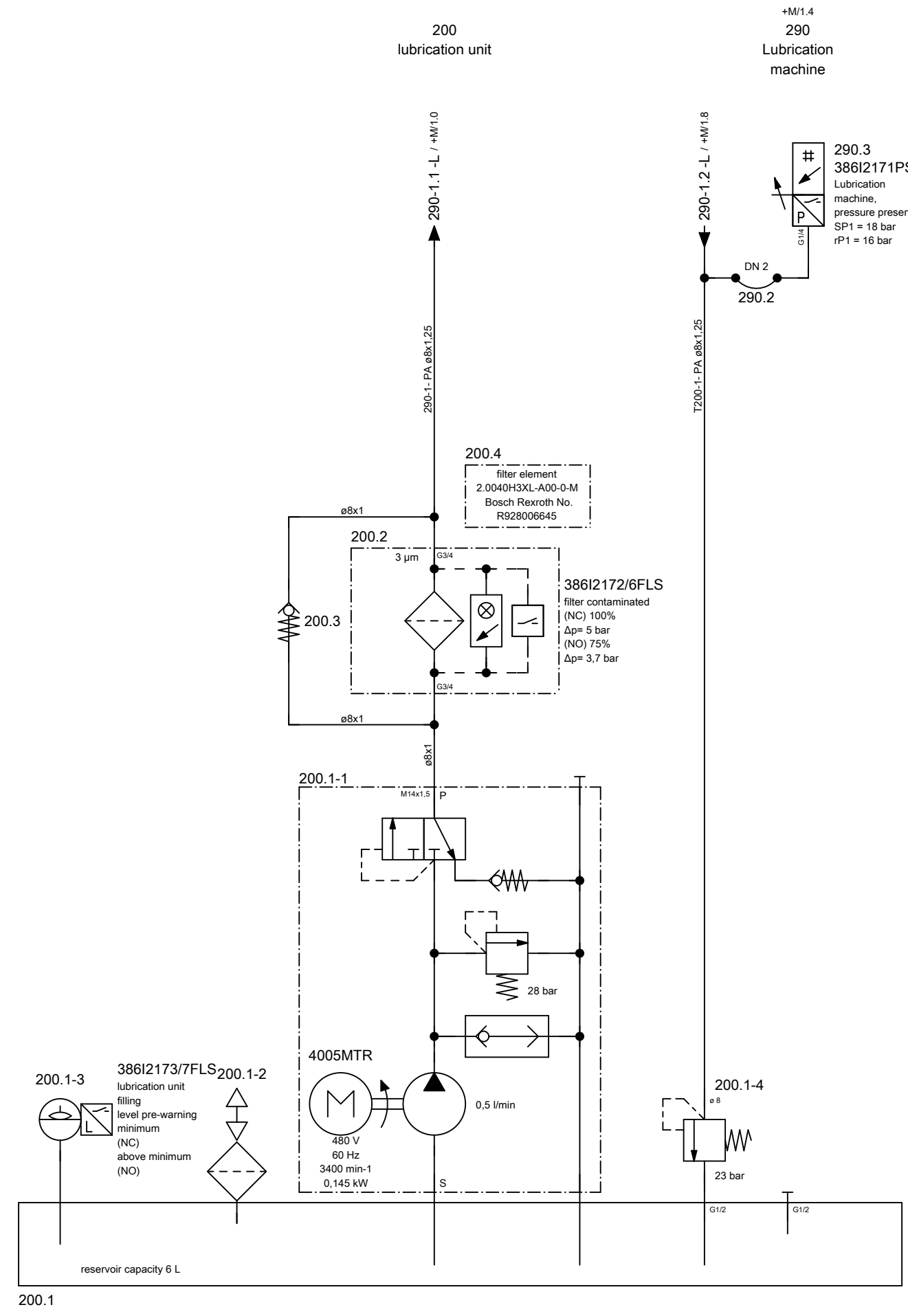
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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
 Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
 Parker 2SC-462 hose acc. to ISO 11237-1 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. 54807.00 M-NR/M-NO/M-NO M54807 TYP/TYPO/TIPO H 10000 MC - A-Axis WERKSTÜCK/PART/PEÇA				HELLER lubrication diagram		KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA INV-NR/INV-NO/NO-INV 13.503922		PLAN/PLAN/PLANO project MP.05480700_F Machine =M54807 Document type &L lubrication diagram Mounting position +H1 HELP1 Page name 1	
ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME				
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	ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ					
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Heller_2L

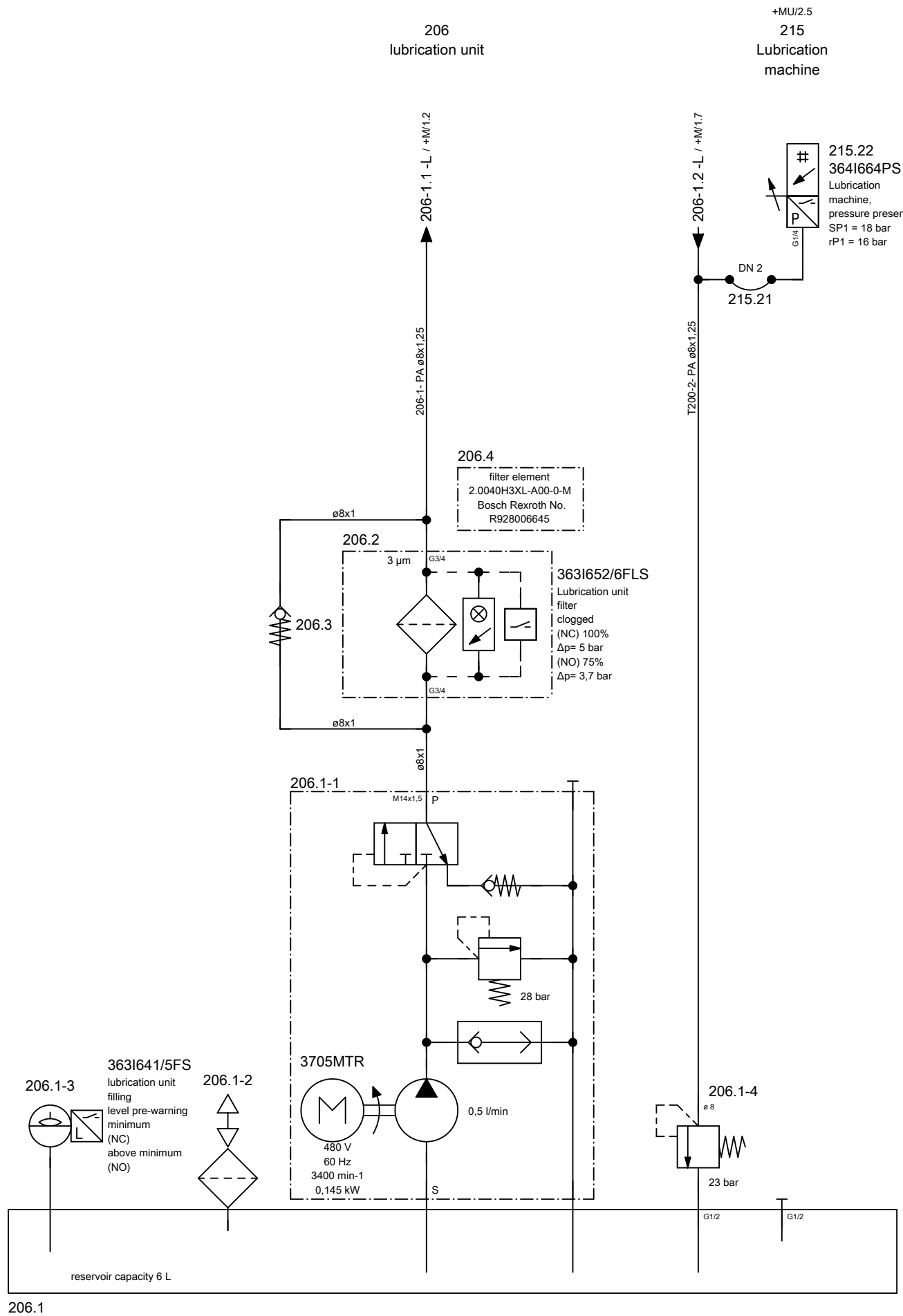
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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N, galvanised, chromium6-free
Parker screw connections, type EO-2 Plus, chromium6-free, male stud connector with soft seal acc. to ISO 1179-2 type E
Parker 2SC-462 hose acc. to ISO 11237-1 EN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

