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Foreign Administration

International Ferry Vehicles

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Part One

Diagram Book No. 340

DIRECTOR T&RS (RFD)
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BUDAPEST LOCAL RAILWAYS (BHEV)

Country 44

VANS

Exchange Condition 21

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IME 420	35t GLW INSULATED VAN	21 44 2197 001-008, 010, 011, 013-026
IME 636	35t GLW INSULATED VAN	21 44 2197 000, 009, 012

CZECHOSLOVAK STATE RAILWAYS (CSD)

Country 54

VANS

Exchange Condition 21

Diagram

Description

Vehicle Numbers

ILE 353

40t GLW 2 AXLE VAN

21 54 2380 000-062, 064-099

HUNGARIAN STATE RAILWAYS (MAV)

Country 55

VANS

Exchange Condition 01

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IIE 183	36t GLW REFRIGERATOR VAN	01 55 8480 000, 006-098
IIE 620	36t GLW REFRIGERATOR VAN	01 55 8480 001-005
IIE 621	36t GLW REFRIGERATOR VAN	01 55 8580 000, 006-99
IIE 622	36t GLW REFRIGERATOR VAN	01 55 8580 001-005

SPANISH NATIONAL RAILWAYS (RENFE)Country 71

VANS

Exchange Condition 24

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
ITE 575	40t GLW 2 AXLE VAN	24 71 2396 000-199
ITE 584	40t GLW 2 AXLE VAN	24 71 2396 200-304
ITE 673	40t GLW 2 AXLE VAN	24 71 2380 000

YUGOSLAV RAILWAYS (JZ)Country 72

VANS

Exchange Condition 21

DiagramDescriptionVehicle Numbers

IME 199

36t GLW 2 AXLE VAN

21 72 2191 000-099

ILE 415

35.5t GLW 2 AXLE VAN

21 72 2390 000-064

SWEDISH STATE RAILWAYS (SJ)

Country 74

VANS

Exchange Condition 23

Diagram

Description

Vehicle Numbers

IZE 763

80t GLW 2x2 AXLE VAN

23 74 2792 000

GERMAN FEDERAL RAILWAY (DB)

Country 80

ATOMIC FLASK WAGON

Exchange Condition 33

DiagramDescriptionVehicle Numbers

IQE 697

128t GLW ATOMIC FLASK WAGON

33 80 9987 000, 001

GERMAN FEDERAL RAILWAY (DB)

Country 80

COIL CARRIERS

Exchange Condition 33

Diagram

Description

Vehicle Numbers

IHE 587

90t GLW TELESCOPIC HOOD COIL CARRIER

33 80 4667 00-049

GERMAN FEDERAL RAILWAY (DB)Country 80

COIL CARRIERS

Exchange Conditions 33, 83

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IGE 502	80t GLW BOGIE FLAT	33 80 4742 000-049
IGE 557	80t GLW BOGIE FLAT	33 80 4647 000-049
IGE 670	90t GLW BOGIE FLAT	33 80 4736 000-049
IGE 726	90t GLW BOGIE FLAT	83 80 4736 100-103, 105-149

GERMAN FEDERAL RAILWAY (DB)Country 80

OPEN WAGONS

Exchange Condition 21

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IFE 259	40t GLW 2 AXLE OPEN	21 80 4142 049, 098, 120
IFE 568	40t GLW 2 AXLE LOWSIDE OPEN	21 80 4142 001, 008, 010-013, 015-019, 024

GERMAN FEDERAL RAILWAY (DB)

Country 80

TANKS

Exchange Conditions 23, 24

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 008	33t GLW 2 AXLE TANK	23 80 7490 000
IBE 091	40t GLW 2 AXLE TANK	24 80 7390 400
IBE 110	40t GLW 2 AXLE TANK	23 80 7391 701
IBE 112	40t GLW 2 AXLE TANK	23 80 7398 600
IBE 141	33t GLW 2 AXLE TANK	23 80 7191 701, 702 23 80 7391 718-720
IBE 154	31t GLW 2 AXLE TANK	23 80 7190 008
IBE 217	26t GLW 2 AXLE TANK	23 80 7395 002, 003, 005
IBE 224	37t GLW 2 AXLE TANK	23 80 7395 000, 001
IBE 243	33t GLW 2 AXLE TANK	23 80 7491 401
IBE 273	40t GLW 2 AXLE TANK	23 80 7391 000-004 23 80 7398 001-005
IBE 274	40t GLW 2 AXLE TANK	23 80 7391 400

GERMAN FEDERAL RAILWAY (DB)

Country 80

TANKS (Continued)

Exchange Condition 23

IBE 281	40t GLW 2 AXLE TANK	23 80 7398 006, 007
IBE 289	40t GLW 2 AXLE TANK	23 80 7390 405
IBE 302	40t GLW 2 AXLE TANK	23 80 7391 016
IBE 307	40t GLW 2 AXLE TANK	23 80 7394 000
IBE 317	40t GLW 2 AXLE TANK	23 80 7391 708-710
IBE 319	40t GLW 2 AXLE TANK	23 80 7398 603 23 80 7391 711-715, 717
IBE 321	40t GLW 2 AXLE TANK	23 80 7391 012, 013
IBE 323	40t GLW 2 AXLE TANK	23 80 7390 406, 407
IBE 336	40t GLW 2 AXLE TANK	23 80 7391 703-707 23 80 7398 401-405
IBE 340	40t GLW 2 AXLE TANK	23 80 7390 408-416
IBE 350	34.5t GLW 2 AXLE TANK	23 80 7492 001
IBE 355	40t GLW 2 AXLE TANK	23 80 7391 017-023 23 80 7491 000-012

GERMAN FEDERAL RAILWAY (DB)

Country 80

TANKS (Continued)

Exchange Conditions 23, 33

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 356	40t GLW 2 AXLE TANK	23 80 7391 024, 025
IBE 371	40t GLW 2 AXLE TANK	23 80 7398 400
IBE 372	40t GLW 2 AXLE TANK	23 80 7391 026-034
IBE 374	40t GLW 2 AXLE TANK	23 80 7390 035-037, 039-042, 044, 045
IBE 376	36t GLW 2 AXLE TANK	23 80 7187 000
IBE 378	40t GLW 2 AXLE TANK	23 80 7391 046
IBE 447	40t GLW 2 AXLE TANK	23 80 7391 047, 048
IBE 451	40t GLW 2 AXLE TANK	23 80 7398 027-036
IBE 463	40t GLW 2 AXLE TANK	23 80 7398 037-046
ICE 467	80t GLW BOGIE TANK	33 80 7892 000-010, 013, 036 33 80 7894 011-019

GERMAN FEDERAL RAILWAY (DB)

Country 80

TANKS (Continued)

Exchange Conditions 23, 24, 33

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 469	40t GLW 2 AXLE TANK	23 80 7391 053-056
ICE 472	80t GLW BOGIE TANK	33 80 7995 000-002
IBE 489	40t GLW 2 AXLE TANK	23 80 7391 057
IBE 500	40t GLW 2 AXLE TANK	23 80 7398 054-062
ICE 508	80t GLW BOGIE TANK	33 80 7895 010-012
IBE 509	40t GLW 2 AXLE TANK	23 80 7394 010-018
ICE 511	80t GLW BOGIE TANK	33 80 7995 003-012
ICE 519	80t GLW BOGIE TANK	33 80 7998 000-004
ICE 524	80t GLW BOGIE TANK	33 80 7995 500-515
ICE 527	80t GLW BOGIE TANK	33 80 7891 002, 003
ICE 534	80t GLW BOGIE TANK	33 80 7794 000-004
IBE 547	40t GLW 2 AXLE TANK	23 80 7398 066

GERMAN FEDERAL RAILWAY (DB)

Country 80

TANKS (Continued)

Exchange Conditions 23, 24, 33, 34

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
ICE 548	80t GLW BOGIE TANK	33 80 7998 900-904
IBE 558	40t GLW 2 AXLE TANK	24 80 7479 000-009
IBE 563	40t GLW 2 AXLE TANK	23 80 7391 058, 059
IBE 564	40t GLW 2 AXLE TANK	24 80 7495 000-099
IBE 571	40t GLW 2 AXLE TANK	24 80 7393 000, 001, 003-007, 009
IBE 572	40t GLW 2 AXLE TANK	23 80 7398 077
IBE 577	40t GLW 2 AXLE TANK	23 80 7491 013
ICE 579	90t GLW BOGIE TANK	34 80 7897 000-019
IBE 580	40t GLW 2 AXLE TANK	23 80 7495 010-019
ICE 588	40t GLW 2 AXLE TANK	23 80 7391 070
IBE 594	40t GLW 2 AXLE TANK	23 80 7392 001, 002
IBE 600	33t GLW 2 AXLE TANK	23 80 7490 002

GERMAN FEDERAL RAILWAY (DB)

Country 80

TANKS (Continued)

Exchange Conditions 23, 33

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 626	40t GLW 2 AXLE TANK	23 80 7088 517
IBE 630	40t GLW 2 AXLE TANK	23 80 7391 005, 007, 008, 010, 011
IBE 633	40t GLW 2 AXLE TANK	23 80 7394 002, 004-009
IBE 634	40t GLW 2 AXLE TANK	23 80 7498 000-003
IBE 641	40t GLW 2 AXLE TANK	23 80 7398 016, 018-024
IBE 647	32t GLW 2 AXLE TANK	23 80 7277 010
IBE 650	32t GLW 2 AXLE TANK	23 80 7193 007, 009
ICE 674	90t GLW BOGIE TANK	33 80 7793 000-003, 005, 007, 009-012, 014-019
ICE 676	80t GLW BOGIE TANK	34 80 7899 000, 001, 003-009
ICE 679	90t GLW BOGIE TANK	33 80 7794 027-030, 035, 036
ICE 681	80t GLW BOGIE TANK	33 80 7794 015, 016

GERMAN FEDERAL RAILWAY (DB)

Country 80

TANKS (Continued)

Exchange Condition 23, 33

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 687	45t GLW 2 AXLE TANK	23 80 7495 020, 022
ICE 709	80t GLW BOGIE TANK	33 80 7934 003
ICE 711	80t GLW BOGIE TANK	33 80 7934 006
ICE 712	80t GLW BOGIE TANK	33 80 7934 400, 402, 403
ICE 713	80t GLW BOGIE TANK	33 80 7934 000
ICE 714	80t GLW BOGIE TANK	33 80 7934 401
ICE 716	80t GLW BOGIE TANK	33 80 7934 404
ICE 717	80t GLW BOGIE TANK	33 80 7934 007
ICE 718	80t GLW BOGIE TANK	33 80 7996 001-010
ICE 730	80t GLW BOGIE TANK	33 80 7891 205- 207
IBE 731	40t GLW 2 AXLE TANK	23 80 7391 009
ICE 748	80t GLW BOGIE TANK	33 80 7894 020-030
ICE 777	80t GLW BOGIE TANK	33 80 7894 031-057

GERMAN FEDERAL RAILWAY (DB)

Country 80

VANS

Exchange Conditions 21, 23, 24, 33

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IME 006	39t GLW 2 AXLE VAN	21 80 2140 131, 140
IME 227	40t GLW 2 AXLE VAN	21 80 0795 089 21 80 5795 004, 006, 014, 061, 085, 093
IWE 471	80t GLW BOGIE VAN	33 80 2796 000-013, 015-090, 092-139
IWE 476	80t GLW BOGIE VAN	33 80 2797 500-579
IWE 481	80t GLW BOGIE VAN	33 80 2797 000-031, 033-138, 140-170, 172-211
IWE 512	80t GLW BOGIE VAN	33 80 2797 580-633, 650-699
IVE 514	45t GLW 2 AXLE VAN	23 80 2398 502-647 23 80 2493 000, 001
IWE 551	80t GLW BOGIE VAN	33 80 2797 700-734 33 80 2798 000-014
ITE 552	40t GLW 2 AXLE VAN	24 80 2398 000-099

GERMAN FEDERAL RAILWAY (DB)

Country 80

VANS (Continued)

