WAKA KOTAHI
NZ TRANSPORT AGENCY

Heavy vehicle specialist certificate

Must be presented to a CoF (heavy) inspecting organisation if not entered into LANDATA

Heavy vehicle specialist inspector's or manufacturing inspecting organisation's name *(PRINT IN CAPS)*: JOHN HIRST

ID: JEH

Plate number *(optional)*:

VIN/~~chassis~~ number: 7A9E25012N2023198

Make: DOMETT

Model *(optional)*: E2501 H

Certification category: HVEK

Component being certified:

- [ ] Chassis
- [ ] Load anchorage
- [ ] Log bolsters
- [ ] Towing connection
- [X] Brakes
- [ ] SRT
- [ ] PSV stability
- [ ] PSV rollover
- [ ] Swept path
- [ ] PBS

Description of work

CERTIFY TO SCHEDULE 5 OF LTR 32015/5: NZ HEAVY VEHICLE BRAKE SPECIFICATION.
CARRY OUT BRAKE CALCULATIONS, INSPECTION AND ECU END OF LINE PROTOCOL.
5AFT LIVESTOCK **RSS ON TYRE:** 215 75 R17.5
FOR SYSTEM ARCHITECTURE, PLEASE REFER TO PDS WORKSHEET & SCHEMATIC.
REASON FOR CERTIFICATION: NEW TRAILER BUILD

Code/standard/rule certified to: LTR 32015/5

Component load rating(s): 32 Tonnes GVM
16 Tonne (Front brake mass)
19 Tonne (Rear brake mass)

General drawing number(s): N/A

Supporting documents

BRAKE RULE CERTIFICATE JH220631
BRAKE CALCULATION # TP52172

Special conditions *(optional)*

WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KM/H

Certification expiry date *(if applicable)*: N/A [UNLESS MODIFIED]

or

Hubodometer reading *(whichever comes first)*:

Declaration

I the undersigned, declare that I am the heavy vehicle specialist inspector identified and I hold a current valid appointment. I certify that the above mentioned vehicle component's design, manufacture and installation, and this certification complies in all respects with the Land Transport Rule: Vehicle Standards Compliance 2002 and my appointment. To the best of my knowledge the information contained in the certificate is true and correct.

Designer's ID *(if different from inspector below)*:

Inspector's signature:

Inspector's name *(PRINT IN CAPS)*: JOHN HIRST

ID number: JEH

Date: 25-Aug-22

Number: 814598

CoF vehicle inspector ID *(if applicable)*:

CoF vehicle inspector signature *(if applicable)*:

Date:

All fields are mandatory unless otherwise stated.

trailer (full, semi-, centre-axle) with air brake system acc. to 71/320/EEC, last amended by 98/12/EC and 2006/96/EC

distribution: DOMETT TRAILERS
7A9E25012N2023198
SODC: JH220631
LT400: 814598

please note!

This brake calculation is made under consideration of
-the legal precriptions mentioned above in the version valid at the time of making the program (V6.18.07.12).
-the functional characteristics of our products as well as the data of the brake out of the test approvals of the axle manufacturers, and
-the other vehicle data included in the brake calculation.
Please check whether these data correspond to the actual vehicle data.
Our conditions of delivery apply (particularly section 9.0).
In any case we commend to do a braking harmonisation!
WABCOBrake V6.18.07.12 db 31.08.2018

vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT STOCK
trailer type : 5-axle-full-trailer
remarks : air / hydraulic / VA suspension
EC w.o.annexVII
WABCO TRAILER - EBS E
TRISTOP 3+4: T.14/24 [***TSE1416HTLD64 ACTUALLY FITTED -SEE PAGE 6 FOR PERFORMANCE DATA***]
215/75 R 17,5 - 235/75 R 17,5

axle 1 + 2 + 3 + 4 + 5 : IMT, WABCO PAN-17, 361-037-08 ECE [40.195.090],

		unladen	laden
total mass	P in kg	10350	35050
axle 1	P1 in kg	2400	8000
axle 2	P2 in kg	2400	8000
axle 3	P3 in kg	1850	6350
axle 4	P4 in kg	1850	6350
axle 5	P5 in kg	1850	6350
wheel base	E in mm	7350 - 7450	
centre of gravity height	h in mm	1466	2255