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Heller_2L

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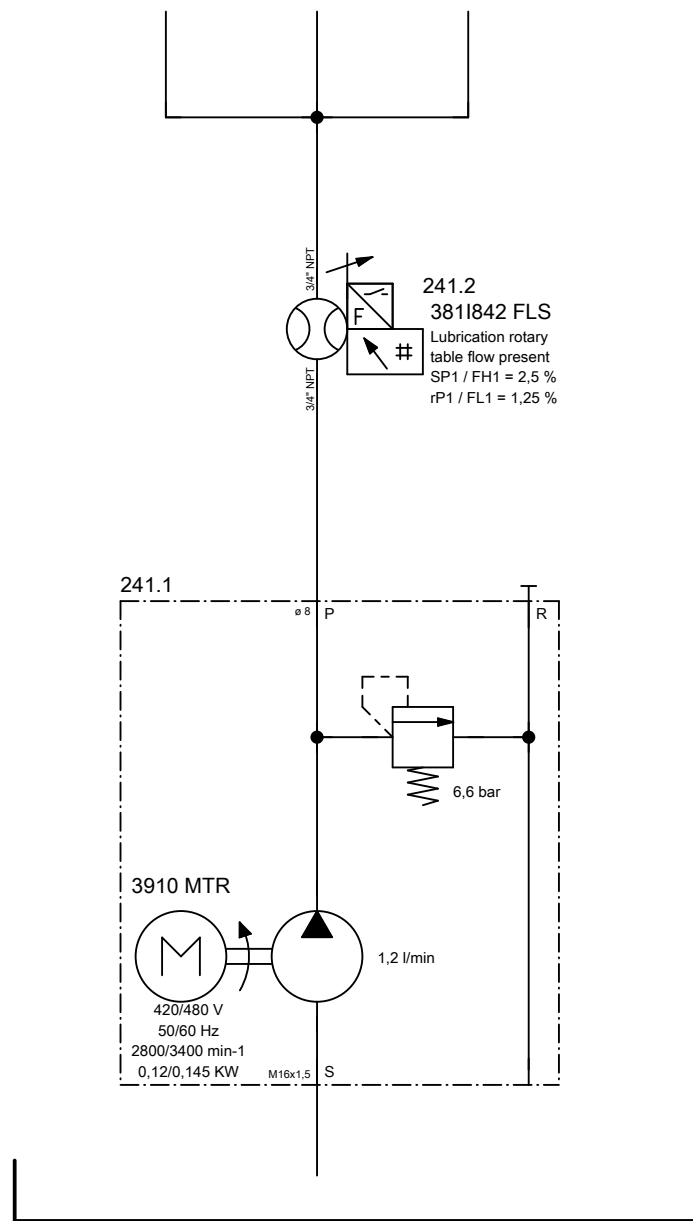
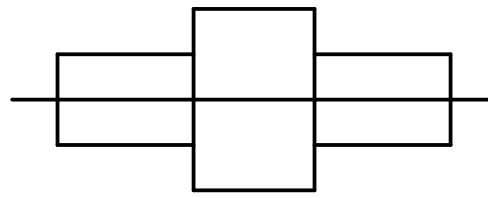
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Seamless precision steel pipe acc. to DIN ISO 10763 E235+N,
 galvanised, chromium6-free
 Parker screw connections, type EO-2 Plus, chromium6-free, male
 stud connector with soft seal acc. to ISO 1179-2 type E
 Parker 2SC-462 hose acc. to ISO 11237-1 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 8000
 reservoir capacity 5,5 L
 process medium lubrication oil SAE 80W
 acc. to SAE J 306 and ISO 51512

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 →

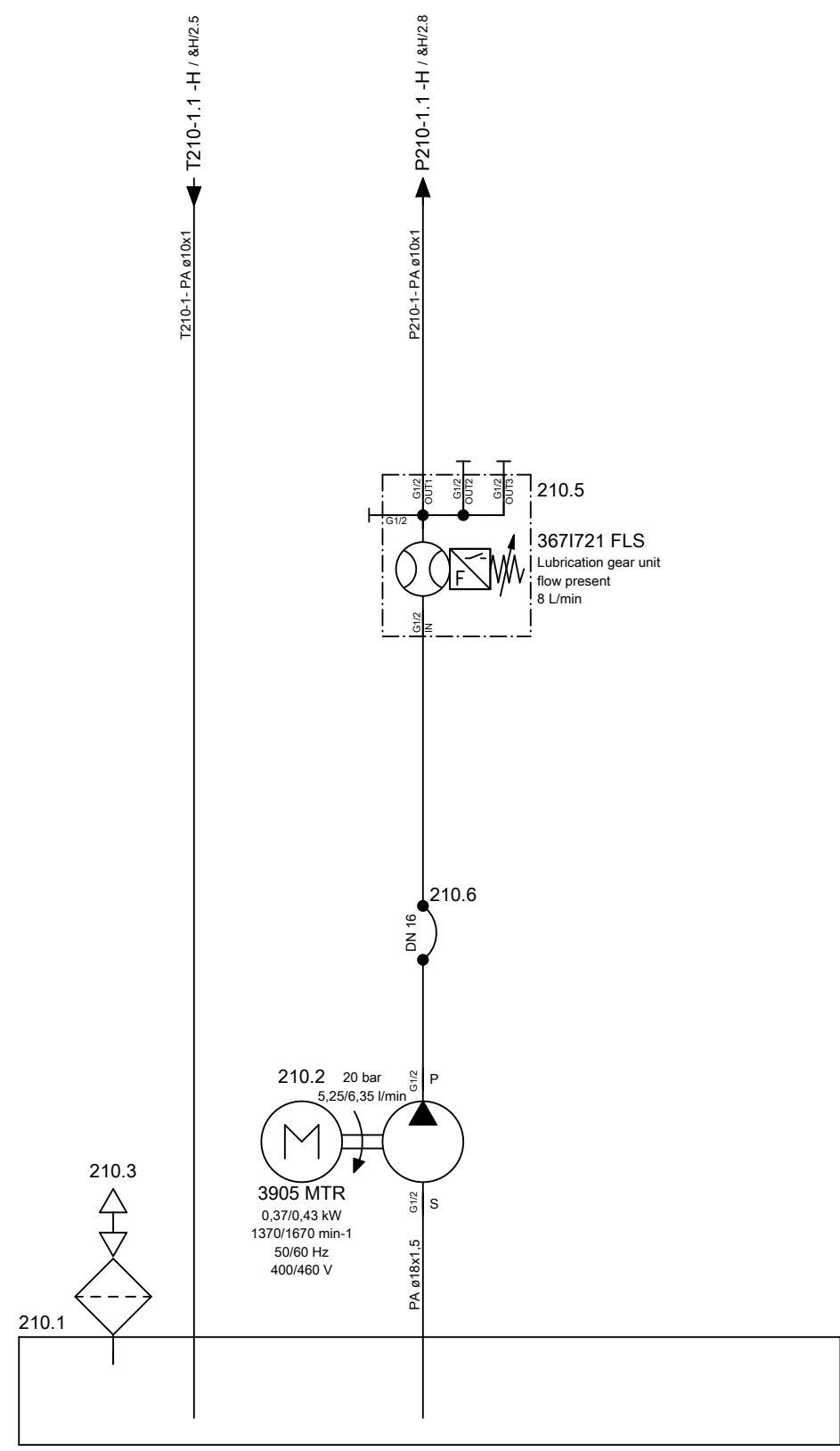
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											Page name	1	

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reservoir capacity 5 L
process medium lubrication oil ISO-L-G 10
acc. to ISO 6743-13 and ISO 3448

gear lubrication
210



← +MT/1

2 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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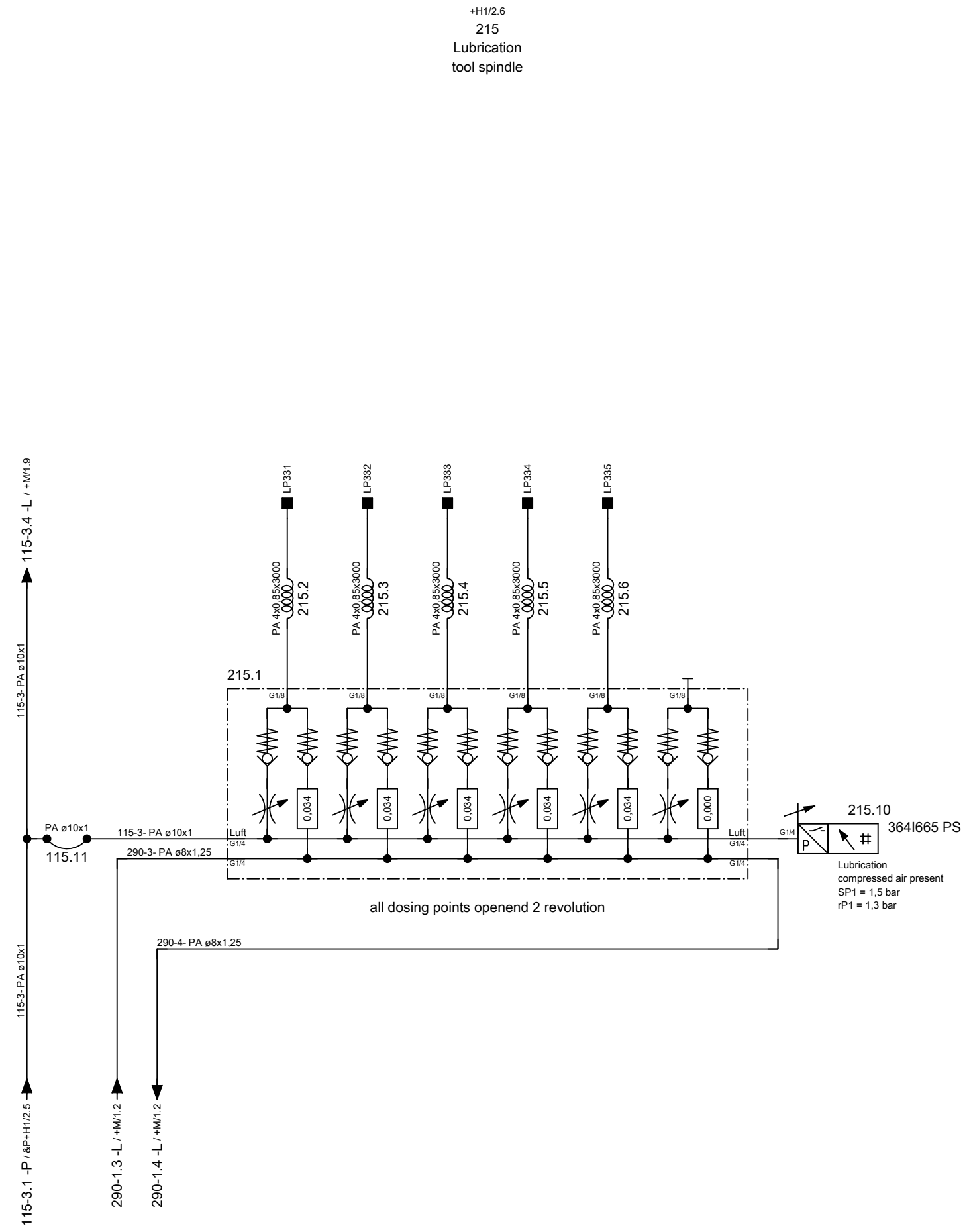
Heller_2L