Exchange Conditions 21, 23, 33, 34, 83

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IWE 576	90t GLW BOGIE VAN	33 80 4741 000
IWE 593	90t GLW BOGIE VAN	33 80 2693 000-049
IME 655	39t GLW 2 AXLE VAN	21 80 2140 008, 148
IVE 663	45t GLW 2 AXLE VAN	23 80 2492 000, 001
IZE 668	90t GLW 2x2 AXLE VAN	23 80 2929 000-099
IWE 690	90t GLW BOGIE VAN	83 80 4741 001-110, 148-159
IWE 701	90t GLW BOGIE VAN	34 80 2693 050
IZE 710	90t GLW 2x2 AXLE VAN	23 80 2929 100-149
IWE 741	90t GLW BOGIE VAN	83 80 4741 111-147
IWE 742	90t GLW BOGIE VAN	83 80 4741 161
IZE 753	90t GLW 2x2 AXLE VAN	23 80 2929 150-199

ITALIAN STATE RAILWAYS (FS)

Country 83

TANKS

Exchange Condition 23

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 142	36t GLW 2 AXLE TANK	23 83 7197 016, 017
IBE 170	35t GLW 2 AXLE TANK	23 83 7197 008-015
IBE 177	36t GLW 2 AXLE TANK	23 83 7190 003-007
IBE 220	36t GLW 2 AXLE TANK	23 83 7190 000, 23 83 7197 018, 019
IBE 221	36t GLW 2 AXLE TANK	23 83 7190 001, 002 23 83 7197 020, 021
IBE 225	40t GLW 2 AXLE TANK	23 83 7197 022, 023
IBE 263	40t GLW 2 AXLE TANK	23 83 7197 000-007
IBE 470	40t GLW 2 AXLE TANK	23 83 7190 008-031
IBE 623	40t GLW 2 AXLE TANK	23 83 7197 024-027

ITALIAN STATE RAILWAYS (FS)

Country 83

VANS

Exchange Conditions 01, 03, 04, 06, 11, 31

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IIE 331	36t GLW 2 AXLE REFRIGERATOR VAN	01 83 8092 510, 531
IIE 348	40t GLW 2 AXLE REFRIGERATOR VAN	04 83 8092 430-456, 458-476, 478-484
IIE 375	40t GLW 2 AXLE REFRIGERATOR VAN	03 83 8089 000-979 (RANGE) 03 83 8087 205 11 83 0887 138
IIE 417	40t GLW 2 AXLE REFRIGERATOR VAN	06 83 8083 741-750
IIE 418	40t GLW 2 AXLE REFRIGERATOR VAN	06 83 8083 700-740
IIE 430	40t GLW 2 AXLE REFRIGERATOR VAN	04 83 8083 001-004
IIE 450	40t GLW 2 AXLE REFRIGERATOR VAN	03 83 8088 997
IIE 452	36t GLW 2 AXLE REFRIGERATOR VAN	04 83 8091 000
IME 553	80t GLW BOGIE VAN	31 83 2795 001-200 31 83 2797 001, 032, 160, 183
IIE 590	40t GLW 2 AXLE REFRIGERATOR VAN	04 83 8088 000-049 (RANGE)

ITALIAN STATE RAILWAYS (FS)

Country 83

VANS (Continued)

Exchange Conditions 04, 21

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IIE 591	40t GLW 2 AXLE REFRIGERATOR VAN	04 83 8087 000-029
ILE 651	40t GLW 2 AXLE VAN	21 83 2382 000-299 (RANGE)
ILE 652	40t GLW 2 AXLE VAN	21 83 2382 300-614, 616-661, 663-699
ILE 653	40t GLW 2 AXLE VAN	21 83 2388 000-049
ILE 654	40t GLW 2 AXLE VAN	21 83 2382 701-703, 705-749
ILE 785	40t GLW 2 AXLE VAN	21 83 2382 160, 260
ILE 787	40t GLW 2 AXLE VAN	21 83 2382 700, 704
ILE 788	40t GLW 2 AXLE VAN	21 83 2382 237
IIE 806	40t GLW 2 AXLE REFRIGERATOR VAN	04 83 8092 201-429 (RANGE)

SWISS FEDERAL RAILWAYS (CFF)

Country 85

VANS

Exchange Conditions 23, 33

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 366	36t GLW 2 AXLE TANK	23 85 7492 200, 201, 700
IBE 488	40t GLW 2 AXLE TANK	23 85 7397 750, 751
IBE 493	40t GLW 2 AXLE TANK	23 85 7398 500-521
IBE 499	40t GLW 2 AXLE TANK	23 85 7390 500-541, 543-547, 549-560
ICE 532	80t GLW BOGIE TANK	33 85 7995 500-505

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

ATOMIC FLASK WAGON

Exchange Condition 33

Diagram

Description

Vehicle Numbers

IQE 475

152.5t GLW ATOMIC FLASK WAGON

33 87 9985 000-007

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

CAR CARRIERS

Exchange Condition 23

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IPE 695	2 AXLE DOUBLE DECK CAR CARRIER	23 87 4176 000-099
IPE 720	2 AXLE DOUBLE DECK CAR CARRIER	23 87 4177 000-007, 009-019
IPE 747	2 x 2 AXLE DOUBLE DECK CAR CARRIER	23 87 4371 260-409
IPE 791	2 x 2 AXLE DOUBLE DECK CAR CARRIER	23 87 4392 500, 501
IPE 792	2 x 2 AXLE DOUBLE DECK CAR CARRIER	23 87 4392 502-619 (RANGE)
IPE 798	4 x 2 AXLE DOUBLE DECK CAR CARRIER	23 87 4373 000
IPE 799	2 x 2 AXLE DOUBLE DECK CAR CARRIER	23 87 4392 570, 571

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

COIL CARRIERS

Exchange Condition 31

Diagram

Description

Vehicle Numbers

IHE 796

80t GLW COIL CARRIER

31 87 4667 000-033, 035-099

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

FLATS

Exchange Conditions 43, 33, 83, 23

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
ITE 537	40t GLW CAISSE MOBILE (SWAP BODY) FLAT	43 87 9195 000
ITE 542	40t GLW CAISSE MOBILE (SWAP BODY) FLAT	43 87 9196 000-019
ITE 543	40t GLW CAISSE MOBILE (SWAP BODY) FLAT	43 87 9196 020-024
IUE 545	80t GLW 'DEBACH VIT' CURTAIN-SIDED WAGON	33 87 4746 020-034, 036-049 83 87 4739 020-024
IEE 573	30t GLW CONTAINER FLAT	23 87 4443 000
IGE 598	84t GLW EASILOADER	33 87 4729 000-011
IUE 672	84t GLW EASILOADER	33 87 4746 012, 016-019
IUE 691	90t GLW EASILOADER	33 87 4741 000
IUE 694	90t GLW HOODED FLAT	33 87 4741 001-012
IOE 733	80t GLW 'DEBACH VIT' CURTAIN-SIDED WAGON	83 87 4737 015
IGE 776	90t GLW EASILOADER	33 87 4729 012-014
IFE 800	144t GLW INTERMODAL	33 87 4938 000-269

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

HOPPERS

Exchange Condition 33

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IRE 442	80t GLW BOGIE HOPPER	33 87 9283 000-021 33 87 9384 000-002
IRE 453	80t GLW BOGIE HOPPER	33 87 9382 000-021
IRE 644	80t GLW BOGIE HOPPER	33 87 0699 001-006, 009, 012-016 33 87 5699 007, 014, 016, 017
IRE 771	80t GLW BOGIE HOPPER	33 87 9282 032-037
IRE 772	80t GLW BOGIE HOPPER	33 87 9282 010-030, 038-059, 061-068
IRE 780	88t GLW BOGIE HOPPER	33 87 9282 060

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

OPEN WAGONS

Exchange Conditions 21, 25

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IFE 342	40t GLW 2 AXLE OPEN WAGON	21 87 4145 200-299 (RANGE) 25 87 4145 230-294 (RANGE)
IOE 390	40t GLW 2 AXLE HIGH OPEN WAGON	21 87 6094 000-010, 012-049
IFE 797	40t GLW 2 AXLE OPEN WAGON	21 87 4145 282

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

TANKS

Exchange Conditions 33, 23

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
IBE 116	30t GLW 2 AXLE TANK	23 87 7390 500
IBE 272	36t GLW 2 AXLE TANK	23 87 7191 020
IBE 279	36t GLW 2 AXLE TANK	23 87 7191 022
IBE 309	40t GLW 2 AXLE TANK	23 87 7397 000, 001
IBE 315	36t GLW 2 AXLE TANK	23 87 7190 503, 506
IBE 318	40t GLW 2 AXLE TANK	23 87 7191 021, 023
IBE 327	40t GLW 2 AXLE TANK	23 87 7390 005, 006, 007
IBE 360	36t GLW 2 AXLE TANK	23 87 7390 501
IBE 373	40t GLW 2 AXLE TANK	23 87 7391 001-004
ICE 394	80t GLW BOGIE TANK	33 87 7895 000-006
ICE 428	80t GLW BOGIE TANK	33 87 7890 555-564

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

TANKS (Continued)

Exchange Conditions 33, 34, 23, 21

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
ICE 429	80t GLW BOGIE TANK	21 87 0798 999 33 87 7890 568, 570-574, 576, 578, 579, 581, 584
ICE 432	80t GLW BOGIE TANK	33 87 7890 613-616
ICE 440	80t GLW BOGIE TANK	33 87 7890 599-610
ICE 441	80t GLW BOGIE TANK	33 87 7890 611, 612
ICE 446	80t GLW BOGIE TANK	33 87 7890 520-554, 589-598
ICE 454	80t GLW BOGIE TANK	34 87 7890 585-588
ICE 456	80t GLW BOGIE TANK	34 87 7890 515, 516, 518, 519
ICE 457	80t GLW BOGIE TANK	33 87 7890 500-514
IBE 460	40t GLW 2 AXLE TANK	23 87 7390 515, 516
IBE 484	40t GLW 2 AXLE TANK	23 87 7391 00
ICE 496	80t GLW BOGIE TANK	33 87 7992 000-010, 013-015

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

TANKS

Exchange Conditions 33, 34

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
ICE 498	80t GLW BOGIE TANK	33 87 7995 000-002
ICE 507	80t GLW BOGIE TANK	33 87 7896 000
ICE 510	80t GLW BOGIE TANK	33 87 7996 000-007
ICE 513	80t GLW BOGIE TANK	33 87 7996 008-014
ICE 516	80t GLW BOGIE TANK	33 87 7996 030-039
ICE 522	80t GLW BOGIE TANK	33 87 7996 018-023, 026-028
ICE 525	80t GLW BOGIE TANK	33 87 7896 001-007
ICE 533	80t GLW BOGIE TANK	33 87 7896 008-011
ICE 536	80t GLW BOGIE TANK	34 87 7899 010-014
ICE 539	80t GLW BOGIE TANK	33 87 7899 003-009
ICE 541	80t GLW BOGIE TANK	33 87 7896 012- 016
ICE 549	80t GLW BOGIE TANK	33 87 7996 040-045

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

TANKS (Continued)

Exchange Conditions 23, 33, 34

<u>Diagram</u>	<u>Description</u>	<u>Vehicle Numbers</u>
ICE 560	80t GLW BOGIE TANK	33 87 7996 046, 047
ICE 582	80t GLW BOGIE TANK	33 87 7996 048-053
IBE 627	36t GLW 2 AXLE TANK	23 87 7191 024
ICE 659	80t GLW BOGIE TANK	34 87 7890 517
ICE 677	90t GLW BOGIE TANK	33 87 7994 000-009
ICE 698	90t GLW BOGIE TANK	33 87 7994 010-029
ICE 719	90t GLW BOGIE TANK	33 87 7898 000-119
IBE 807	36t GLW 2 AXLE TANK	23 87 7390 503
IBE 808	36t GLW 2 AXLE TANK	23 87 7390 509
IBE 809	36t GLW 2 AXLE TANK	23 87 7390 510

FRENCH NATIONAL RAILWAYS (SNCF)

Country 87

VANS

Exchange Conditions 21, 23, 43

DiagramDescriptionVehicle Numbers

ILE 304

40t GLW 2 AXLE VAN

21 87 2380 002-999 (RANGE)