		axle 1	axle 2	axle 3	axle 4	axle 5
		manually	manually	manually	manually	manually
no. of combined axles		1	1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2	2
The power output corresponds to		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6	BZ 122.1
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor	Meritor
chamber size		20.	20.	T.14/24	T.14/24	14.
lever length	lBh in mm	69	69	69	69	69
brake factor	[-]	17.60	17.60	17.60	17.60	17.60
dyn. rolling radius	rdyn min in mm	373	373	373	373	373
dyn. rolling radius	rdyn max in mm	387	387	387	387	387
threshold torque	Co Nm	4.2	4.2	4.2	4.2	4.2
calculation:						
chamber pressure(rdyn min)pH at z=22,5%	bar	2.6	2.6	2.3	2.3	2.3
chamber pressure(rdyn max)pH at z=22,5%	bar	2.6	2.6	2.3	2.3	2.3
chamber press.(servo)pcha at pm6,5bar	bar	6.7	6.7	5.1	5.1	5.1
piston force ThA at pm6,5bar	N	7810	7810	4886	4886	4886
brake force(rdyn min)T lad. at pm6,5bar	N	51541	51541	32228	32228	32228
brake force(rdyn max)T lad. at pm6,5bar	N	49705	49705	31084	31084	31084
Brake force incl. 1 % rolling resistance proportion	%	22.3	22.3	18.5	18.5	18.5

braking rate z laden 0.581 for rdyn min
z = sum (TR)/PRmax 0.560 for rdyn max

Trailer may only be operated in combination with trucks/tractors with ISO 7638 supply (5 or 7 polar).

brake diagram :

maximum pressure: 8.5 bar

axle 1:
valve 1: 480 207 0.. 0 WABCO or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 20HSCLD65

axle 2:
valve 1: 480 207 0.. 0 WABCO or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 20HSCLD65

axle 3:
valve 1: 480 102 0.. 0 WABCO
EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

axle 4:
valve 1: 480 102 0.. 0 WABCO
EBS trailer modulator

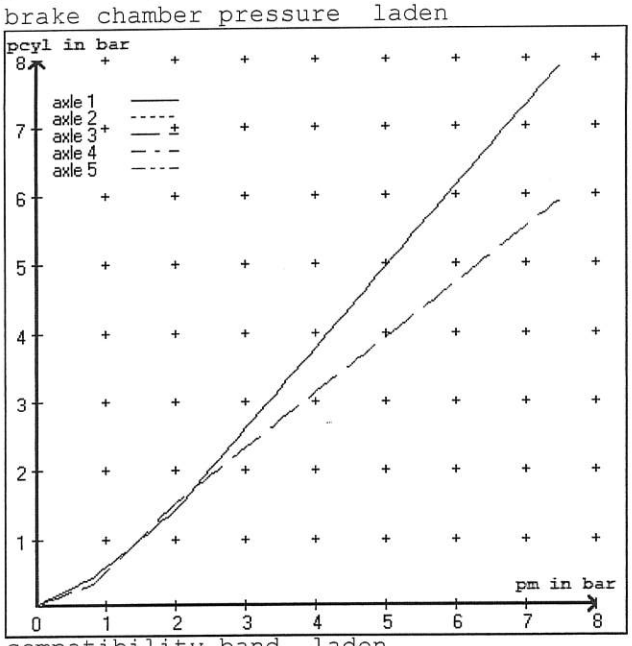
brake cylinder: Meritor 1424HTLD64

axle 5:
valve 1: 480 102 0.. 0 WABCO
EBS trailer modulator

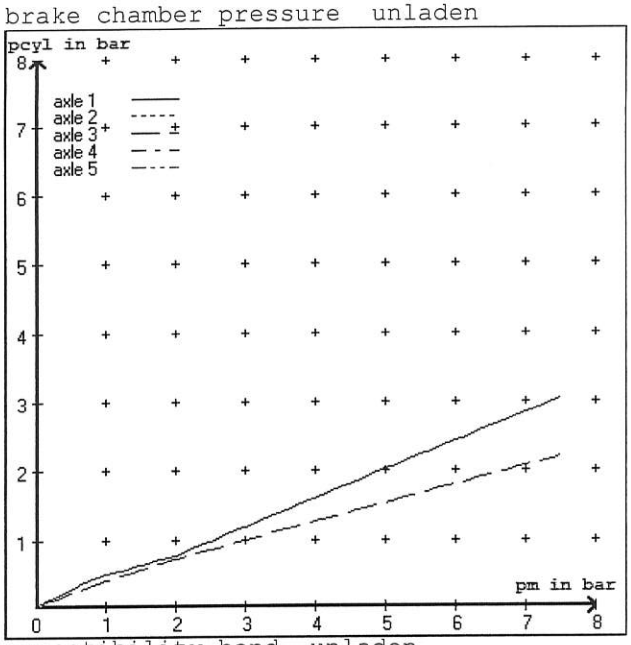
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5
at pm 3.7 bar =>	pcha in bar :	3.4	3.4	2.9	2.9	2.9
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5
at pm 1.3 bar =>	pcha in bar :	0.8	0.8	0.8	0.8	0.8