A3

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← 1

+M/1 →

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											Mounting position	+MU unit	Page name	2

Heller_2L

A3

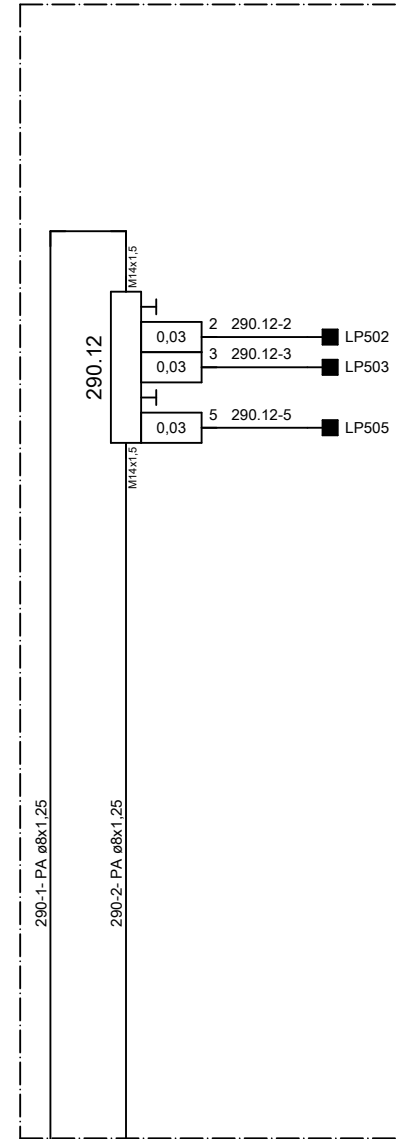
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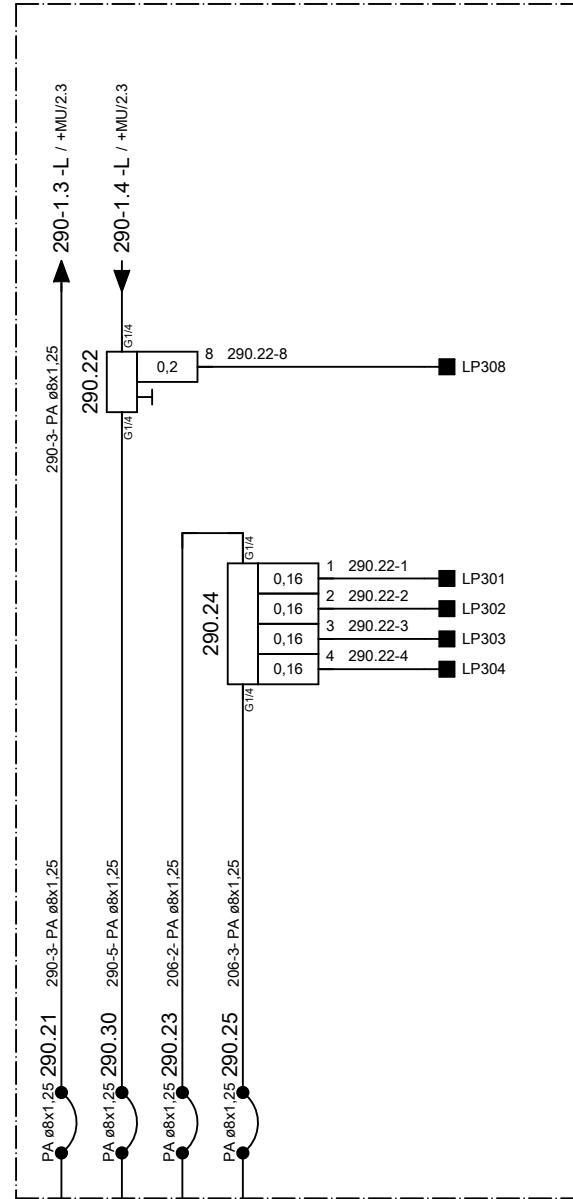
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+H1/1.6
290
Lubrication
machine