IYE 540

40t GLW CURTAIN SIDED

23 87 2396 000-005

ILE 793

40t GLW 2 AXLE VAN

43 87 2380 001-004

BELGIAN NATIONAL RAILWAYS (SNCB)

Country 88

TANKS

Exchange Condition 33

DiagramDescriptionVehicle Numbers

ICE 737

80t GLW BOGIE TANK

33 88 7996 100-109

BELGIAN NATIONAL RAILWAYS (SNCB)Country 88

HOPPERS

Exchange Condition 33

DiagramDescriptionVehicle Numbers

IRE 442

80t GLW BOGIE HOPPER

33 88 9282 000-009

33 88 9380 000-110 (RANGE)

BELGIAN NATIONAL RAILWAYS (SNCB)Country 88

VANS

Exchange Condition 21

DiagramDescriptionVehicle Numbers

ILE 479

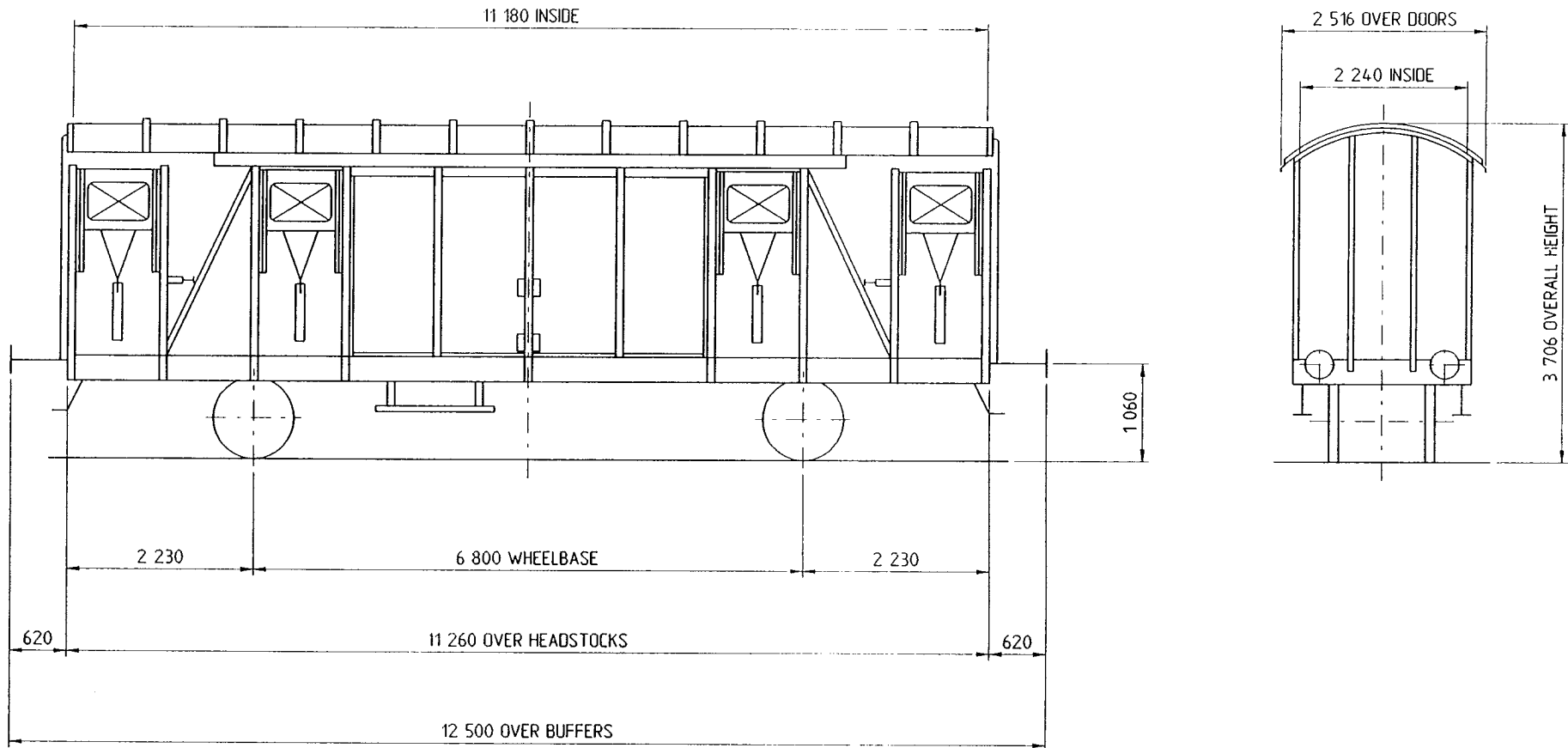
40t GLW 2 AXLE VAN

21 88 5799 000-049 (RANGE)

21 88 0799 000, 001, 032, 042



				TOPS INFORMATION									
	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	19 t	23 t	27 t				60 mile/h UP TO		5 t FORCE UP TO		10	6	120
S	19 t	23 t	27 t		CARKND		mile/h ABOVE 39 tonne GLW		18 t FORCE ABOVE 23 t GLW				
120					I	M	B	C					



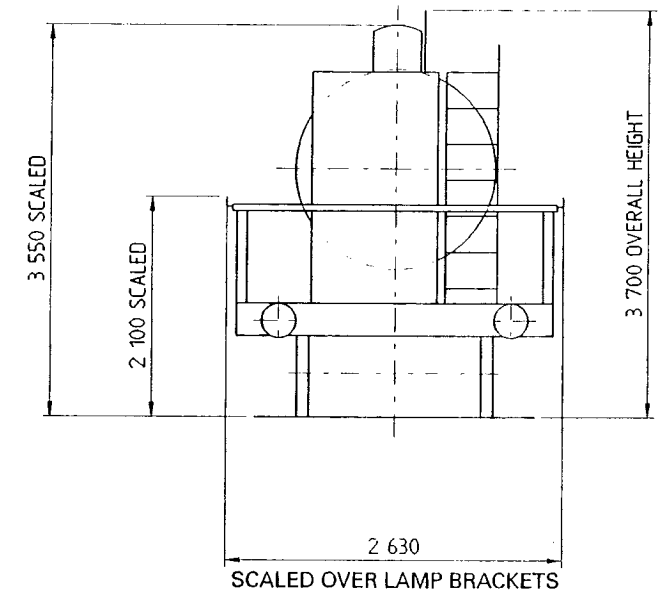
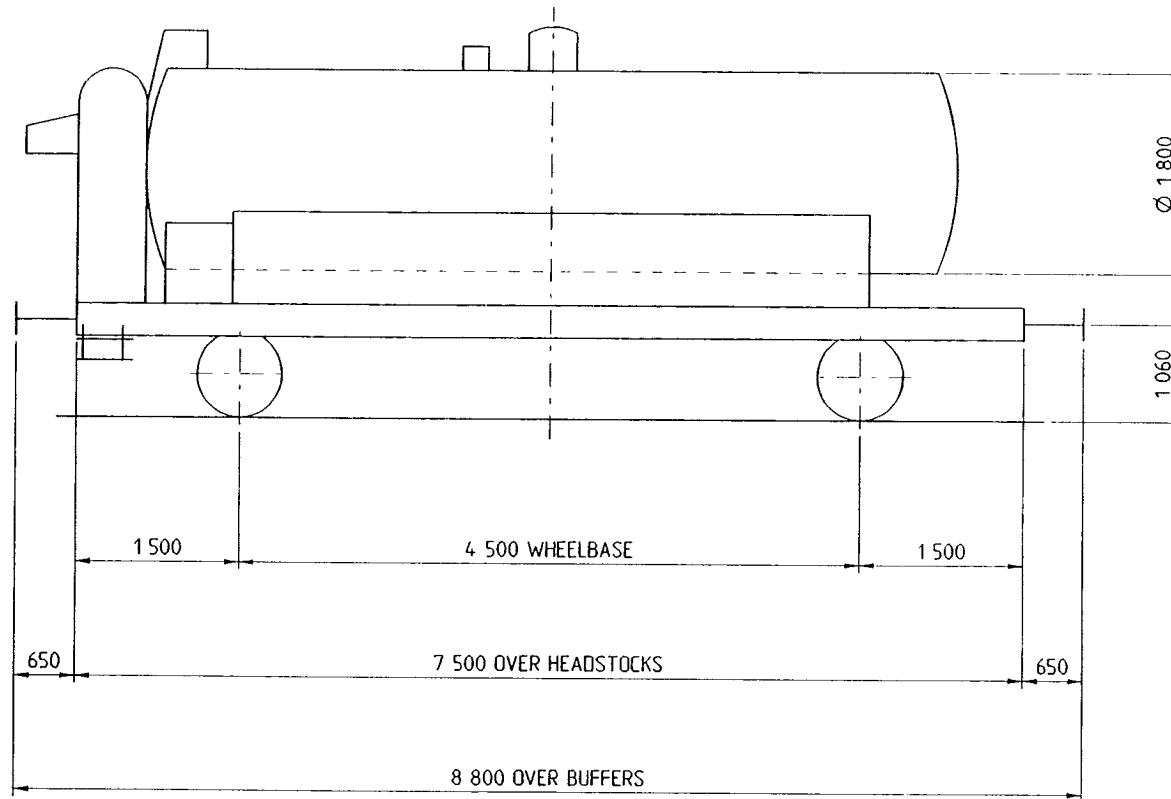
TARE-	12 t
CAPACITY, WEIGHT-	27 t
CAPACITY, VOLUME-	49 m ³
FLOOR AREA-	25 m ²
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	1 091.01.1

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	∅ 1 000
JOURNALS-	∅ 130

TYPE-	Hfs
WAGON No.-	21 80 2140 131, 140
BUILDER-	WAGGON FABRIK
OWNER-	DB



				TOPS INFORMATION									
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	21.4t	22.7t	22.7t		CARKND		60 mile/h UP TO	33 tonne GLW	5 t FORCE UP TO	15 t GLW	4	4	-
120					I	B	B	B	13 t FORCE ABOVE				



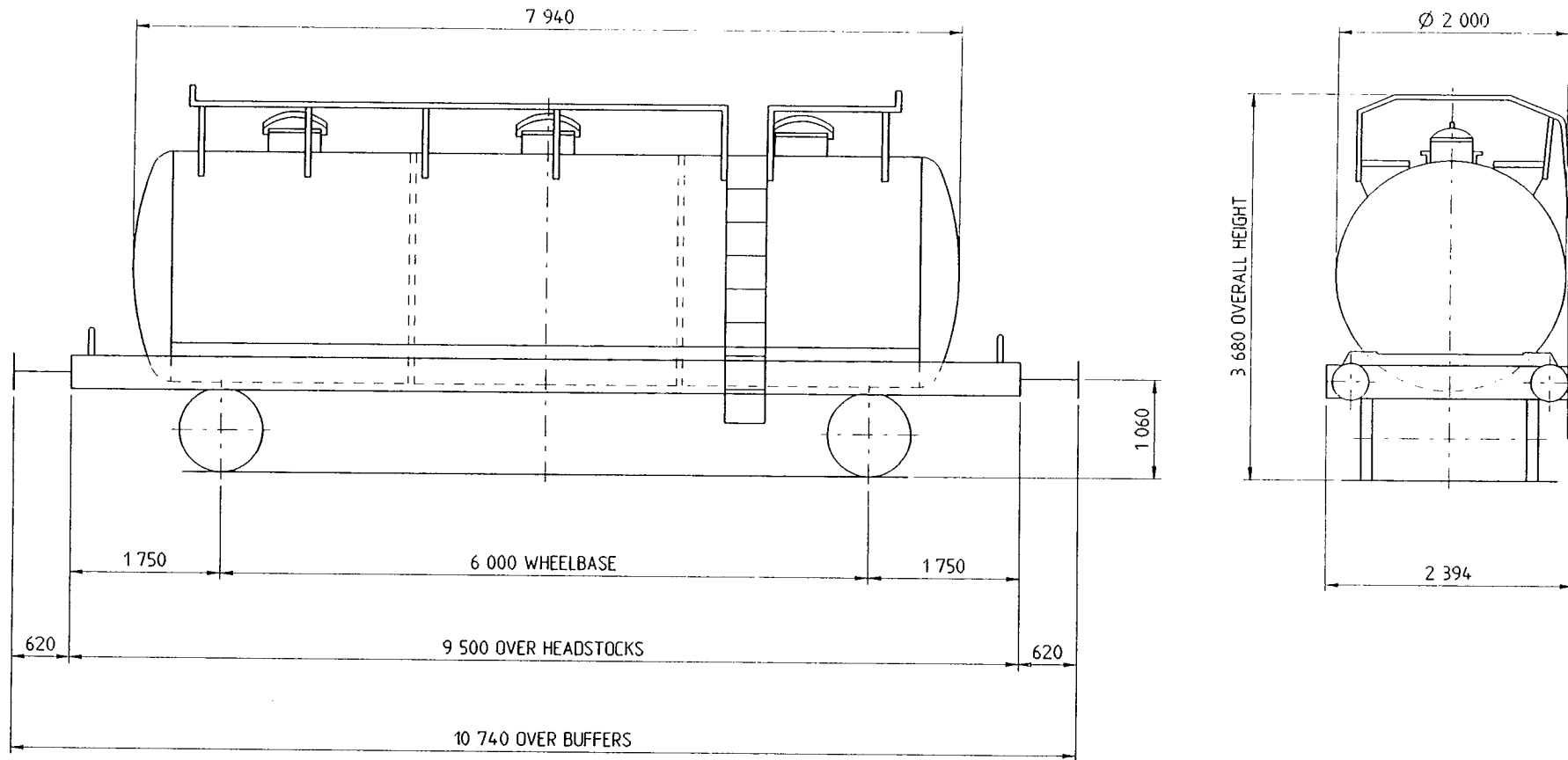
TARE-	10.6 t
CAPACITY, WEIGHT-	22.4 t
CAPACITY, VOLUME-	15 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	WH 167