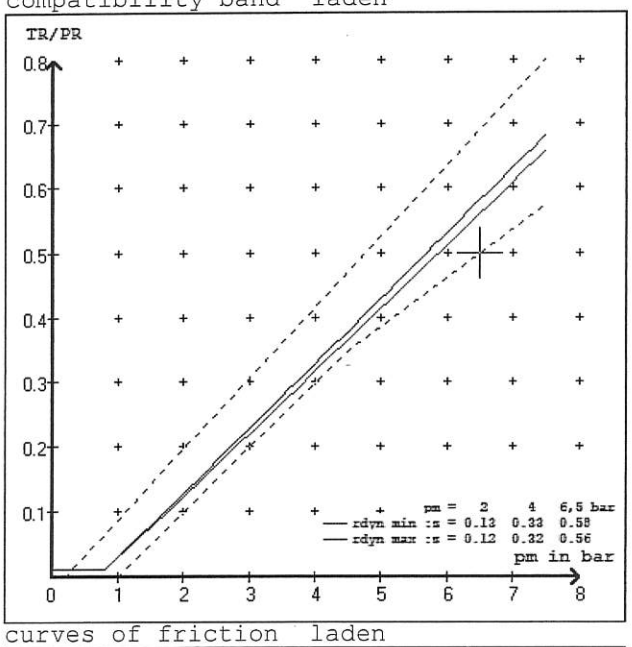
brake chamber pressure laden



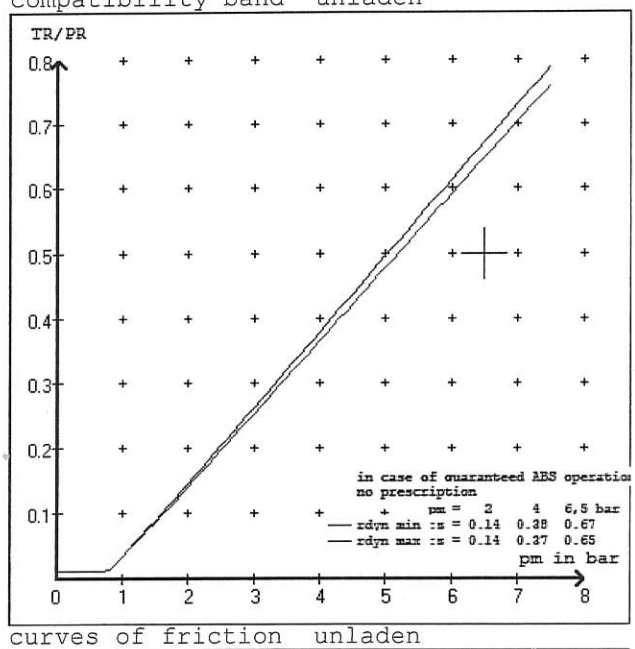
brake chamber pressure unladen



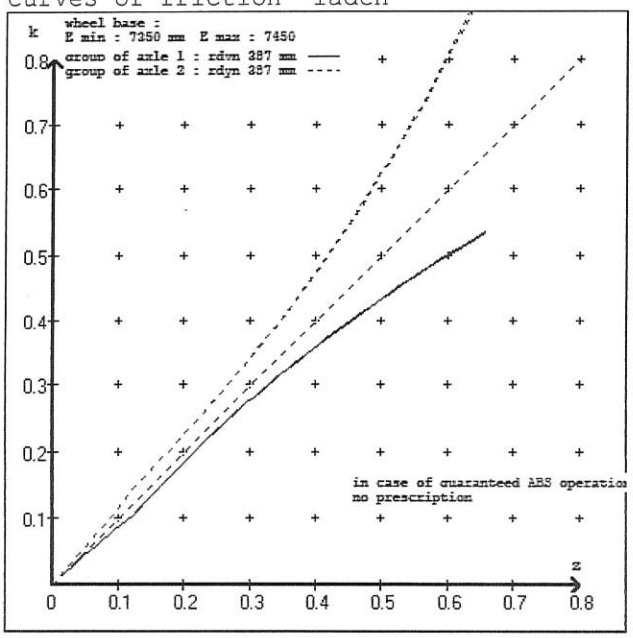
compatibility band laden



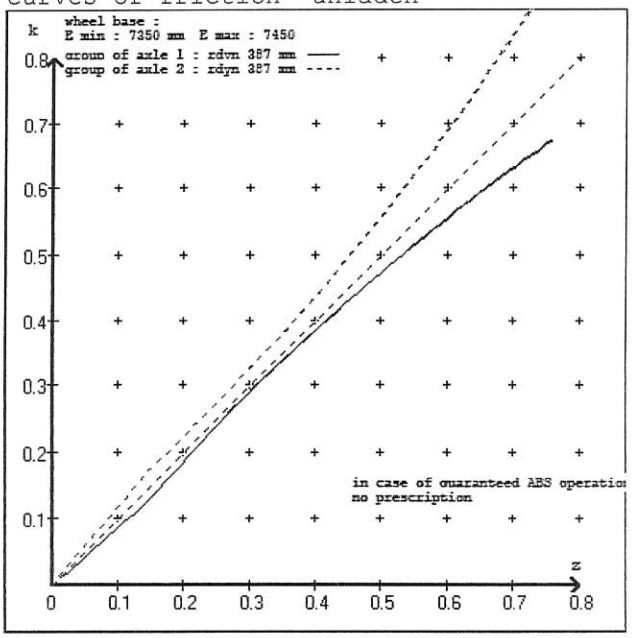
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT STOCK
trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 :	2 x type/diameter	20.	(Meritor)	lever length 69 mm
axle 2 :	2 x type/diameter	20.	(Meritor)	lever length 69 mm
axle 3 :	2 x type/diameter	T.14/24	(Meritor)	lever length 69 mm
axle 4 :	2 x type/diameter	T.14/24	(Meritor)	lever length 69 mm
axle 5 :	2 x type/diameter	14.	(Meritor)	lever length 69 mm