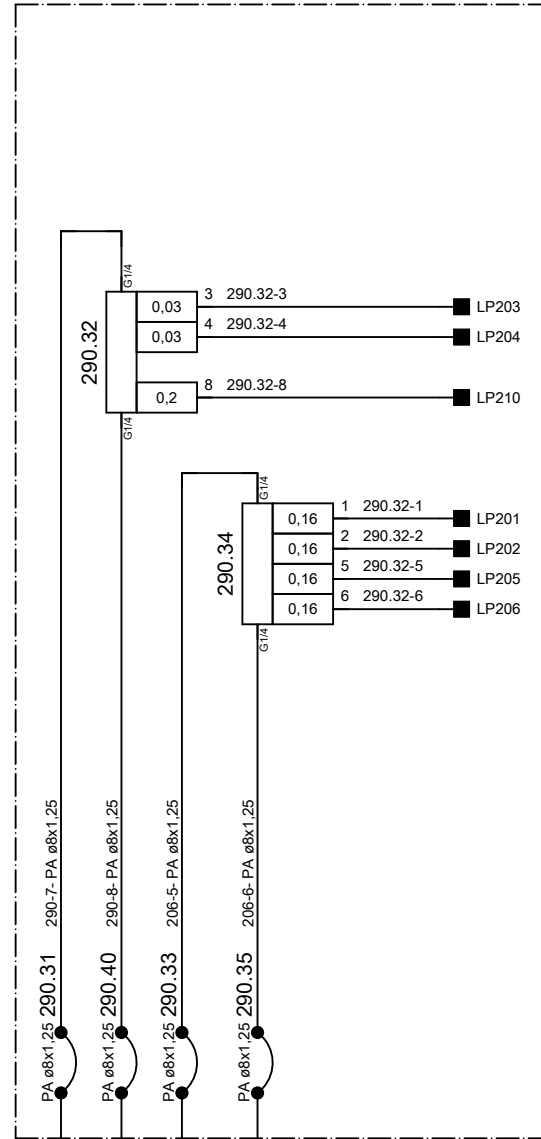
+TM
tool magazine



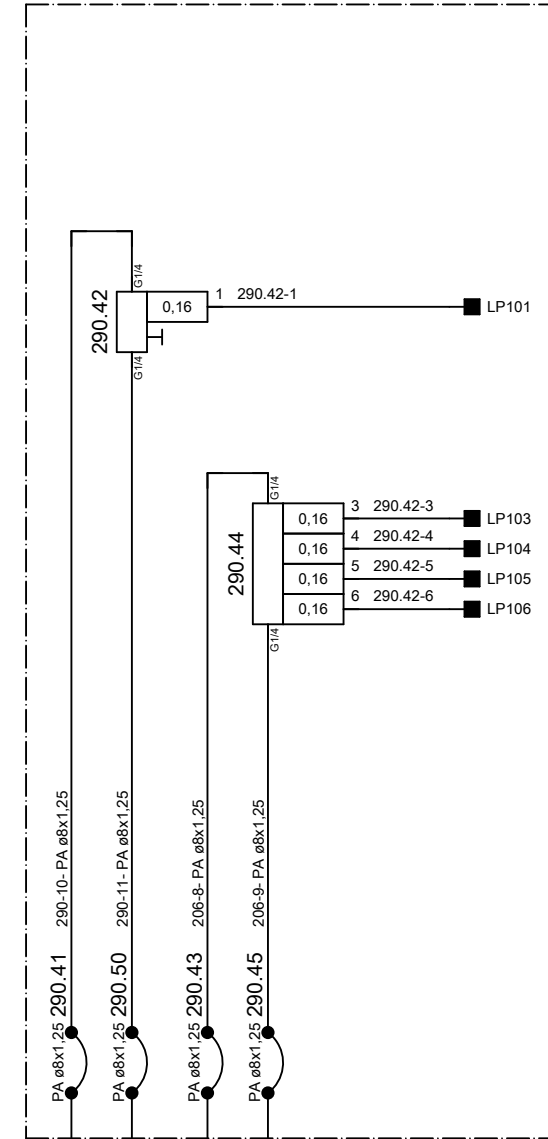
+MUT
machine table swivel axis



+MC
column

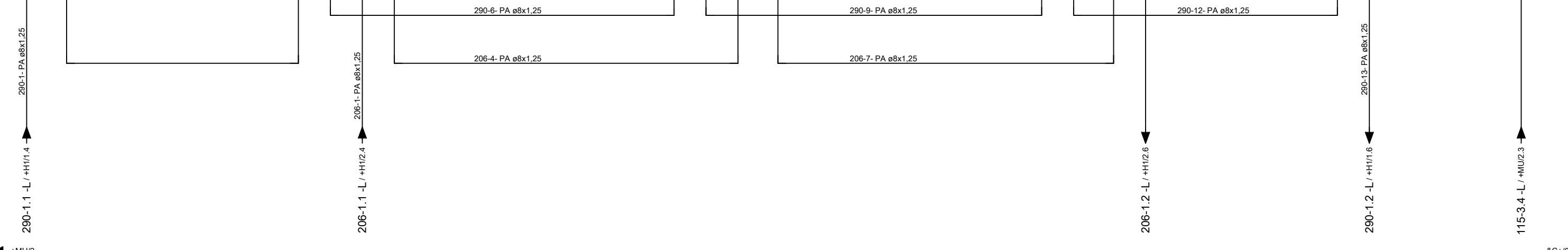
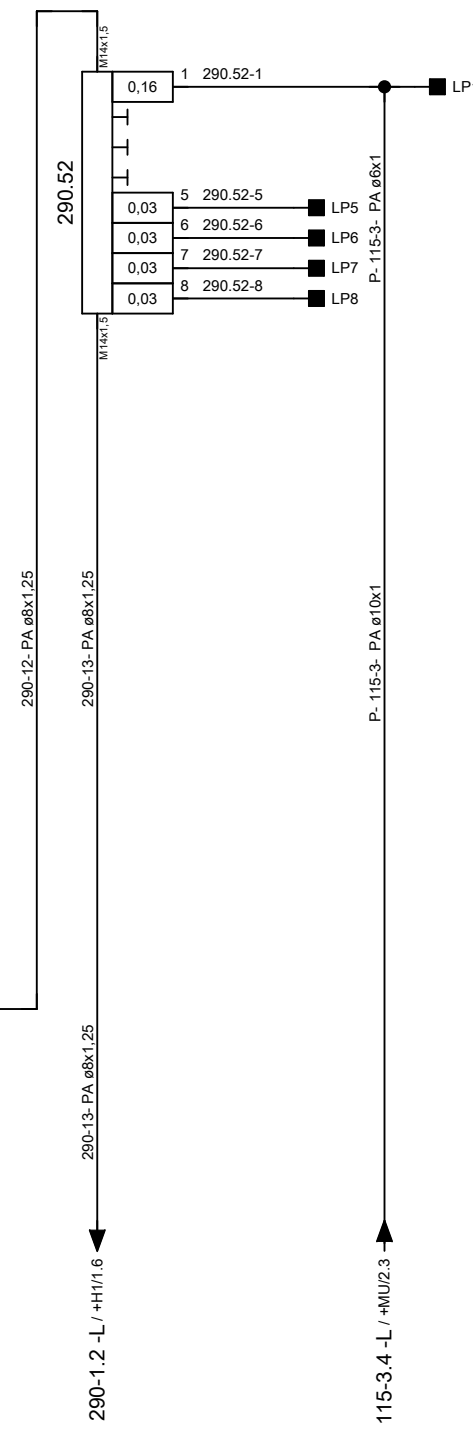


+MT
table



machine bed

machine bed



ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ./PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 MC - A-Axis	lubrication diagram	Machine	=M54807	
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												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			
+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
+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
+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 →

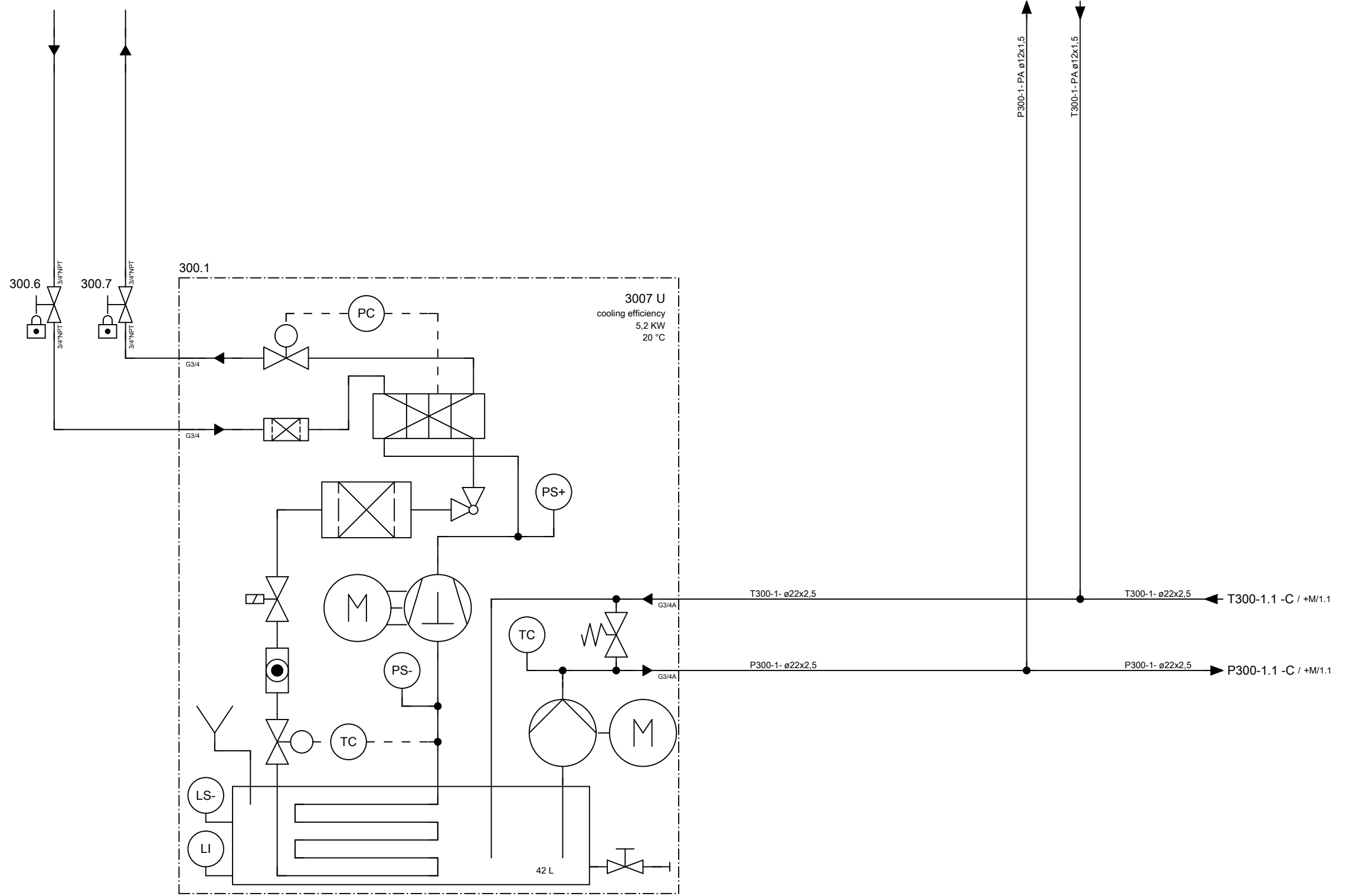
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ePLAN 2.2.5		ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	M54807	BENENNUNG/NAME/DENOMINAÇÃO Device tag list cooling water	INV-NR/INV-NO/NO-INV	MP.05480700_F	
		ERS.D./REP.W.	GEZ./DRAWN/DES.	04.04.2017	AHFE/ZAJ	H 10000 MC - A-Axis			Machine	=M54807
						WERKSTÜCK/ PART/PEÇA			Document type	&C cooling water diagram
								Mounting position		
								Page name	0	

+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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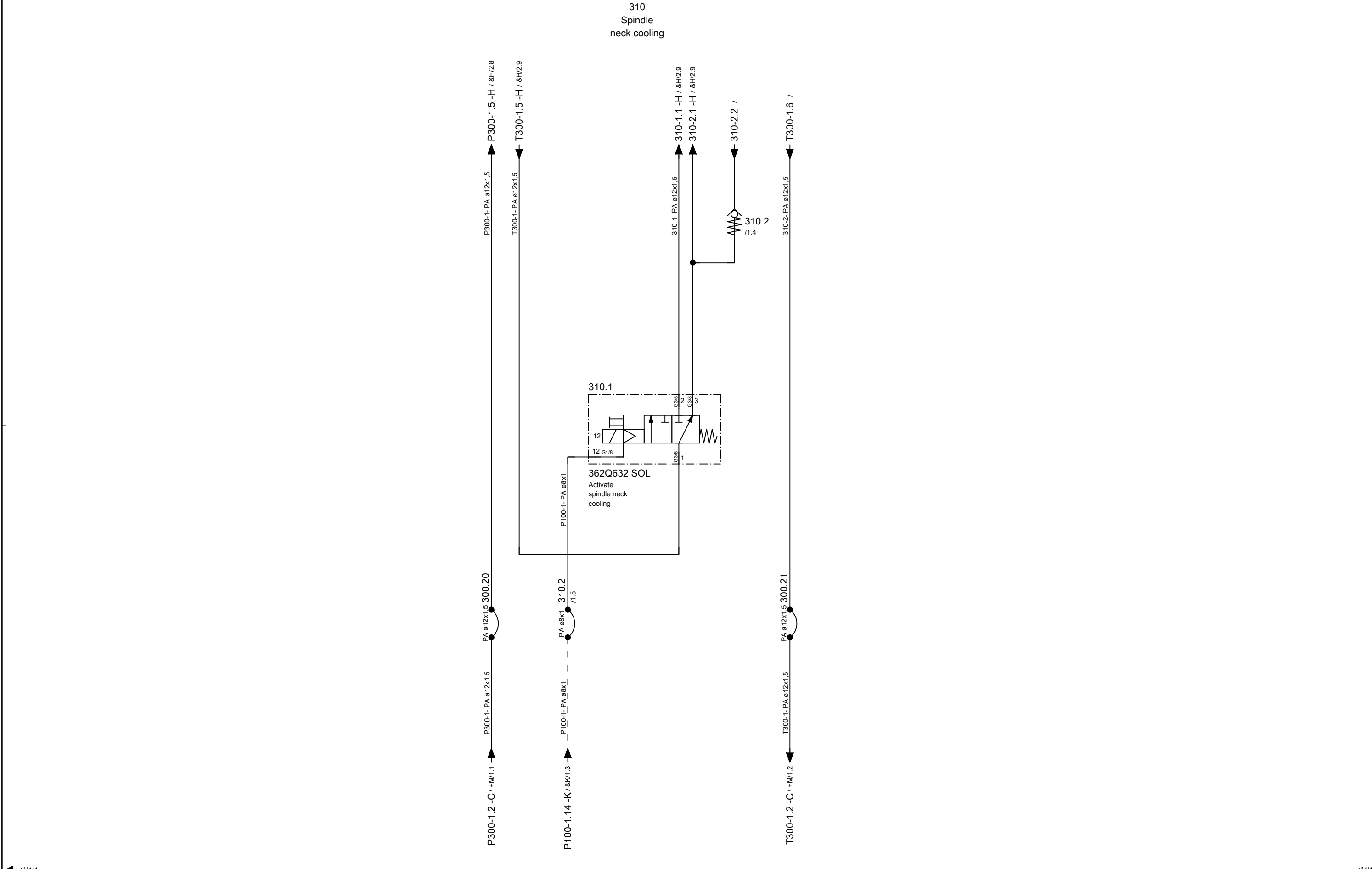
← +/0 +MU/1 →