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø -

TYPE-	Zfkks
WAGON No.-	23 80 7490 000
BUILDER-	HULS CHEMICAL WORKS
OWNER-	DB



					TOPS INFORMATION								
90	A 19.8t	B 23.8t	C 27.8t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	19.8t	23.8t	23.8t		CARKND		60 mile/h UP TO	36 tonne GLW	AIR 5t FORCE UP TO	18 t GLW	7	6	-
120					I	B	50 mile/h ABOVE		AIR 15t FORCE ABOVE				
					X	B			VAC 5t				



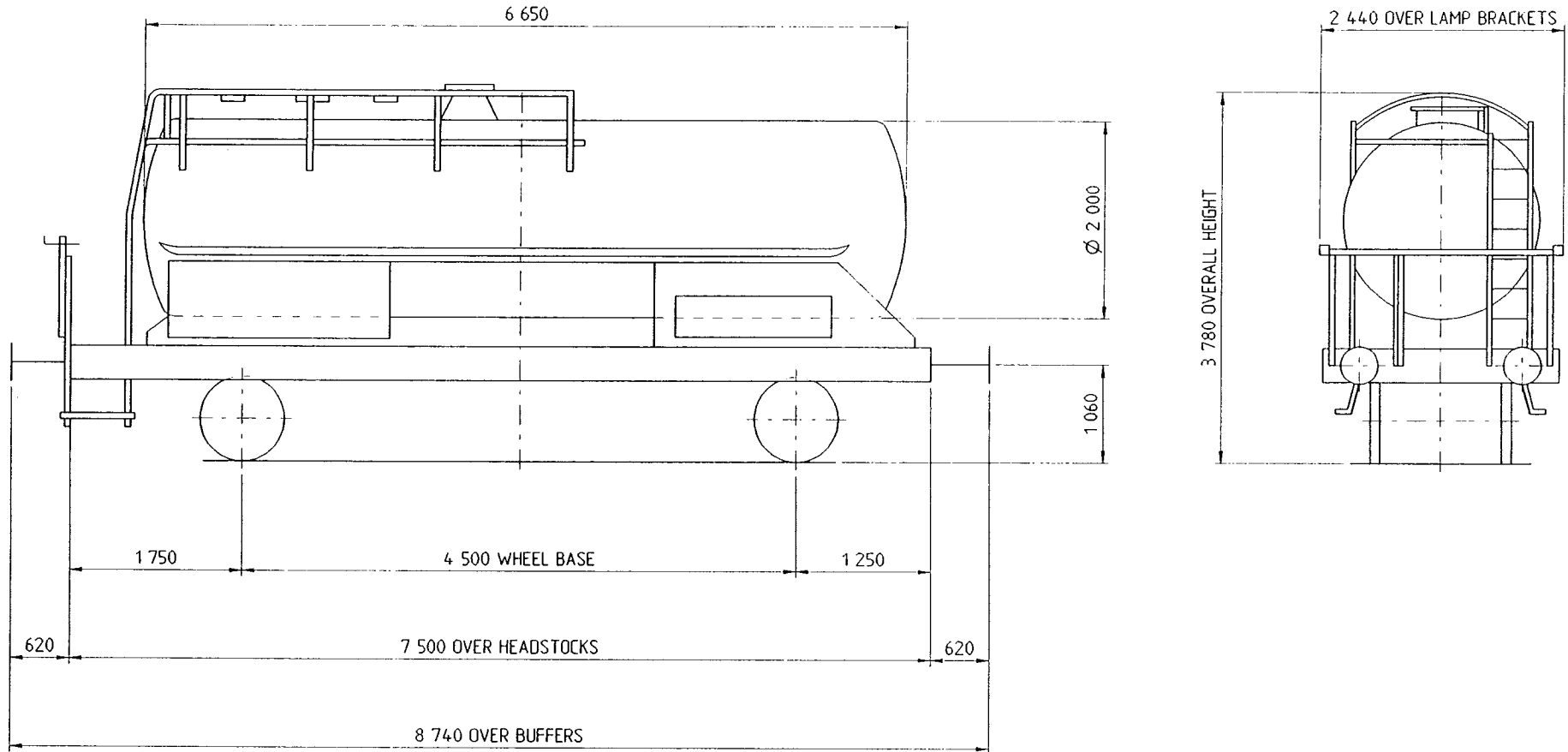
TARE-	12.2 t
CAPACITY, WEIGHT-	27.8 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	7008.01.01

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 460 HD
WHEELS-	Ø 1 006
JOURNALS-	Ø 130

TYPE-	Zfs
WAGON No.-	24 80 7390 400
BUILDER-	WAGGONFABRIK
OWNER-	DANZAS



				TOPS INFORMATION									
90	A 20.7t	B 24.7t	C 28.7t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20.7t	24.7t	24.7t		CARKND		60 mile/h UP TO	36 tonne GLW	5 t FORCE UP TO	18 t GLW	4	6	-
120					I	B	A		B				



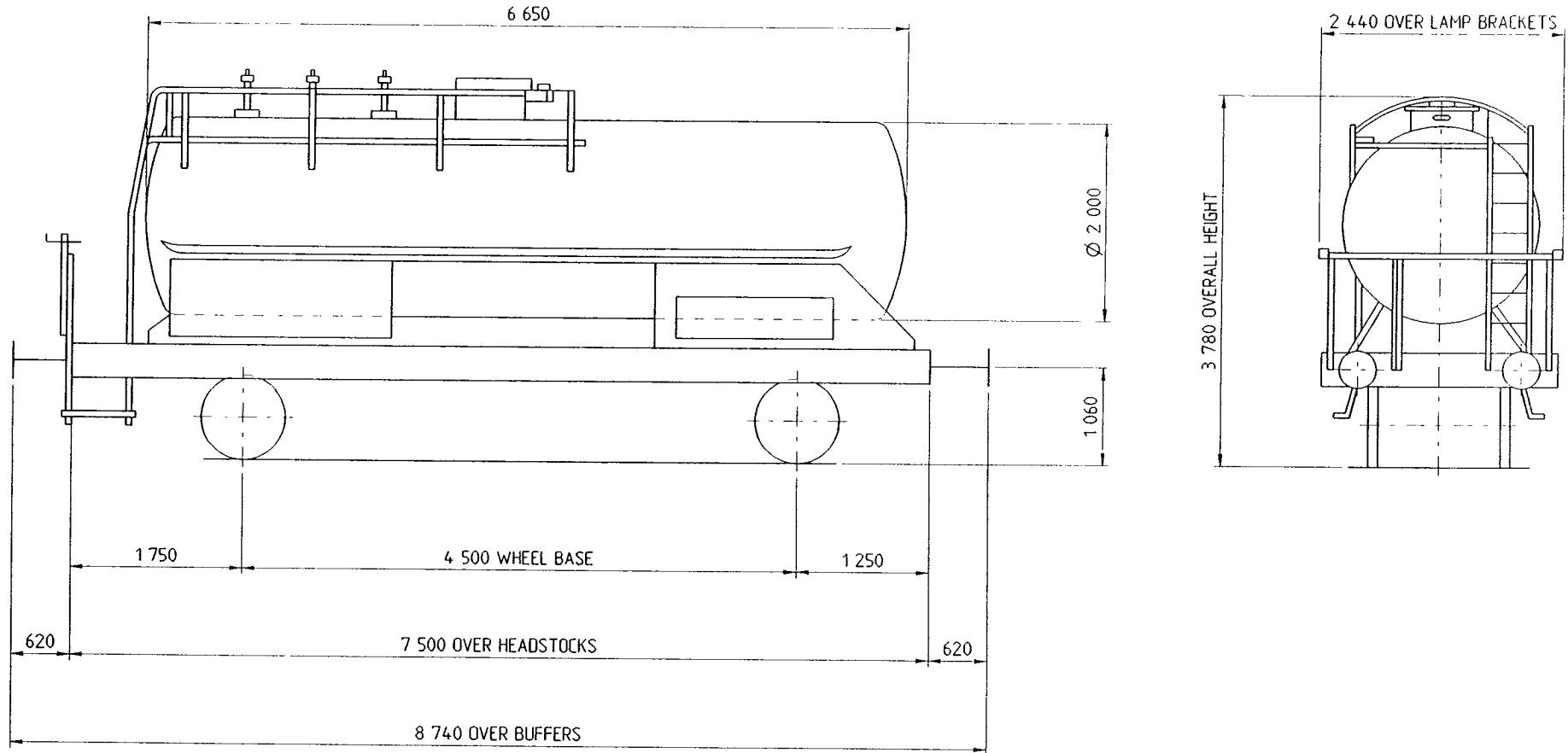
TARE-	10.7 t
CAPACITY, WEIGHT-	29.3 t
CAPACITY, VOLUME-	19 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	H 7600-2

BRAKE-	AIR
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC ∅ 370 HD
WHEELS-	∅ 1 000
JOURNALS-	∅ 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 701
BUILDER-	HULS
OWNER-	DB



				TOPS INFORMATION									
90	18.7t	22.7t	26.7t		AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	18.7t	22.7t	22.7t		CARKND		60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	18 t GLW	4	6	-
120					I	B	B	50 mile/h ABOVE	15 t FORCE ABOVE				