brake diagram :

valve :
480 207 0.. 0 WABCO EBS relay valve or 480 207 2.. 0
480 102 0.. 0 WABCO EBS trailer modulator

EBS input data
==========
vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT STOCK
trailer type : 5-axle-full-trailer
brake calculation no. : TP 52172A

tire circumference main axle : 2425 for rdyn max
tire circumference auxiliary axle : 2425 for rdyn max

assignment pm / deceleration z: pm 0.8 bar z = 0.010
(laden condition) 2.0 bar z = 0.128
6.5 bar z = 0.570

control pressure pm			6,5	control pressure pm		0.8	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	2400	to be entered by the vehicle manufact.	2.6	8000	to be entered by the vehicle manufact.	0.4	1.4	6.7
2	2400		2.6	8000		0.4	1.4	6.7
3	1850		1.9	6350		0.3	1.5	5.1
4	1850		1.9	6350		0.3	1.5	5.1
5	1850		1.9	6350		0.3	1.5	5.1

The unladen values indicated in the above table are values for the basic parameter set. Higher unladen axle loads and liftaxles are automatically recognized and do not require separate adjustment. The above unladen axle loads must not be fallen below.
==========

axle 1		axle 2		axle 3		axle 4		axle 5	
axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl
2400	2.6	2400	2.6	1850	1.9	1850	1.9	1850	1.9
2900	3.0	2900	3.0	2350	2.3	2350	2.3	2350	2.3
3400	3.3	3400	3.3	2850	2.6	2850	2.6	2850	2.6
3900	3.7	3900	3.7	3350	3.0	3350	3.0	3350	3.0
4400	4.1	4400	4.1	3850	3.3	3850	3.3	3850	3.3
4900	4.4	4900	4.4	4350	3.7	4350	3.7	4350	3.7
5400	4.8	5400	4.8	4850	4.0	4850	4.0	4850	4.0
5900	5.2	5900	5.2	5350	4.4	5350	4.4	5350	4.4
8000	6.7	8000	6.7	6350	5.1	6350	5.1	6350	5.1

spring parking brake

		axle 3	axle 4
no of TRISTOP-actuators per axle line	KDZ	2	2
TRISTOP-actuator type		T.14/16	T.14/16
lever length	lBh in mm	69	69
stat. tyre radius	rstat max in mm	376	376
at a stroke of	s in mm	30	30
min. force of spring brake	TFZ in N	6160	6160
sp.brake chamber no Meritor.....		4	4
release pressure	pLs in bar	4.8	4.8

calculation:

ratio until road		3.2485	3.2485
iFb = lBh*Eta*C*rBt/(rBn*rstat)	for rstat in mm	376	376
brake force of spring br. Tf	in N	41855	41855
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			
braking rate	zf laden	0.253	
zf = sum (Tf)/P + 0,01			

Test of the frictional connection required by the parking brake

minimum wheelbase/minimum supporting width min Ef necessary to fulfil the regulations

min Ef = E * (1 - PR/P + zferf * h/E) / (1 - zferf / (fzul * nf/ng))

min Ef = 5677 mm for E = 7350 mm
==========
min Ef = 5746 mm for E = 7450 mm
==========

min Ef =			minimum distance between front axle(s) (trailer) or support (semitrailer) and the rear axle(s) (resultant of the bogie)
E	=		wheel base
fzul	=	0.80	maximum permissible frictional connection required
zferf	=	0.18	maximum required braking ratio of the parking brake
h	=	2255 mm	height of center of gravity - laden
PR	=	19050 kg	maximum bogie mass - laden
P	=	35050 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	3	no. of bogie axle(s)