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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.	15.03.2016	AHFE/HOP				
				WERKSTÜCK/ PART/PEÇA				

Heller_2L

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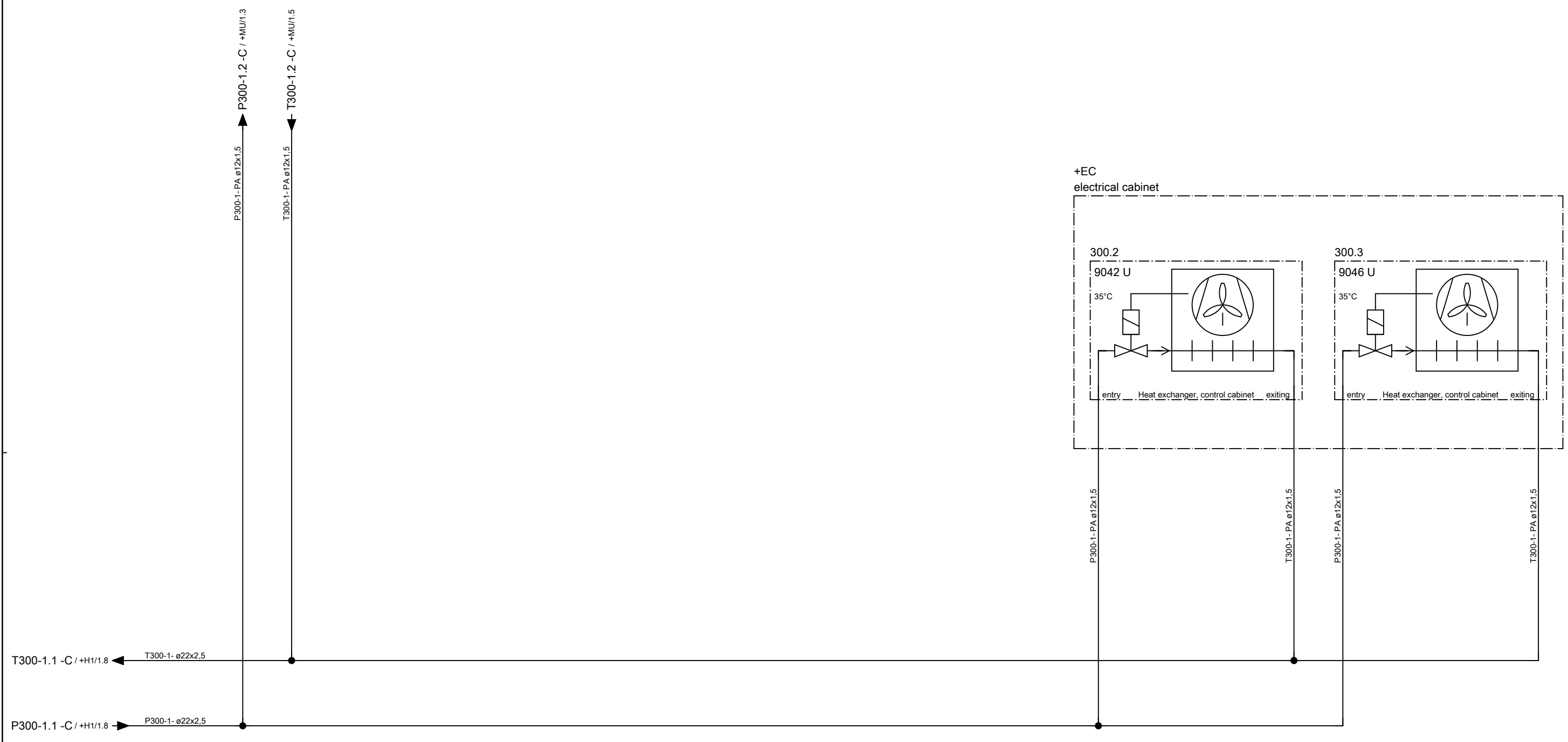


← +H1/1				+M/1 →			
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KUNDE/CUSTOMER/CLIENTE Paccar, Columbus USA		PLAN/PLAN/PLANO project Machine Document type Mounting position Page name		BENENNUNG/NAME/DENOMINAÇÃO cooling water diagram		INV-NR/INV-NO/NO-INV MP.05480700_F =M54807 &C cooling water diagram +MU unit 1	
						HELLER	A3

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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.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO		
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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.	device tag	number	denomination	Type	Manufacturer	Heller no.
+CC-100.50	1	shut-off valve	HE-G1/2-LO 197134	Festo	01.093008	+H1-411.1-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683
+CC-100.51	1	silencer	AMTE-M-LH-G1 1205865	Festo	01.112166	+H1-411.1-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+CC-100.52	1	fastening angle	MS4-WP 532184	Festo	01.106320	+H1-411.1-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+CC-100.53	1	filter pressure regulator	MS4-LFR-1/4-D6-CUV-A4 526489	Festo	01.109895	+MU-411.10	1	plastic pipe	18x1,5 PA12 HIPHL-nf DIN 73378	Stiefel	01.060217
+CC-100.53-1	1	filter element	MS4-LFP-C 534501	Festo	01.109899	+H1-411.11	1	hose line	DIN 20066-2SC25-NN-....-P 462-16-....	Parker	
+CC-100.54	1	pressure gauge	MA-50-10-1/4 359873	Festo	01.092062	+H1-417.11	1	hose line	DIN 20066-2SC16-NN-....-P 462-10-....	Parker	
+MU-100.60	1	plastic pipe	PA 8x1 1 820 712 102	AVENTICS	01.093303	+H1-440.1	1	directional control valve	5-VMK25 NC 2/2 G11/4 0-64bar, M12x1	Müller co-ax	02.001243
+MU-110.10	1	plastic pipe	PA 12x1,5 1 820 712 103	AVENTICS	01.093304	+H1-440.1-1	1	directional control valve	VMK 25 NC-Namur 0-64bar, G11/4	Müller co-ax	01.094865
+MU-110.11	1	check valve	NG6 G1/4 0 821 003 002	AVENTICS	01.031611	+H1-440.1-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683
+MU-110.12	1	vacuum generator	ähnl EBP-240 R412007716	AVENTICS	01.100344	+H1-440.1-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+MU-110.13	1	plastic pipe	PA 14x1,5 1 820 712 104	AVENTICS	01.093305	+H1-440.1-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+MU-110.20	1	plastic pipe	PA 12x1,5 1 820 712 103	AVENTICS	01.093304	+H1-480.1	1	directional control valve	5-VMK25 NC 2/2 G11/4 0-64bar, M12x1	Müller co-ax	02.001243
+MU-110.21	1	check valve	RHZ12LREDO MD-CF ITL71 ST 1.4571	Parker	01.062111	+H1-480.1-1	1	directional control valve	VMK 25 NC-Namur 0-64bar, G11/4	Müller co-ax	01.094865
+H1-400.11	1	hose line	DIN 20066-2SC40-NN-....-P 462-40-....	Parker		+H1-480.1-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683
+H1-410.1	1	flow control switch	SBU323 G1/2 75l/min	IFM Electronic	01.111533	+H1-480.1-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+MU-410.2	1	hose line	DIN 20066-2SC16-NN-3750-P 462-10-3750	Parker	01.099742	+H1-480.1-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+MU-410.3	1	check valve	RHZ18LREDO MD-CF ITL71 ST 1.4571	Parker	01.062112	+GOS-485.1	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.4	1	block		Heller Maschinenfabrik	00.788814	+GOS-485.2	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.5	1	hose line	DIN 20066-2SC10-NN- 630-P 462- 6- 630	Parker	01.099880	+GOS-485.3	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.6	1	hose line	DIN 20066-2SC10-NN- 630-P 462- 6- 630	Parker	01.099880	+GOS-485.4	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.8	1	directional control valve	5-VMK10 DR/NO 3/2 G1/2 0-80bar, M12x1	Müller co-ax	02.001914	+GMS-485.5	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.8-1	1	directional control valve	VMK 10 DR NO-Namur 0-80bar, G1/2	Müller co-ax	01.102636	+GMS-485.6	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.8-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683	+GMS-485.7	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.8-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318	+GMS-485.8	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+MU-410.8-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318	+GMS-485.9	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+H1-410.11	1	hose line	DIN 20066-2SC16-NN-....-P 462-10-....	Parker		+GLS-490.1	1	coiled hose	HEL 09.03.30 DN12 2xG3/8a L=3300 blau	Stäubli	01.100442
+H1-411.1	1	directional control valve	5-VMK15 NC 2/2 G1/2 0-64bar, M12x1	Müller co-ax	02.001242	+GLS-490.2	1	wash gun	G1/2 412.009	EWO	01.110254
+H1-411.1-1	1	directional control valve	VMK15NC, 2/2, 0-64bar G1/2	Müller co-ax	01.097317	+H1-490.3	1	coupling	DN9, G3/8 SP-009-2-WR517-11-2-Z02	Walther	01.112139