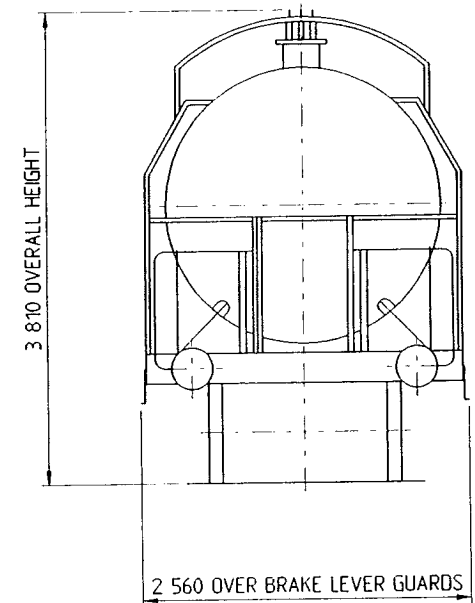
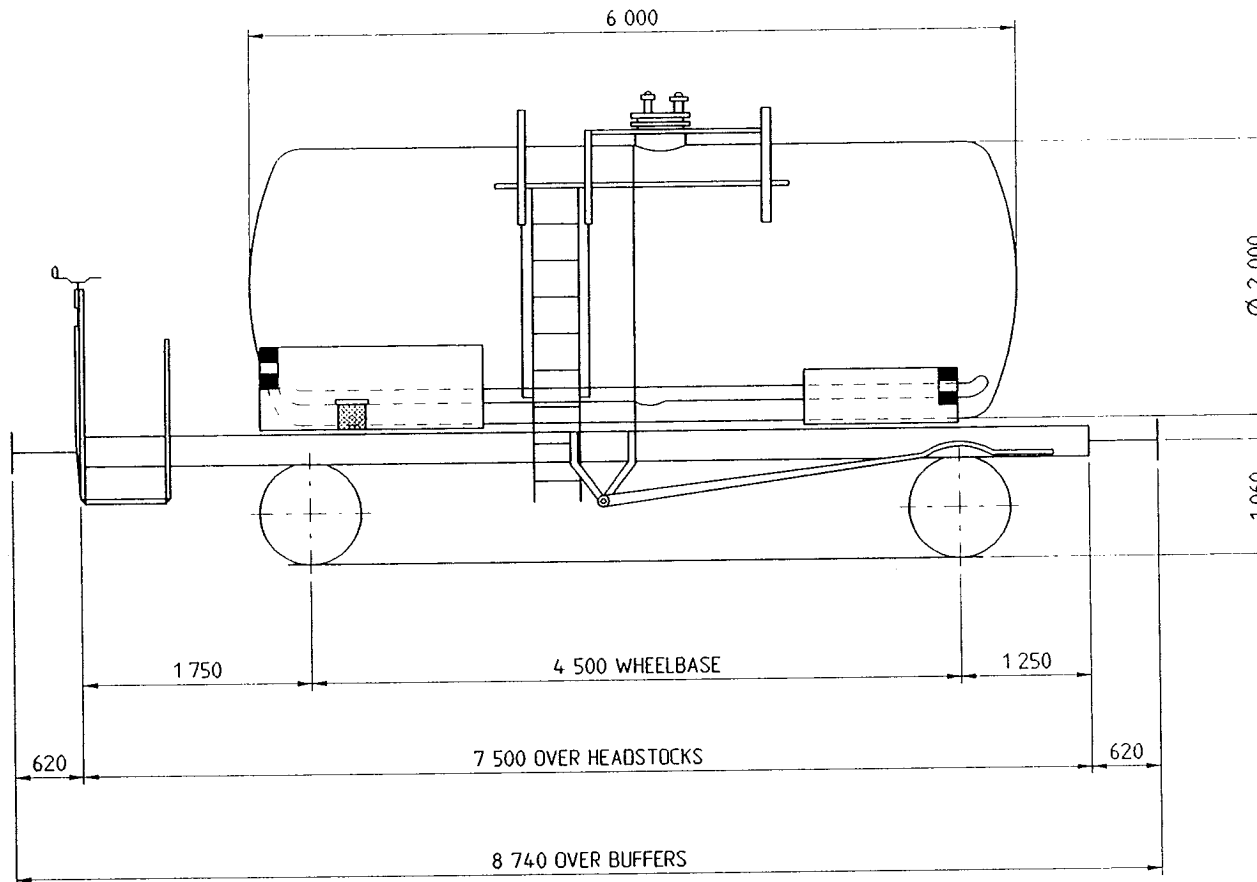
TARE-	13.3 t
CAPACITY, WEIGHT-	26.7 t
CAPACITY, VOLUME-	19 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No. -	H 7596-2

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcefs
WAGON No.-	23 80 7398 600
BUILDER-	HULS RECKLING HAUSEN
OWNER-	DB



				TOPS INFORMATION								
90	A 21.6t	B 23 t	C 23 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S					CARKND	50 mile/h UP TO mile/h ABOVE		7 t FORCE UP TO 17 t FORCE ABOVE		4	4	-
120					I B B B	33 tonne GLW		20 t GLW				



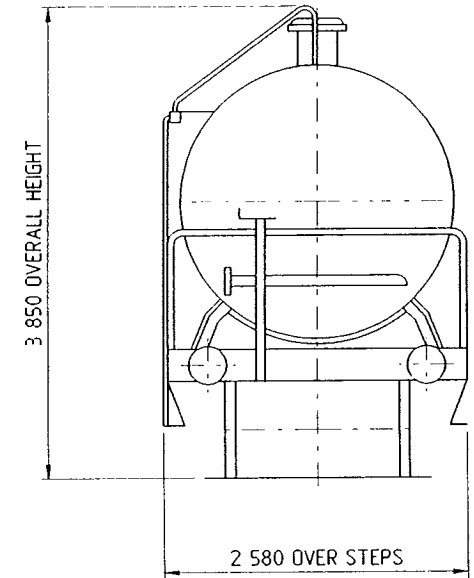
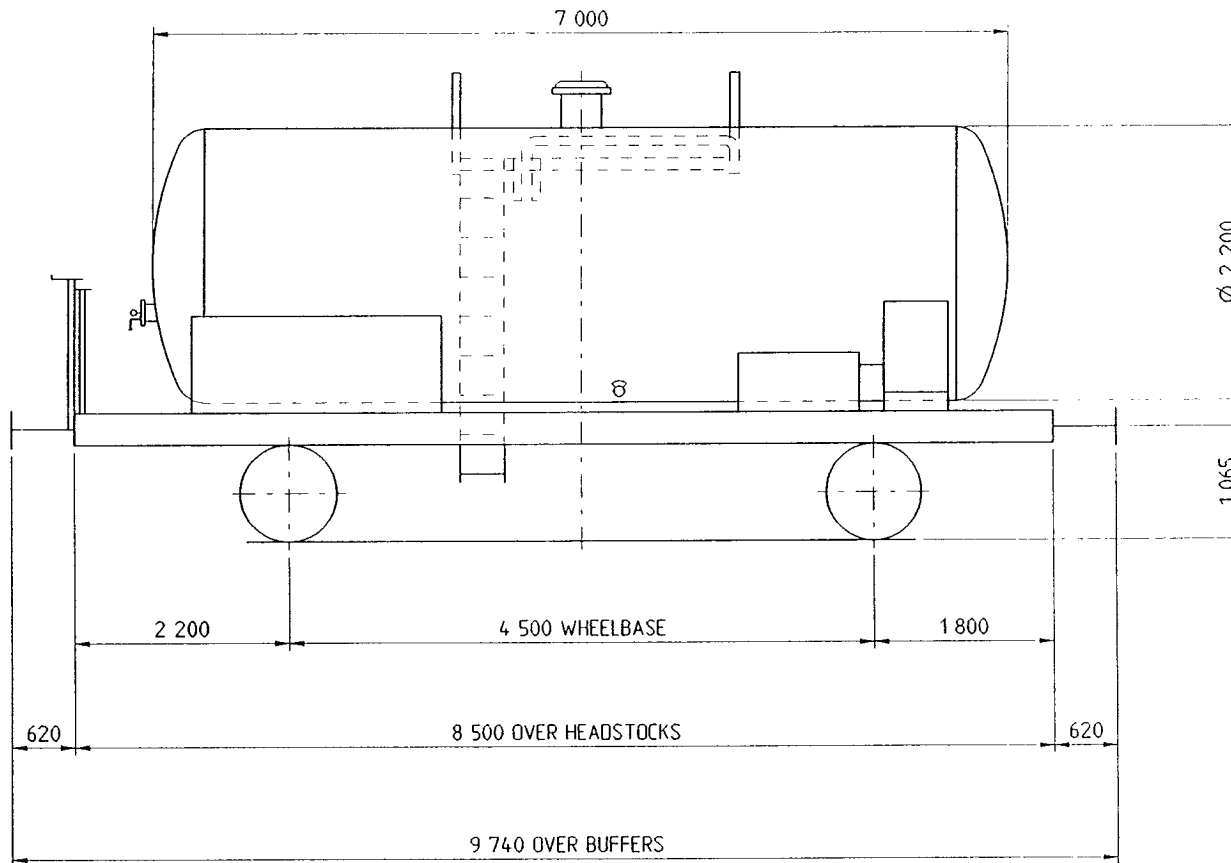
TARE-	10.6 t
CAPACITY, WEIGHT-	22.4 t
CAPACITY, VOLUME-	18 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	BT 519-2

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcf Zcfs
WAGON No.-	23 80 7191 701, 702 23 80 7391 718-720
BUILDER-	B.A.S.F. LUDWIGSHAFEN
OWNER-	D.B.



				TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	21.5t	25.5t	25.5t		CARKND	50 mile/h UP TO	36 tonne GLW	5 t FORCE UP TO	20 t GLW	6	5	-
120					I B B B	mile/h ABOVE		11 t FORCE ABOVE				



NOTE :- BARRELS FITTED WITH BOTTOM OUTLETS AND HEATING COILS.

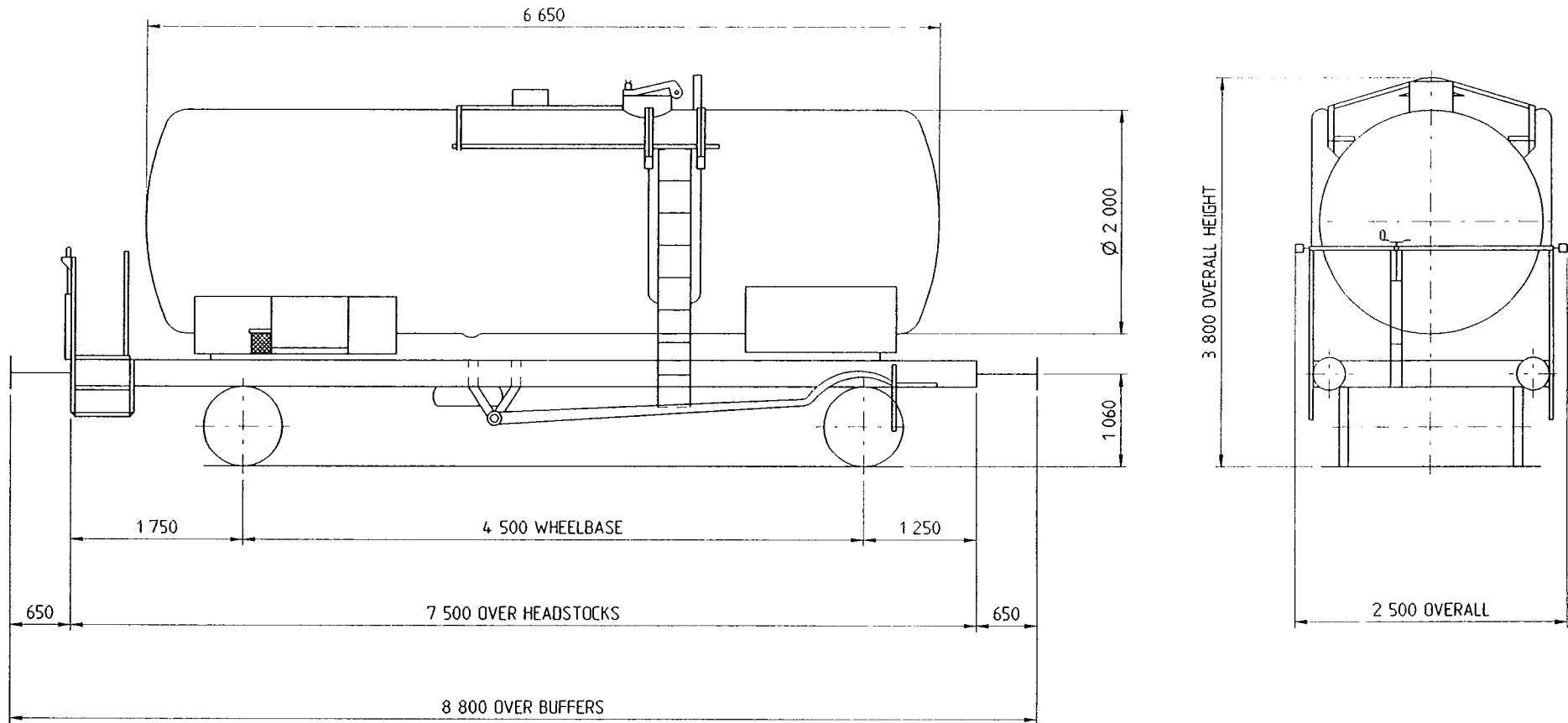
TARE-	10.5 t
CAPACITY, WEIGHT-	25.5 t
CAPACITY, VOLUME-	25 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	6886