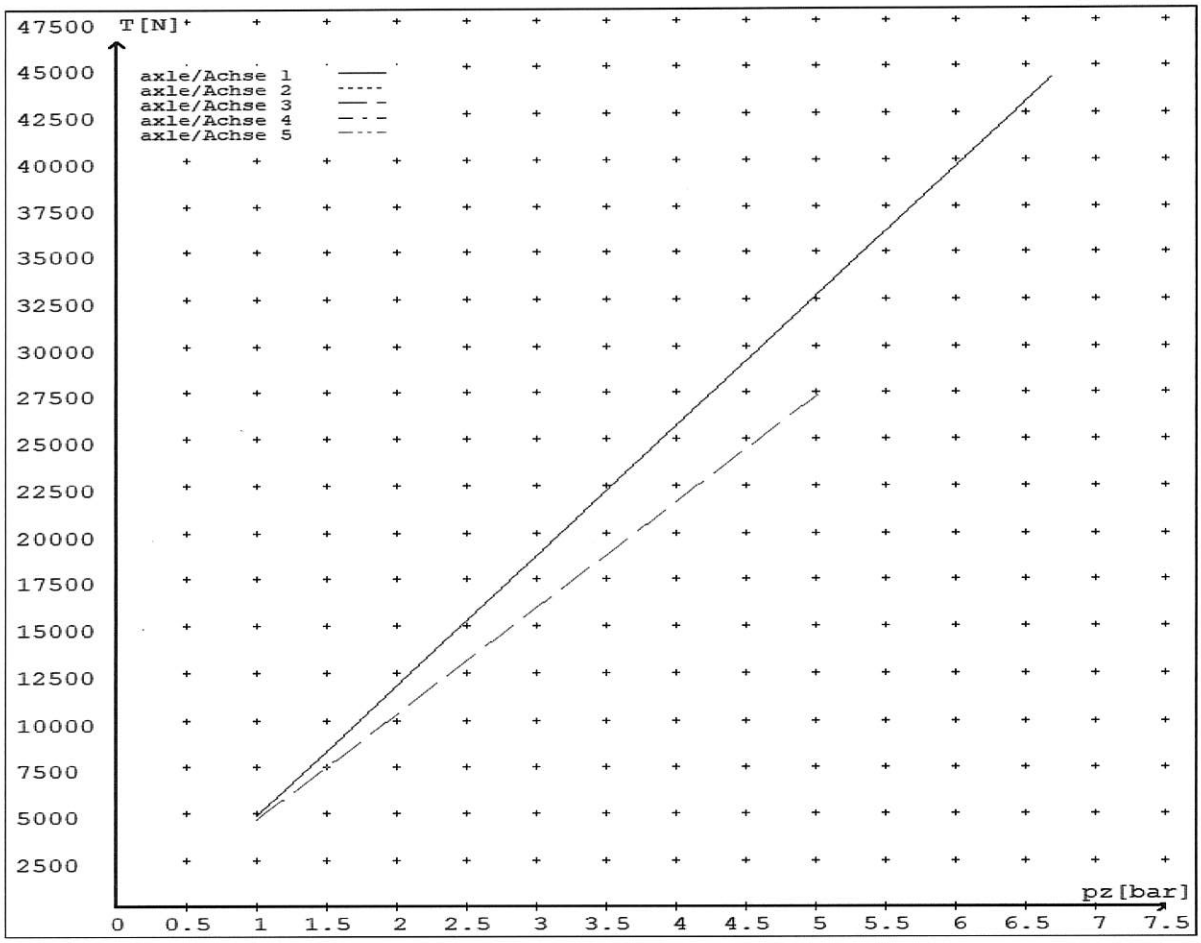
reference values

reference values for z = 50% for max rdyn: 387 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0 6.7	4801 44379	
axle 2	1.0 6.7	4801 44379	
axle 3	1.0 5.1		4600 27754
axle 4	1.0 5.1		4600 27754
axle 5	1.0 5.1		4600 27754

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	65	65	64	64	64
Lever length = ...mm Hebellänge = ...mm	69.4	69.4	69.4	69.4	69.4

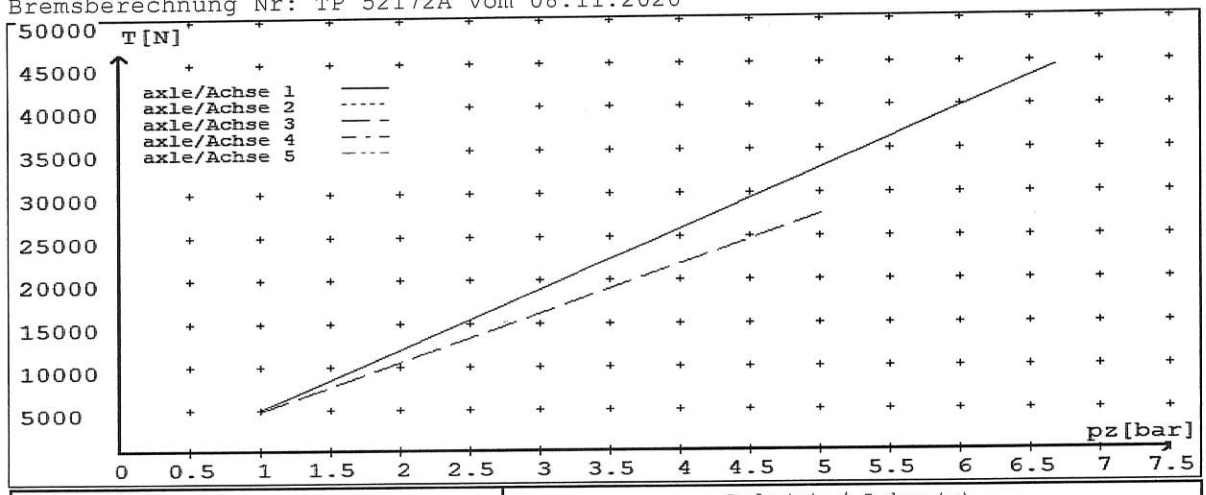


Print on WABCO no. 899 200 922 4 (only possible with laser printers!)