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ERS./REP.		GEPR./CHECK./REG.		WERKSTÜCK/ PART/PEÇA		Page name 0		A3	
ERS.D./REP.W.		BEARB./CHG./ALT. 04.04.2017 AHFE/ZAJ		GEZ./DRAWN/DES. 04.04.2017 AHFE/ZAJ					

Device tag list

Heller_Dynam_Bed_2L2C

device tag	number	denomination	Type	Manufacturer	Heller no.
+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
+H1-491.1	1	directional control valve	5-VMK25 NC 2/2 G11/4 0-64bar, M12x1	Müller co-ax	02.001243
+H1-491.1-1	1	directional control valve	VMK 25 NC-Namur 0-64bar, G11/4	Müller co-ax	01.094865
+H1-491.1-2	1	directional control valve	G1/8 4-Pin M12x1 401 130	Müller co-ax	01.102683
+H1-491.1-3	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+H1-491.1-4	1	exhaust throttle	G1/8 238 04	Müller co-ax	01.097318
+GMA-491.3	1	regulator sleeve	599a-3/4 schwarz	Roth	01.082207
+GMA-491.4	1	ball valve	BVG 4-3/4 C	Parker	01.084621
+GMA-491.5	1	regulator sleeve	599a-3/4 schwarz	Roth	01.082207
+GMA-491.6	1	ball valve	BVG 4-3/4 C	Parker	01.084621

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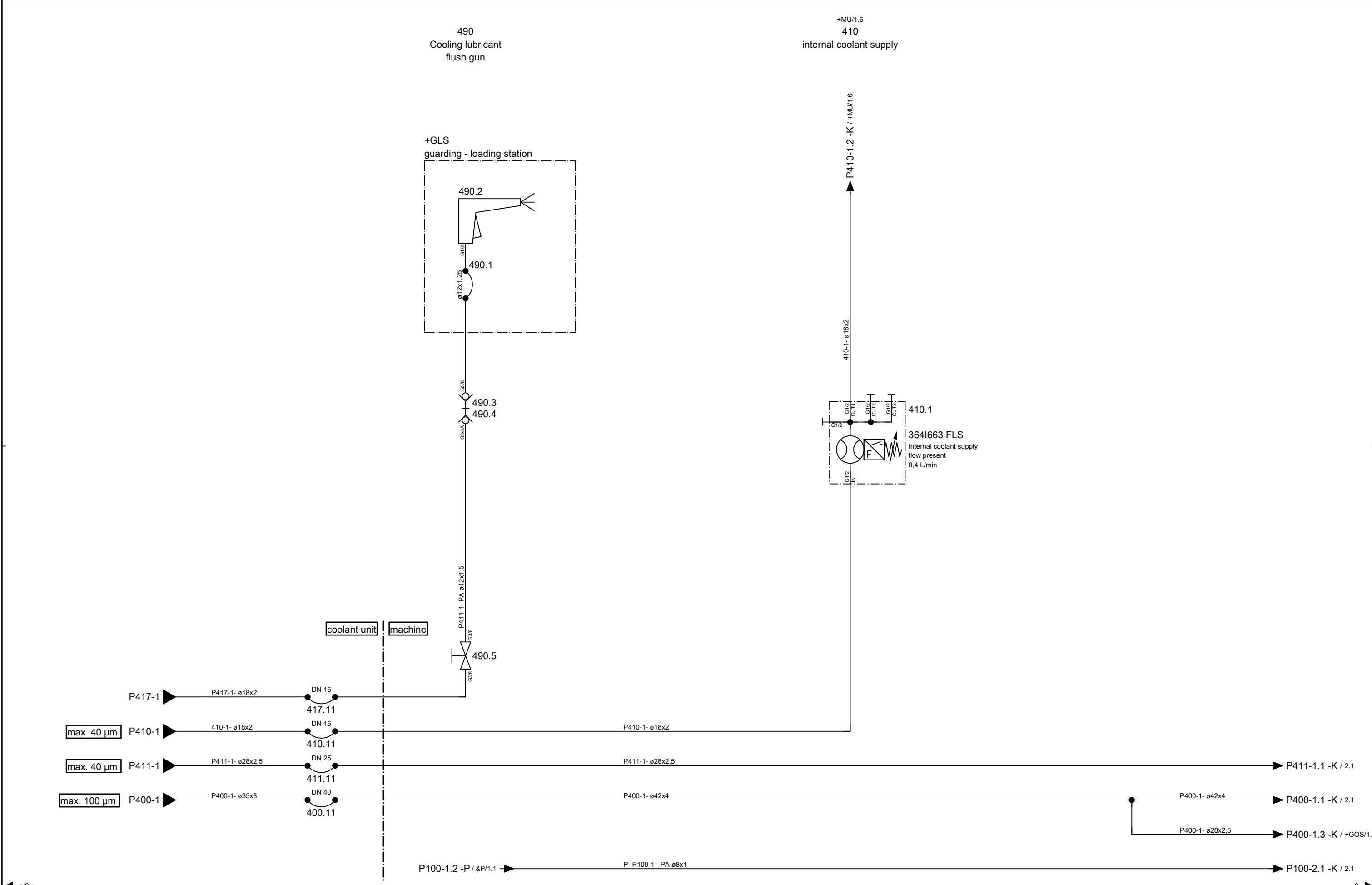
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								Document type	&K coolant diagram
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								Page name	0.a

A3

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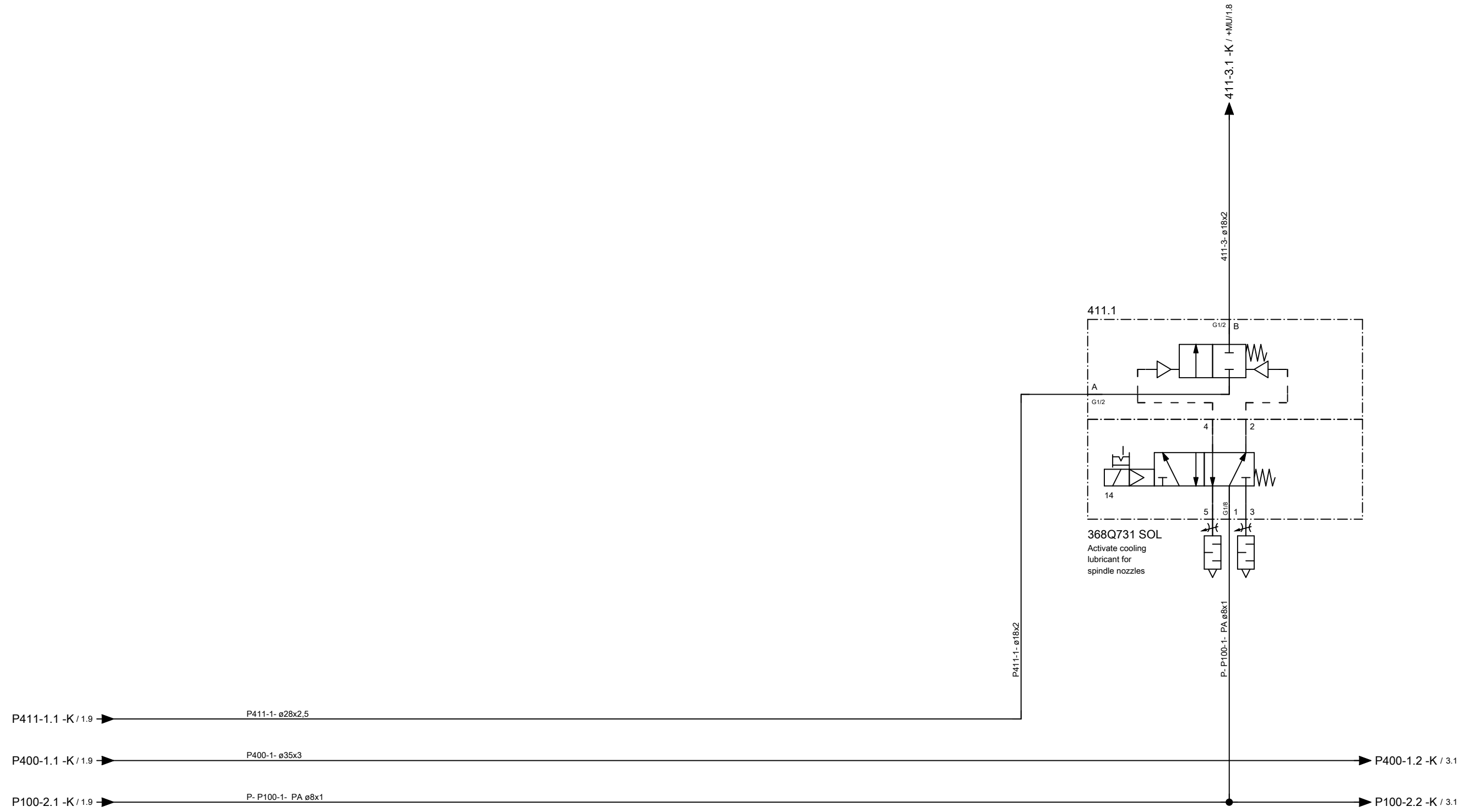
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413
Cooling lubricant
multi-spindle head