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC \varnothing 370
WHEELS-	\varnothing 1 000
JOURNALS-	\varnothing 130

TYPE-	Zef
WAGON No.-	23 83 7197 016, 017
BUILDER-	A.L.P.
OWNER-	MONTEDISON MILAN



				TOPS INFORMATION								
90	A 19 t	B 19 t	C 19 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S					CARKND	50 mile/h UP TO	31 tonne GLW	5 t FORCE UP TO	17 t GLW	4	3	-
120					I B B B	mile/h ABOVE		9 t FORCE ABOVE				



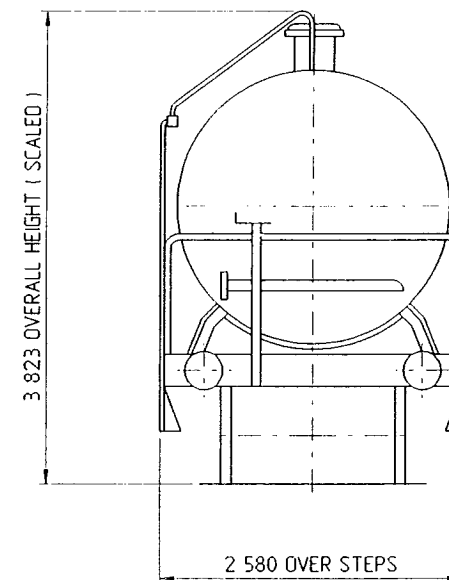
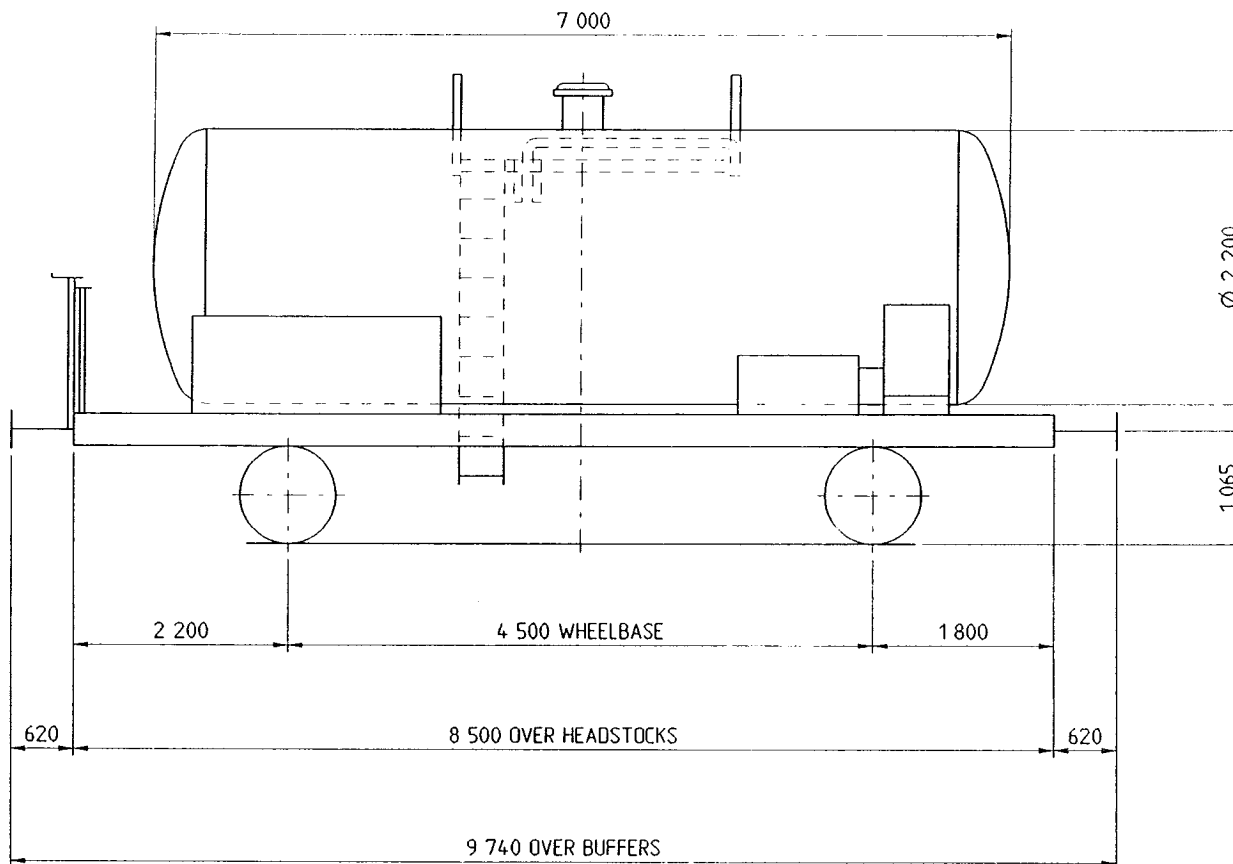
TARE-	12.5 t
CAPACITY, WEIGHT-	18.5 t
CAPACITY, VOLUME-	20 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	25.01.253

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC \varnothing 370
WHEELS-	\varnothing 1 000
JOURNALS-	\varnothing 130

TYPE-	Zf
WAGON No.-	23 80 7190 008
BUILDER-	V.T.G.
OWNER-	V.T.G.



				TOPS INFORMATION									
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
	20.8t	24 t	24 t				50 mile/h UP TO 35 tonne GLW		5 t FORCE UP TO 11 t FORCE ABOVE 19 t GLW		6	4	-
S					CARKND								
120					I	B	B	B					



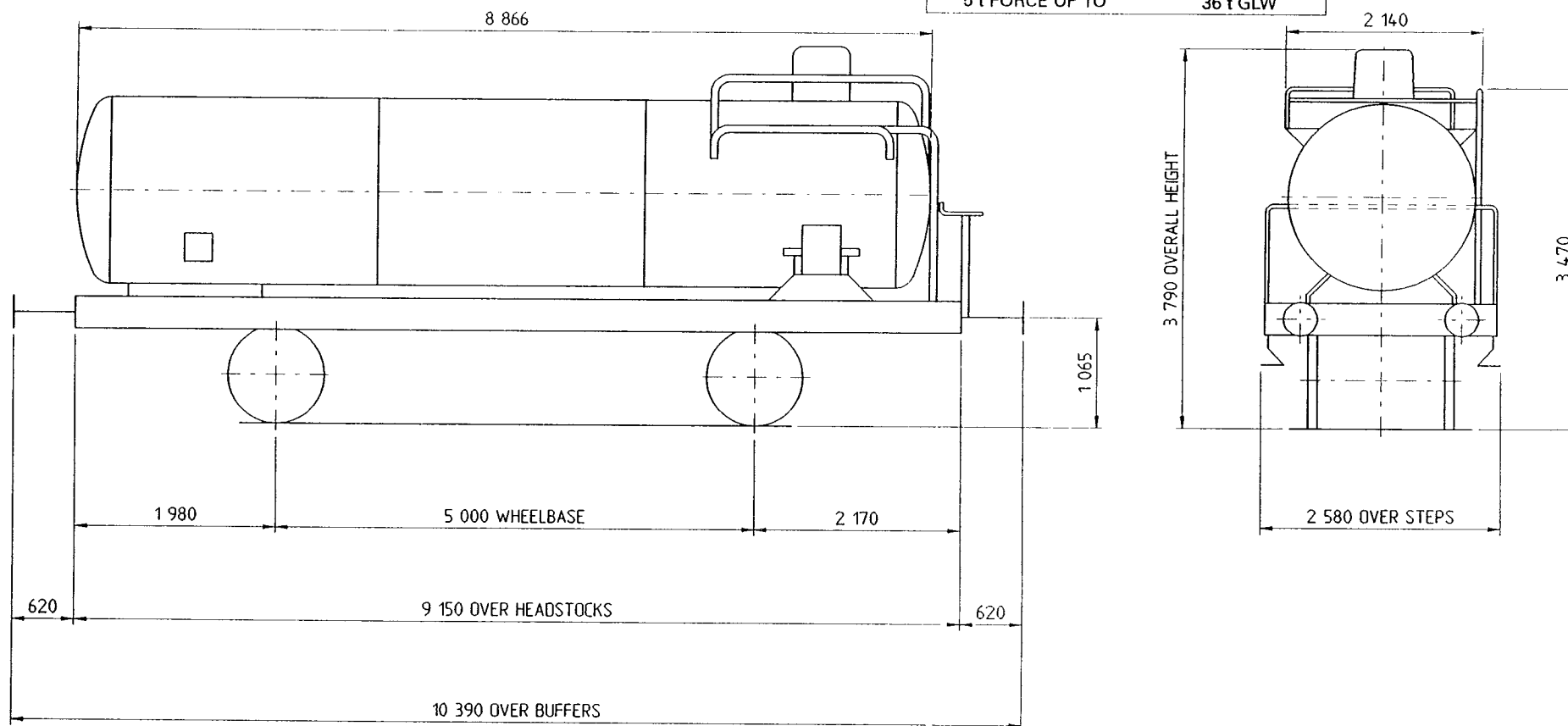
TARE-	11.2 t
CAPACITY, WEIGHT-	23.8 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	56252.233

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zef
WAGON No.-	23 83 7197 008-015
BUILDER-	SIAI-LERICI
OWNER-	MONTEDISON MILAN



				TOPS INFORMATION									
90	A 18 t	B 22 t	C 22 t	D	AARKND		OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S					CARKND		50 mile/h UP TO mile/h ABOVE 36 tonne GLW		5 t FORCE UP TO 11 t FORCE ABOVE 20 t GLW		7	5	-
120					I	B	X	B	VACUUM BRAKE FORCE DATA				
									5 t FORCE UP TO 36 t GLW				