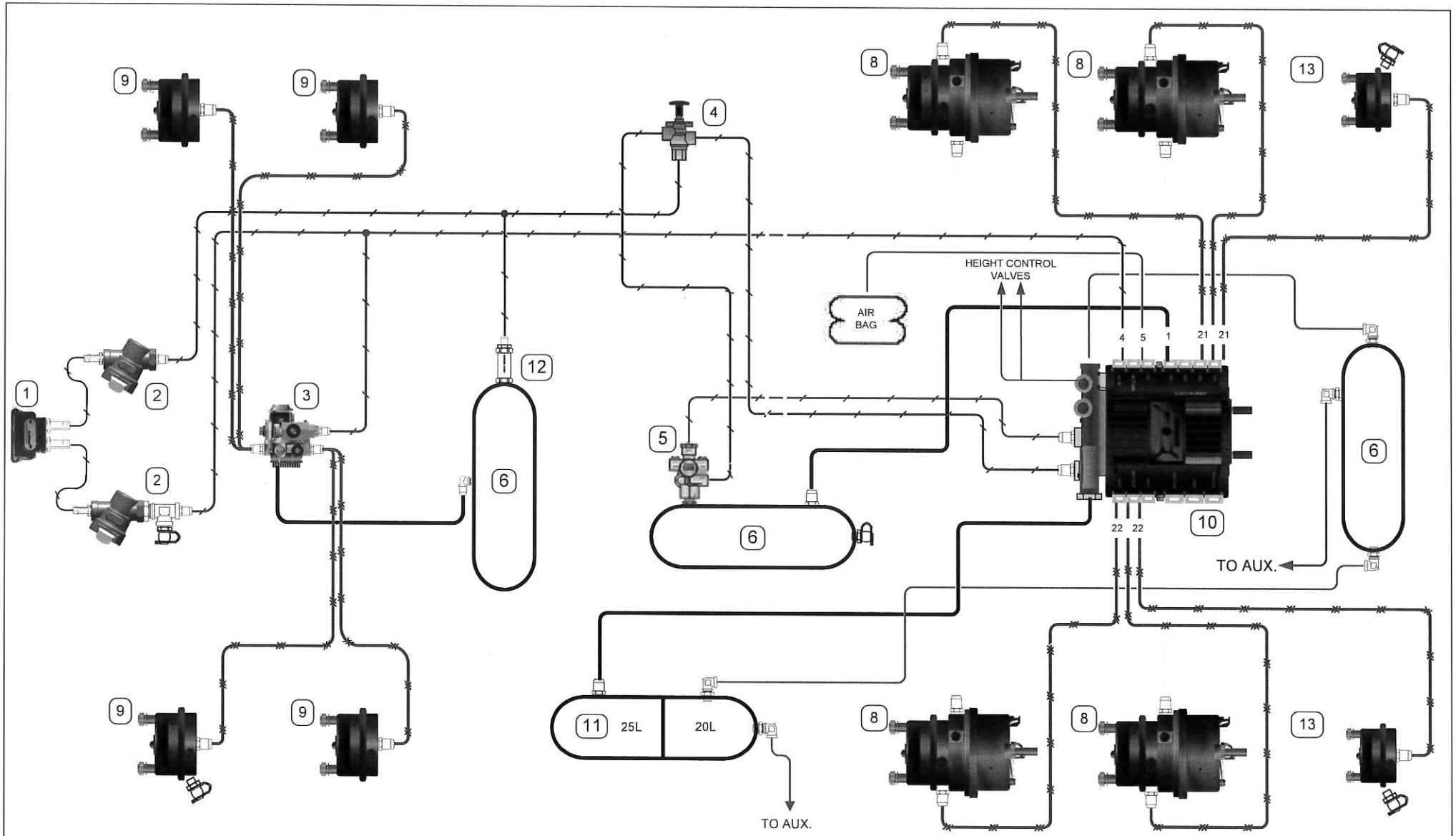
reference values for z = 0.5
Angabe der Referenzwerte für z = 0.5

for max rdyn: 387 mm
für max rdyn: 387 mm

brake calculation no: TP 52172A date 08.11.2020
Bremsberechnung Nr: TP 52172A vom 08.11.2020



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	65	65	64	64	64
Lever length = ...mm Hebellänge = ...mm	69.4	69.4	69.4	69.4	69.4