+MU/1.8
411
Cooling lubricant
spindle nozzles

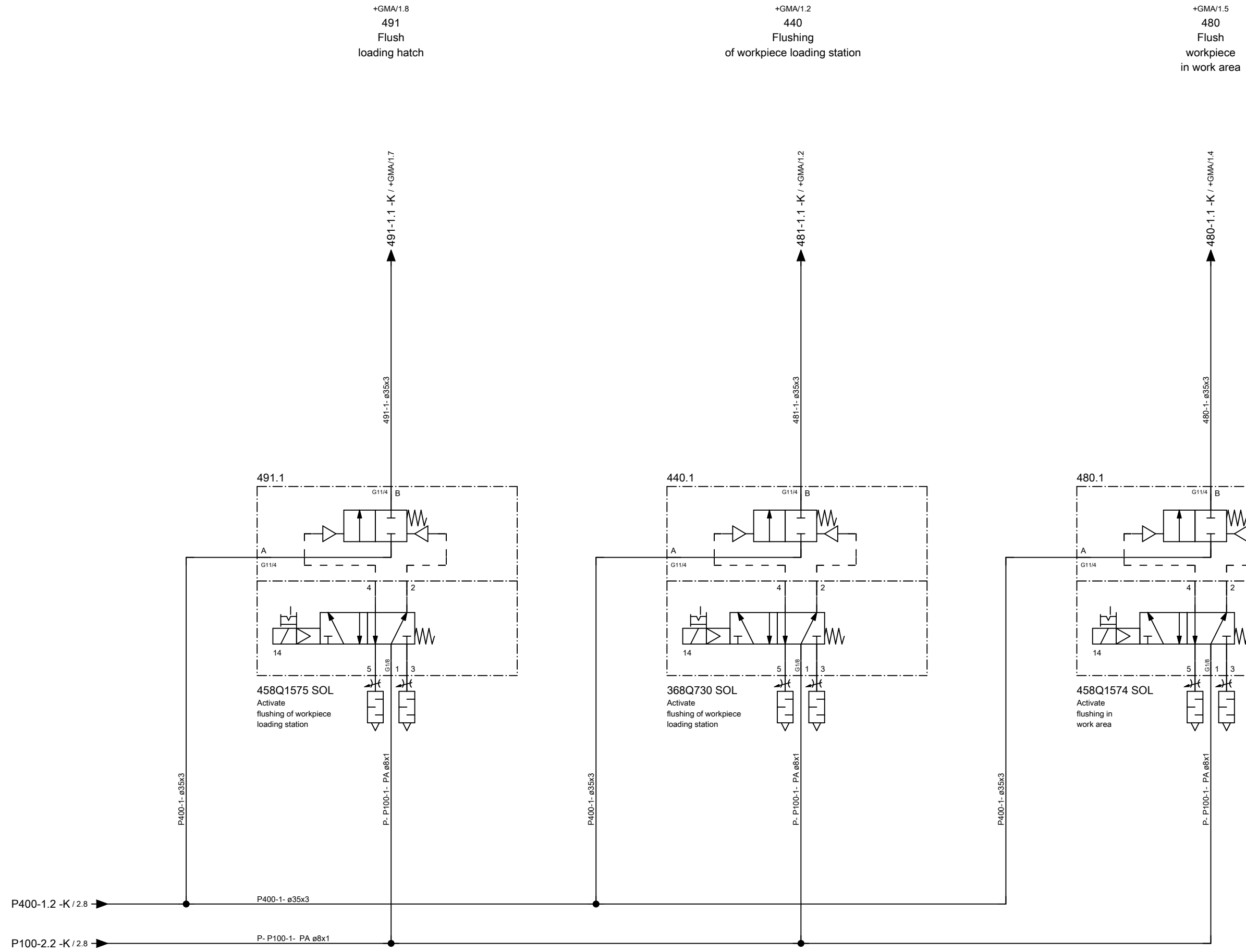


ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO				Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	54807.00	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO	
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ePLAN 2.2.5				ERS./REP.	BEARB./CHG./ALT.	04.04.2017	AHFE/ZAJ	TYP/TYPE/ TIPO	H 10000 MC - A-Axis	coolant diagram	INV-NR/INV-NO/NO-INV	Machine	=M54807
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											Mounting position	+H1 HELP1	
											Page name	2	

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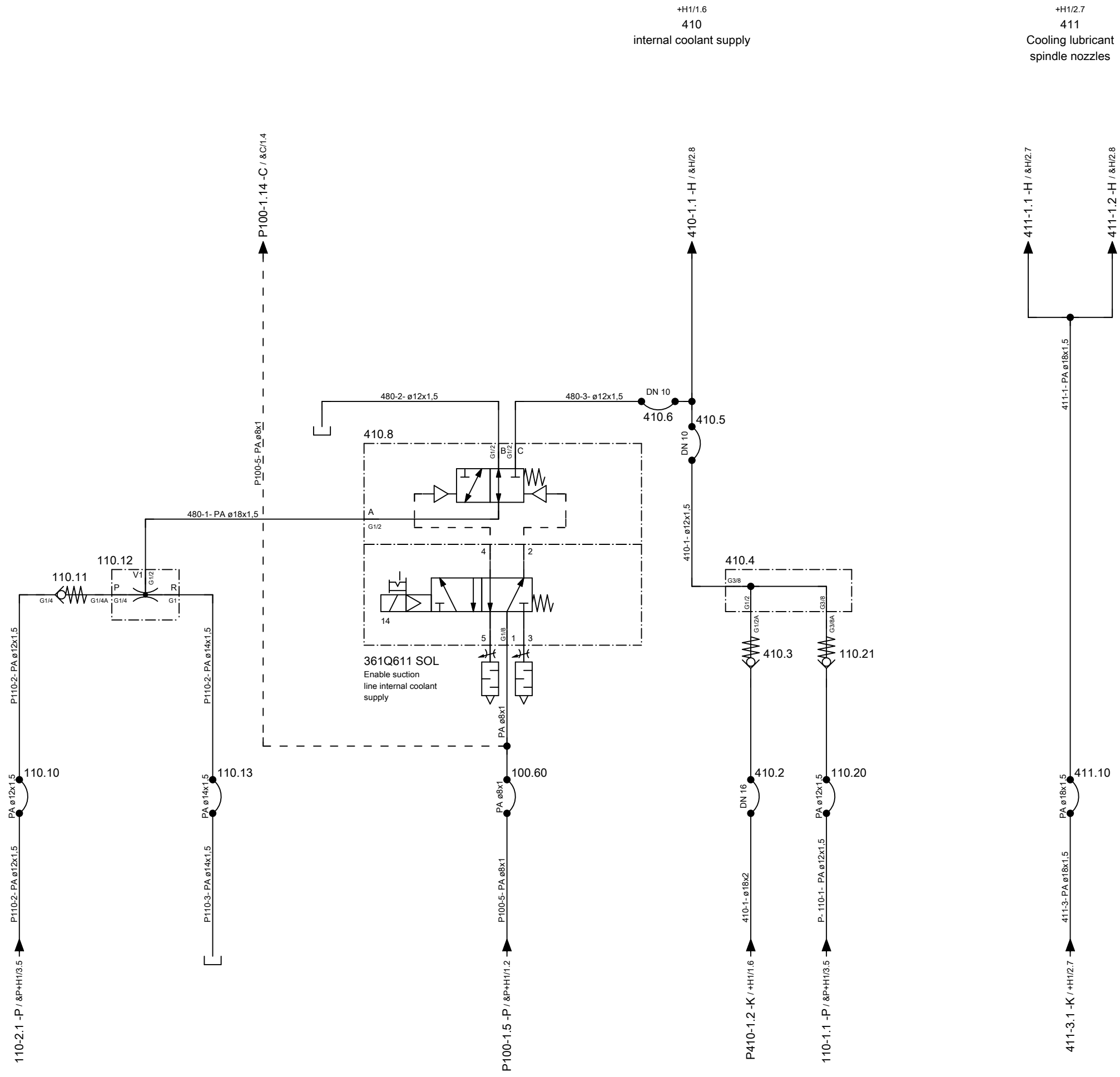
← 2

+MU/1 →

ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
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						WERKSTÜCK/ PART/PEÇA		Mounting position	+H1 HELP1
								Page name	3

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← +H1/3 +GOS/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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								WERKSTÜCK/ PART/PEÇA			Mounting position	+MU unit
											Page name	1