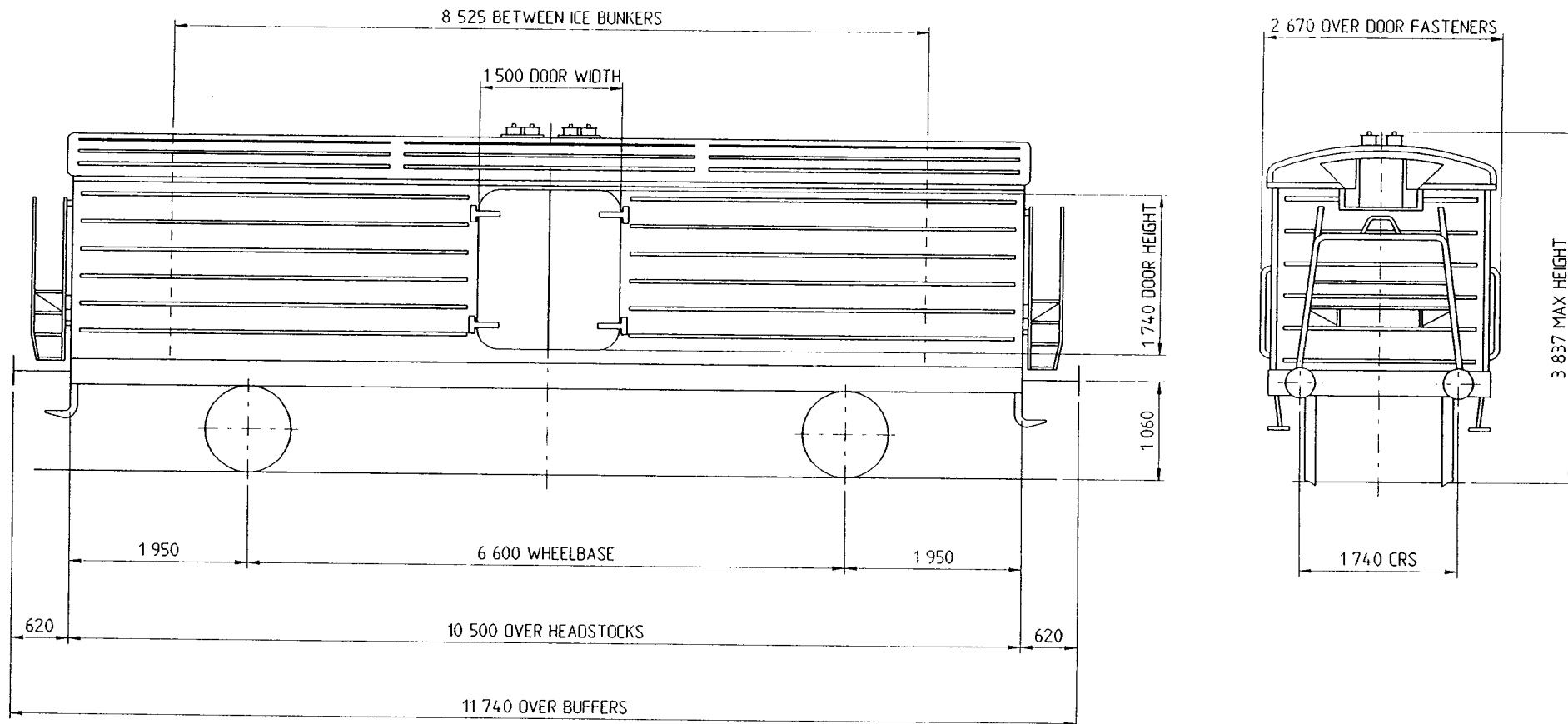
TARE-	14 t
CAPACITY, WEIGHT-	22 t
CAPACITY, VOLUME-	26 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	832

BRAKE-	DUAL
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC \varnothing 400
WHEELS-	\varnothing 1 000
JOURNALS-	\varnothing 130

TYPE-	Zf
WAGON No.-	23 83 7190 003-007
BUILDER-	MARCHETTI MILAN
OWNER-	MONTEDISON



				TOPS INFORMATION								
90	A 15.5t	B 19.5t	C 19.5t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	15.5t	19.5t	19.5t		CARKND	60 mile/h UP TO	36 tonne GLW	AIR 13t VAC 5t	FORCE UP TO	25 t GLW	5	—
120					I I X H	mile/h ABOVE		AIR 21t VAC 5t	FORCE ABOVE			



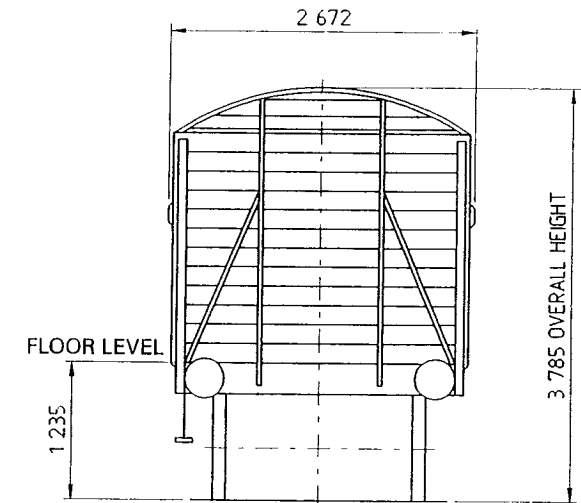
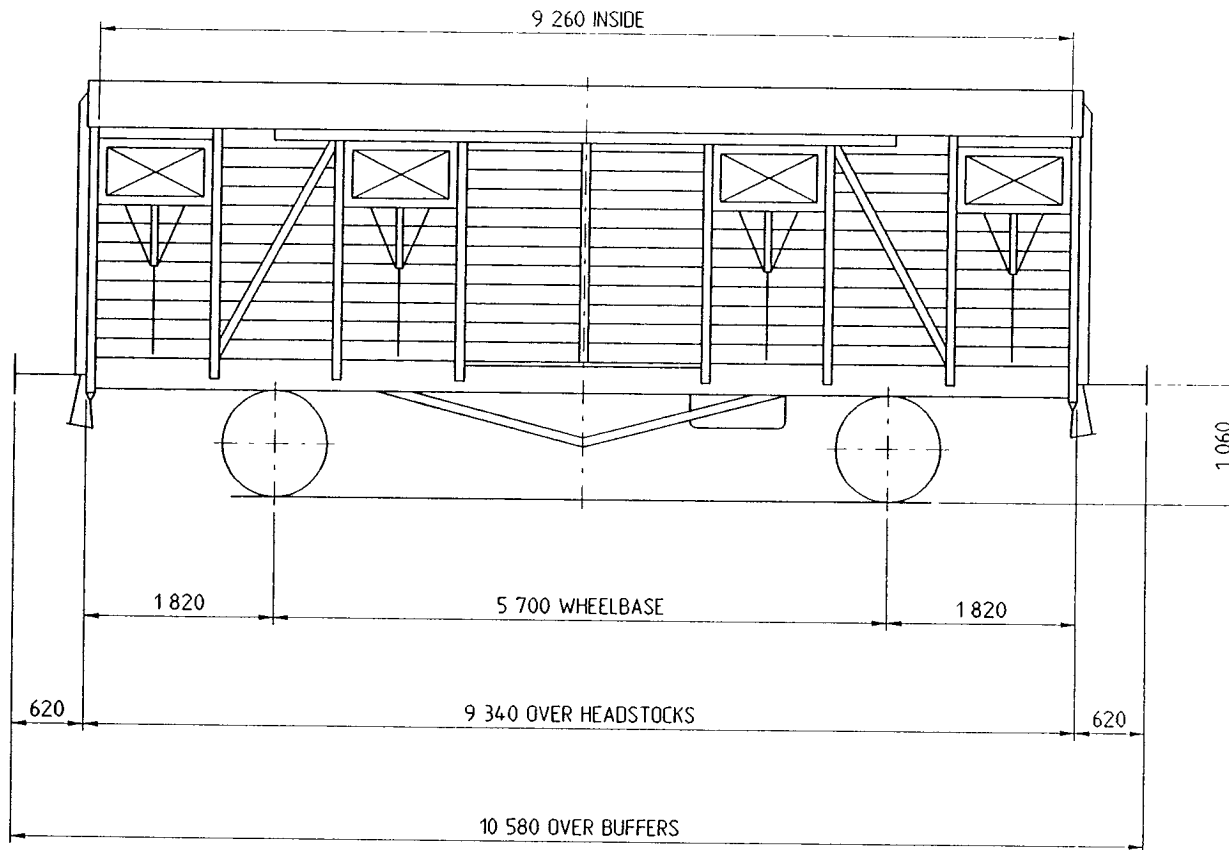
TARE-	16.5 t
CAPACITY, WEIGHT-	19.5 t
CAPACITY, VOLUME-	30.6 m ³
FLOOR AREA-	17.3 m ²
MIN. CURVE-	-
GEN. ARRGT. DRG. No.-	339/137

BRAKE-	DUAL; HAND LEVER
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ -
JOURNALS-	∅ -

TYPE-	-
WAGON No.-	01 55 8480 000, 006-098
BUILDER-	V.E.B. WAGONBAU
OWNER-	M.A.V.



	A	B	C	D	TOPS INFORMATION								
90	19.5t	23.5t	23.5t		AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET	
S	19.5t	23.5t	23.5t			CARKND	60 mile/h UP TO	36 tonne GLW	AIR VAC 5 t FORCE UP TO				18 t GLW
120					I	M	X	C	AIR 15 t FORCE ABOVE				W 3017



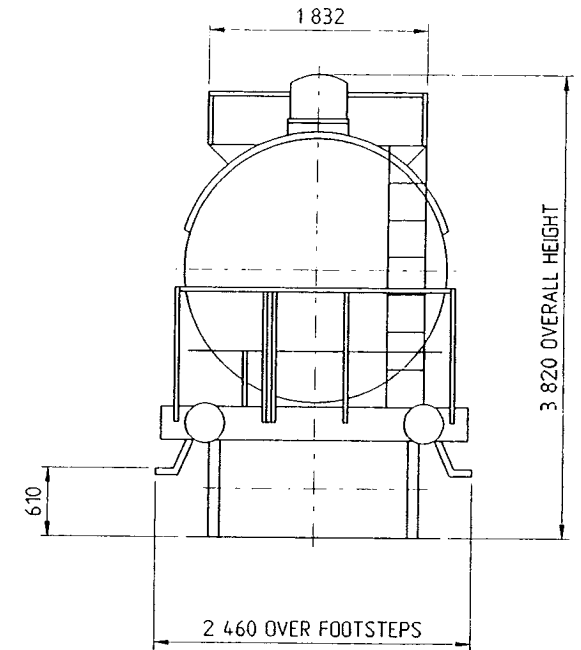
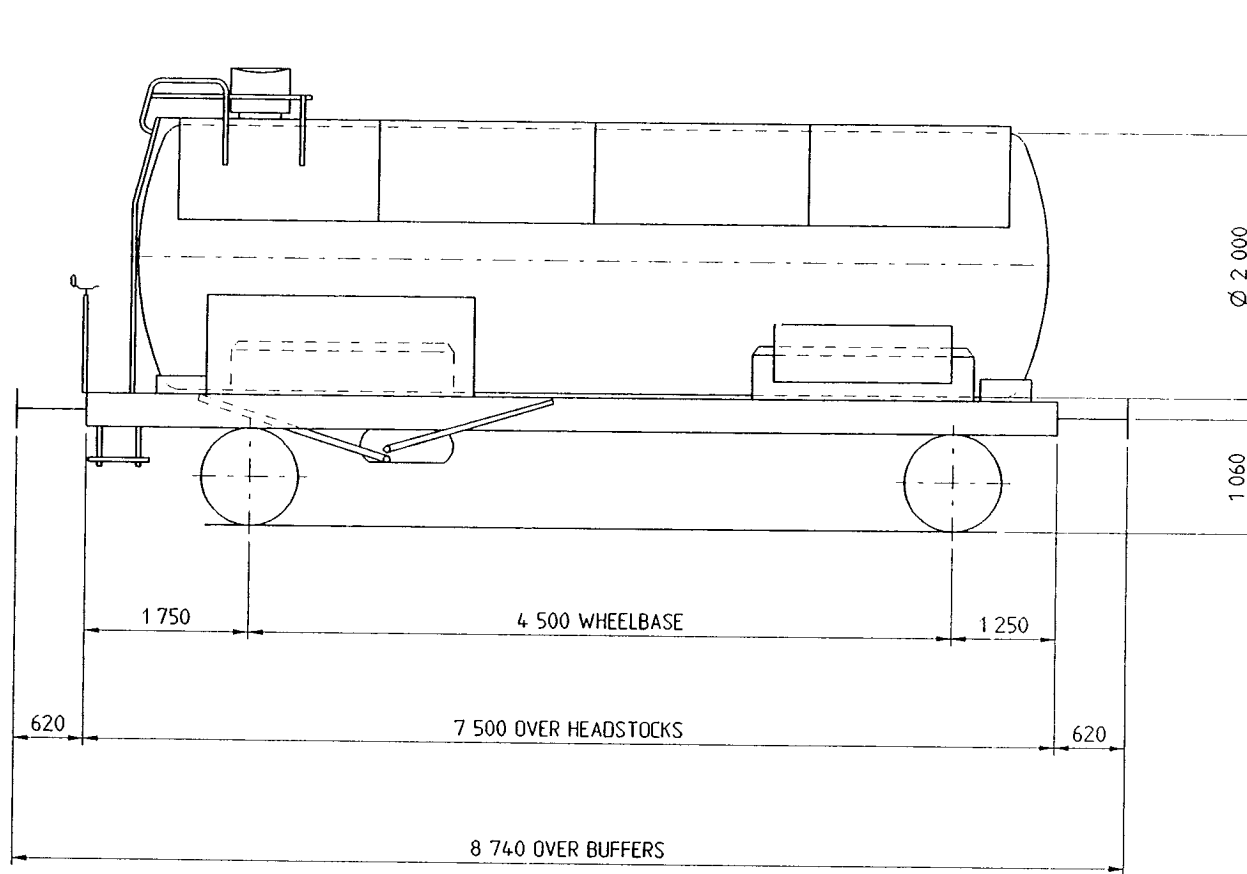
TARE-	12.5 t
CAPACITY, WEIGHT-	23.5 t
CAPACITY, VOLUME-	42 m ³
FLOOR AREA-	21 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	01-40-862