DOMETT TRAILERS

Transpecs

5AFT LIVESTOCK
7A9E25012N2023198

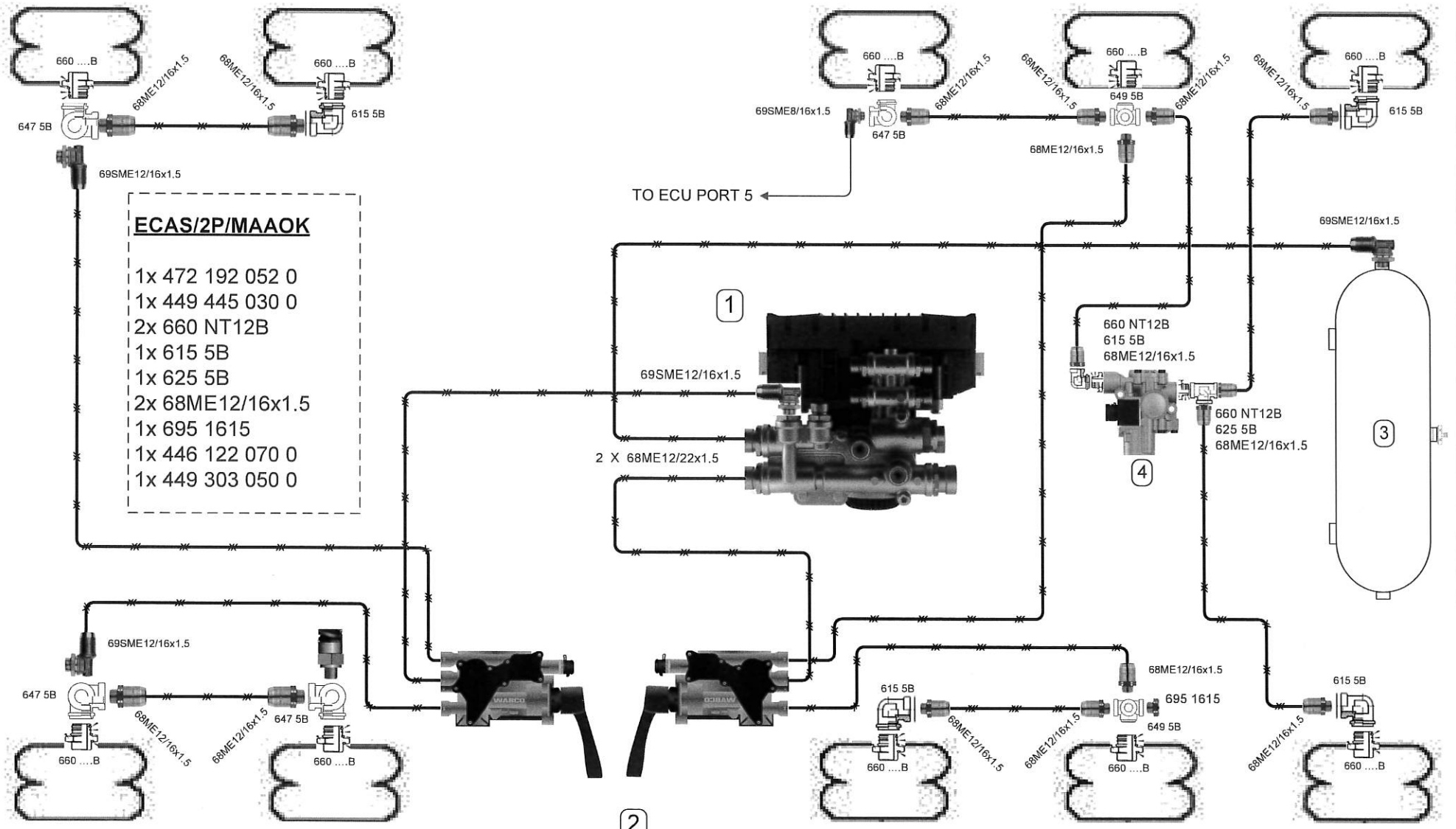
WABCO

SIZE	SPEC REFERANCE		REV
A4	2198	SERVICE BRAKE LINES	1
SCALE			

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	452 804 001 0	WABCO DUOMATIC
2	2	432 500 020 0	WABCO LINE FILTER
3	1	480 207 202 0	WABCO EBS 3RD MODULATOR
4	1	17600B	SEALCO YARD RELEASE
5	1	110701	SEALCO S.B.C.V.
6	3	9TA3104600	46 LTR AIR TANK
8	4	1416HTLD64	TSE BRAKE CHAMBERS

ITEM	QTY.	PART NO.	DESCRIPTION
9	4	20HSCLD65	TSE BRAKE CHAMBERS
10	1	480 102 08. 0	WABCO EBS ECU
11	1	9TA31045XX	20/25L AIR TANK
12	1	434 014 000 0	WABCO CHECK VALVE
13	2	14HSCLD64	TSE BRAKE CHAMBER

PIPING LEGEND:	
	3/8" Rubber
	3/8" Rubber
	1/2" Rubber
	15mm Nylon
	12mm Nylon
	8mm Nylon
	8mm Nylon
	8mm Nylon



ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480 102 084 0	WABCO TEBS E (IN BRAKE KIT)				
2	2	463 090 500 0	e-TASC VALVE				
3	1		AIR TANK				
4	1	472 195 052 0	TAG AXLE VALVE				

PIPING LEGEND:
- 3/8" Rubber
- 3/8" Rubber
- 12mm Nylon
- 15mm Nylon
- 12mm Nylon
- 8mm Nylon
- 8mm Nylon
- 8mm Nylon

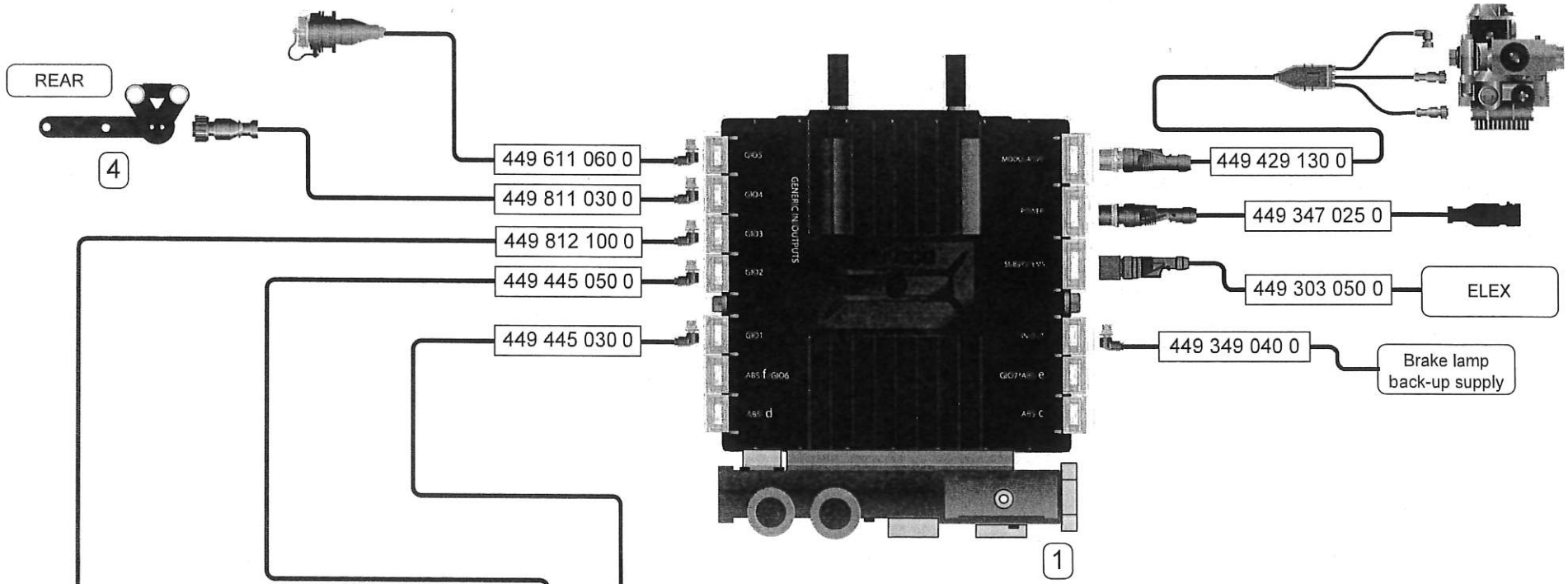
Transpecs

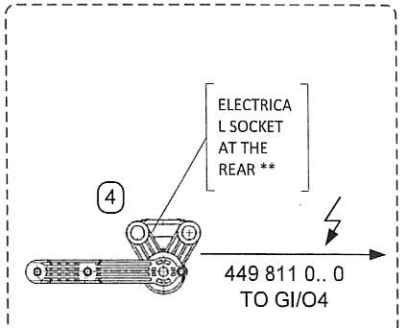
eTASC 2 Point control with manoeuvre assist 'Add-on' kit

WABCO

ITEM	SYSTEM	ASSY/KIT NUMBER	DATE
		ECAS/2P/MAAOK	30.05.2022

PAGE NO: 1/3 | J HIRST | E & OE





** The height sensor must be installed with the mounting bolts at the top.

Transpecs

eTASC 2 Point control with manoeuvre assist 'Add-on' kit

ITEM	DRAWING NUMBER	ASSY/KIT NUMBER	DATE
		ECAS/2P/MAAOK	30.06.2022

PAGE NO 2/3 | J HIRST | E & OE

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480 102 084 0	WABCO TEBS E (PREMIUM)
2	1	463 090 500 0	eTASC
3	1	472 195 052 0	TAG AXLE VALVE
4	1	441 050 100 0	ECAS DISTANCE SENSOR
5	1	441 044 101 0	AIR BAG PRESSURE SENSOR

WABCO