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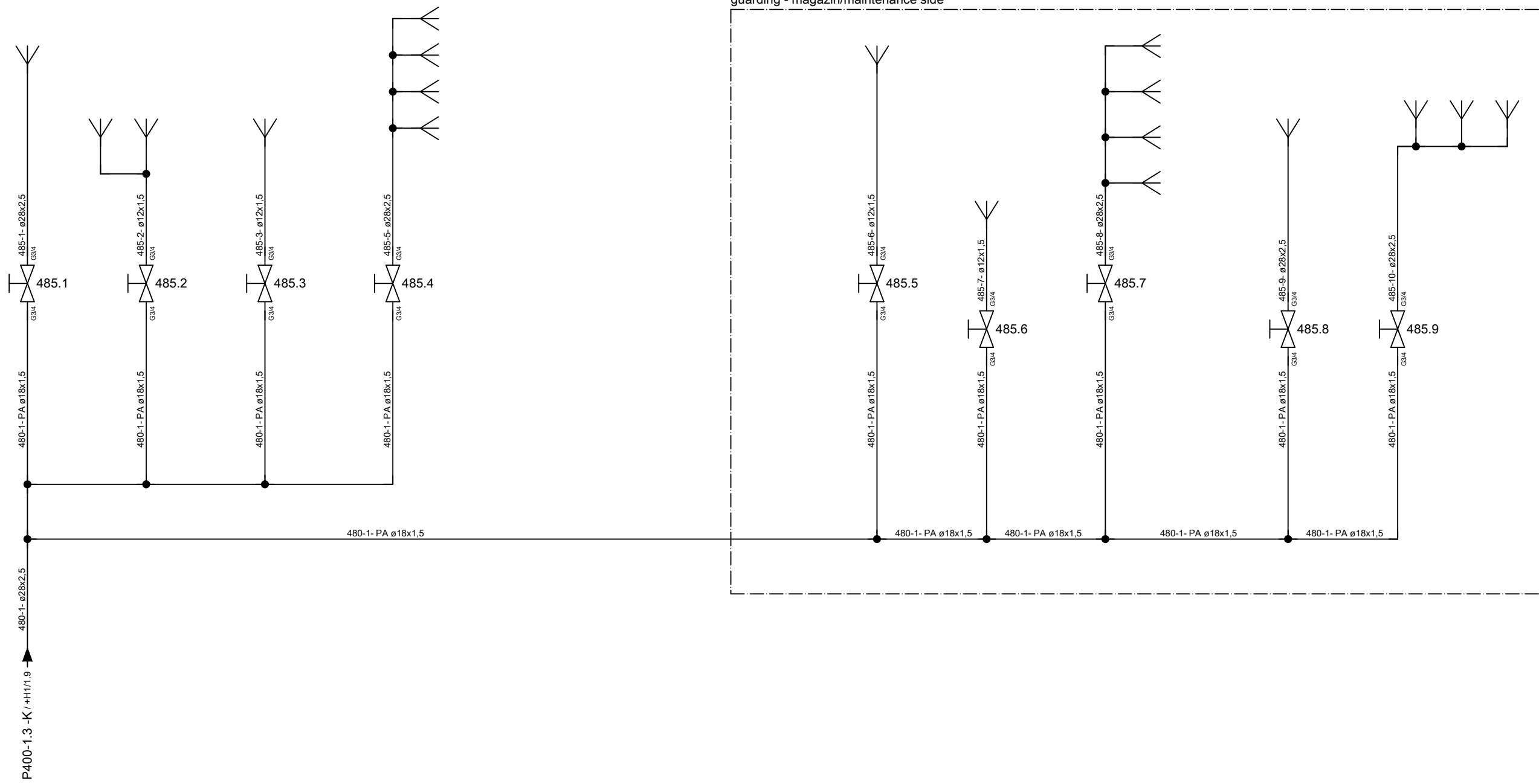
485
machine bed flushing

operating side

Flushing below the Z-cover Flush X-axis Flush Z-Axis bed pan Flush frontside

magazine side

Flush X-axis Flush quard panels X-axis curtain machine bed flushing Flush Z-Axis bed pan Flush frontside z-axis bed



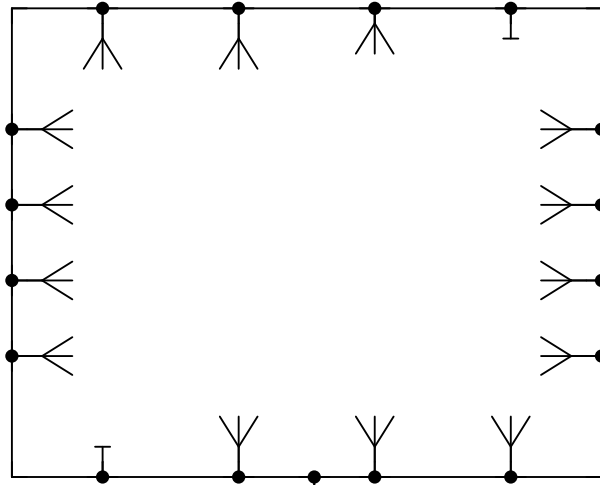
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ART DER AENDERUNG/REVISION/DESCRIÇÃO DE ALTERAÇÃO		Index	ZONE/ZONA	DATUM/DATE	NAME/NOME	PROJ./PROJ/ PROJ.	HELLER	KUNDE/CUSTOMER/CLIENTE	PLAN/PLAN/PLANO
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						WERKSTÜCK/ PART/PEÇA			&K coolant diagram
								Mounting position	+GOS guarding - operating side
								Page name	1

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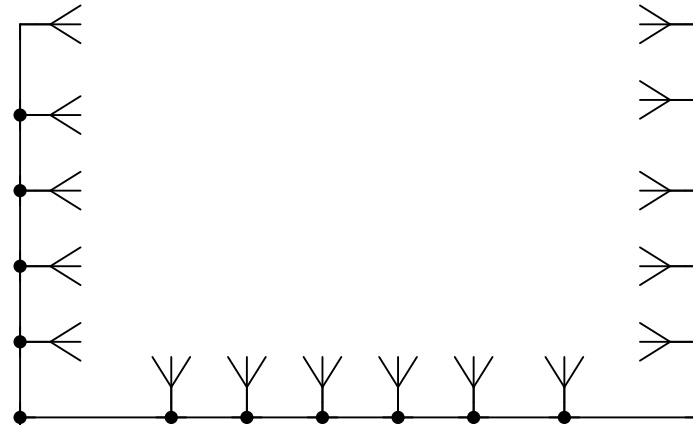
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+H1/3.5
440
Flushing
of workpiece loading station



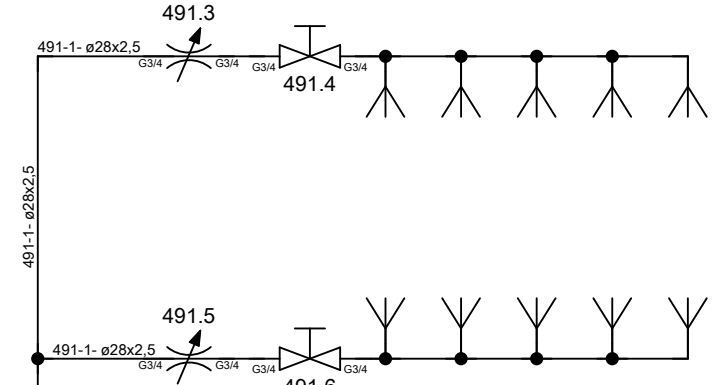
481-1.1 -K / +H1/3.5

+H1/3.7
480
Flush
workpiece
in work area



480-1.1 -K / +H1/3.7

+H1/3.2
491
Flush
loading hatch



491-1.1 -K / +H1/3.2

← +GOS/1

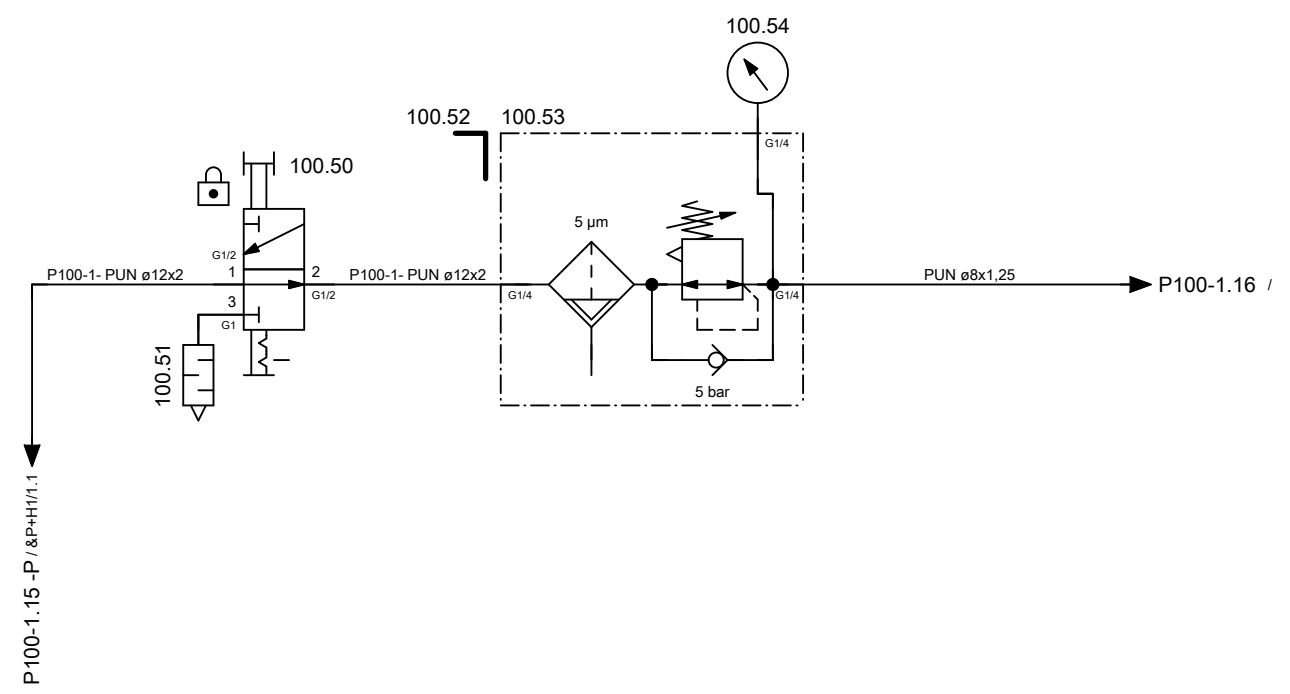
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CAD-System		URSPPR./ORIG.	GEPR./CHECK./REG.			M-NR/M-NO/ M-NO		Paccar, Columbus USA	project
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						WERKSTÜCK/ PART/PEÇA		Mounting position	+GMA guarding - machining area
								Page name	1
									A3

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&P+H1/1.3
100
air supply
recirculating station



← +GMA/1

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											Mounting position	+CC chip conveyor	Page name	1

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