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Hfkks
WAGON No.-	21 72 2191 000-099
BUILDER-	FABRIKA VAGONA KRALJEVO
OWNER-	J Z



	A	B	C	D	TOPS INFORMATION								
90	10 t	10 t	10 t		AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	10 t	10 t	10 t		CARKND		60 mile/h UP TO	26 tonne GLW	6 t FORCE UP TO	20 t GLW	4	1	-
120					I	B	B	A	10 t FORCE ABOVE				



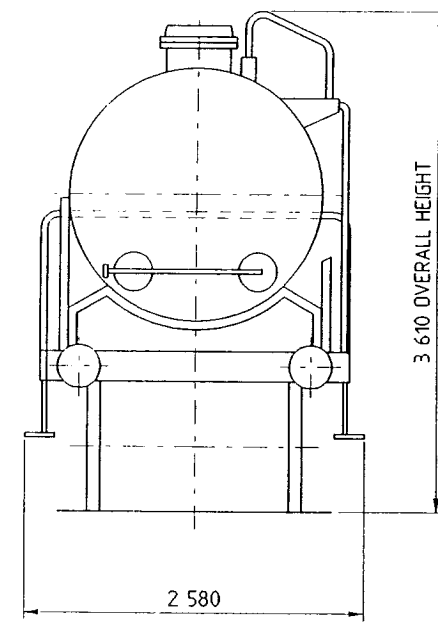
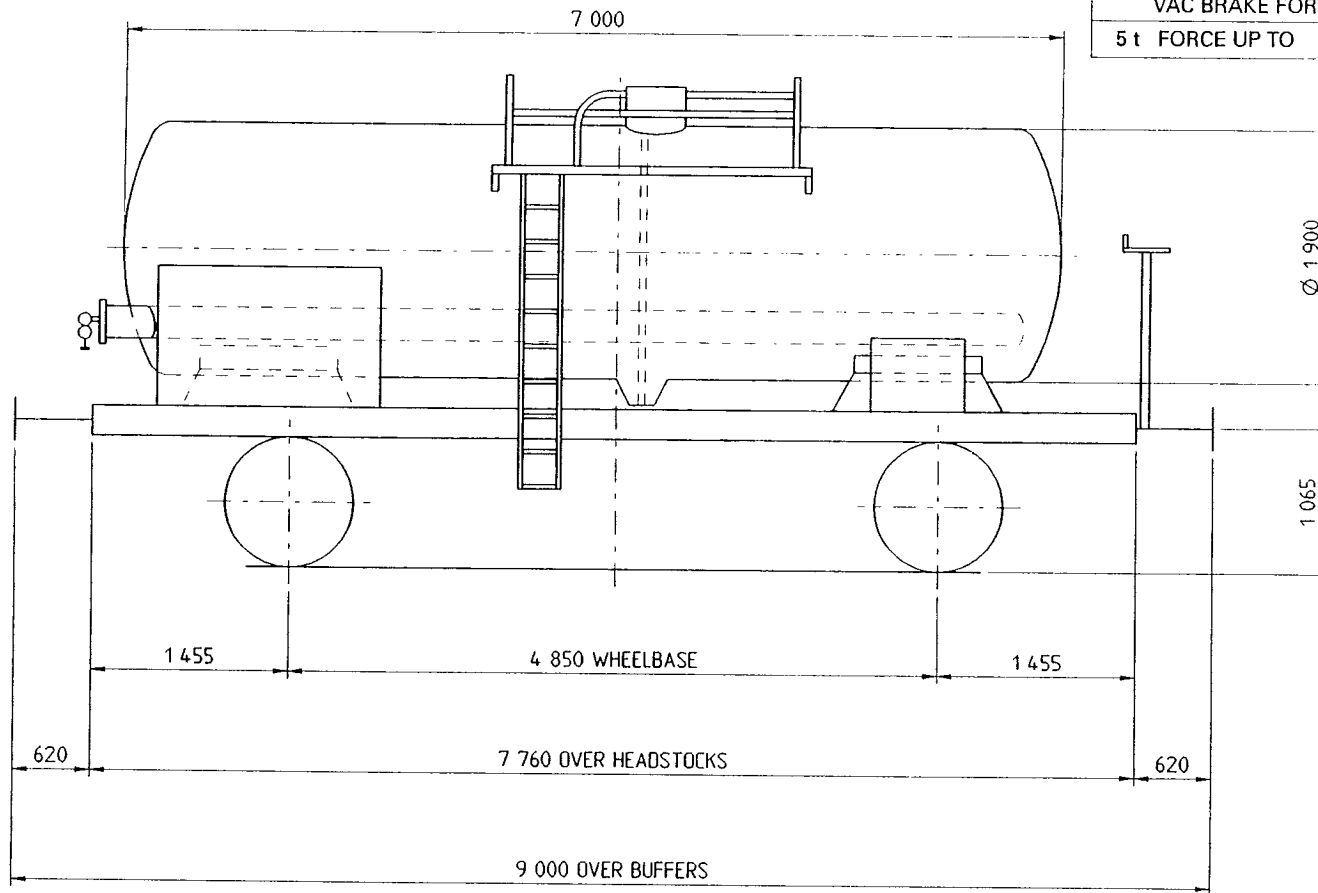
TARE-	15.5 t
CAPACITY, WEIGHT-	10.5 t
CAPACITY, VOLUME-	18.5 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	B 3006.01.1

BRAKE-	AIR & VAC THRO' PIPE: PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zfgks
WAGON No.-	23 80 7395 002, 003, 005
BUILDER-	UERDINGEN AG KREFELD
OWNER-	HULS CHEMICAL AG



90	A	B	C	D	TOPS INFORMATION							
	21t	24.7t	24.7t		AARKND	OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
	S				CARKND	50 mile/h UP TO	36 tonne GLW	5 t FORCE UP TO	13 t GLW	5	5	-
120					I	B	X	B	VAC BRAKE FORCE DATA			
								5 t FORCE UP TO	36 t GLW			



NOTE 23 83 7197 018 & 019 ARE FITTED WITH HEATING DEVICES

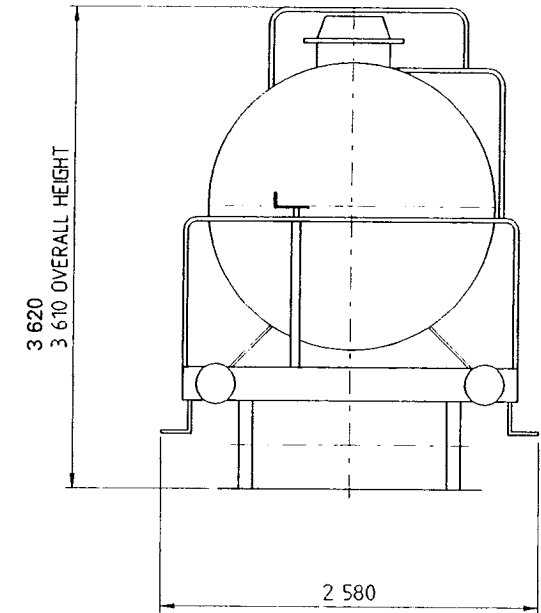
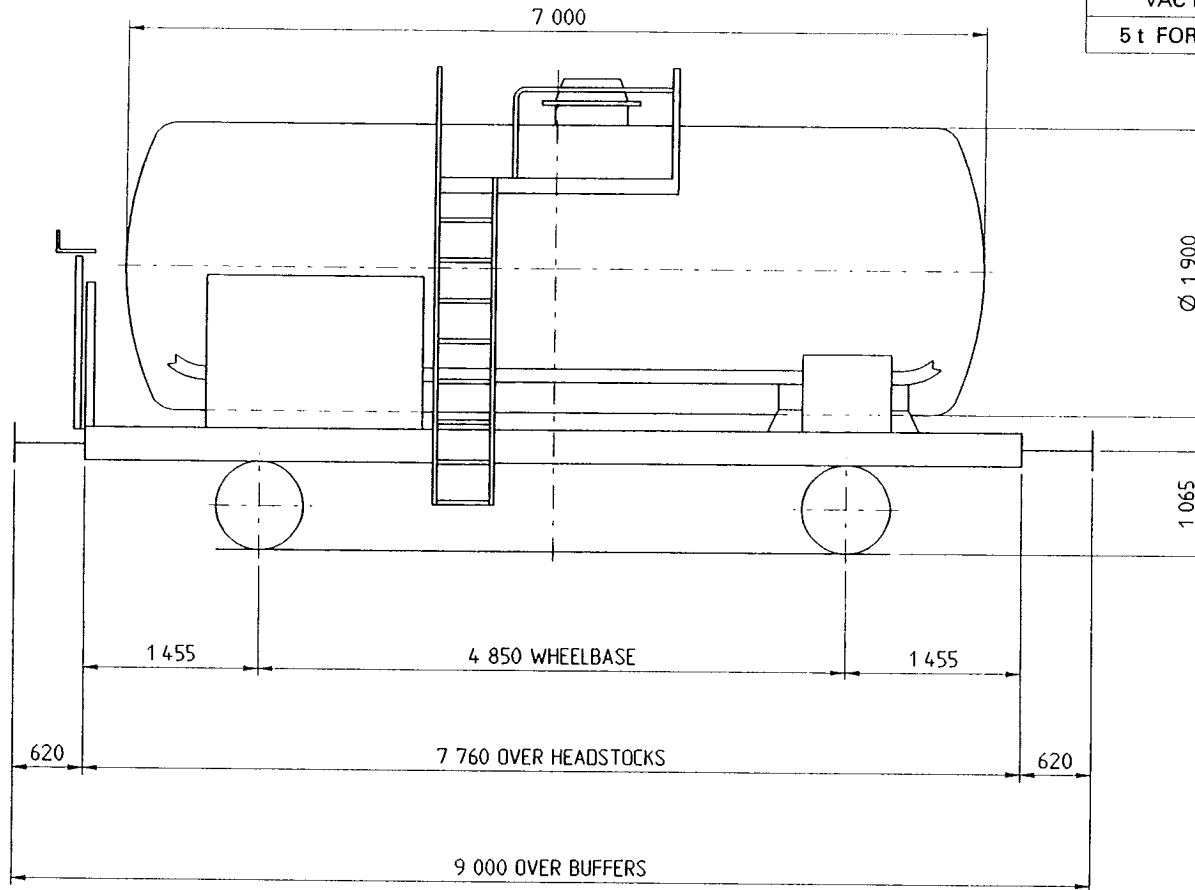
TARE-	11.3 t
CAPACITY, WEIGHT-	24.7 t
CAPACITY, VOLUME-	18.8 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	823

BRAKE-	DUAL: SCREW & SIDE LEVER
SUSPENSION-	SINGLE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC ∅370 HD
WHEELS-	∅ 1 000
JOURNALS-	∅ 130

TYPE-	Zf & Zef
WAGON No.-	23 83 7190 000 23 83 7197 018, 019
BUILDER-	MARCHETTI
OWNER-	SICEDISON



90 S 120	A	B	C	D	TOPS INFORMATION								
	21.4t	25.4t	25.4t		AARKND		OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH 5	RA (GLW) 5	DESIGN SHEET -
					CARKND		50 mile/h UP TO 36 tonne GLW mile/h ABOVE		5 t FORCE UP TO 11 t FORCE ABOVE 20 t GLW				
					I	B	X	B	VAC BRAKE FORCE DATA				
									5 t FORCE UP TO 36 t GLW				



NOTE 23 83 7197 020 & 021 ARE FITTED WITH HEATING DEVICES

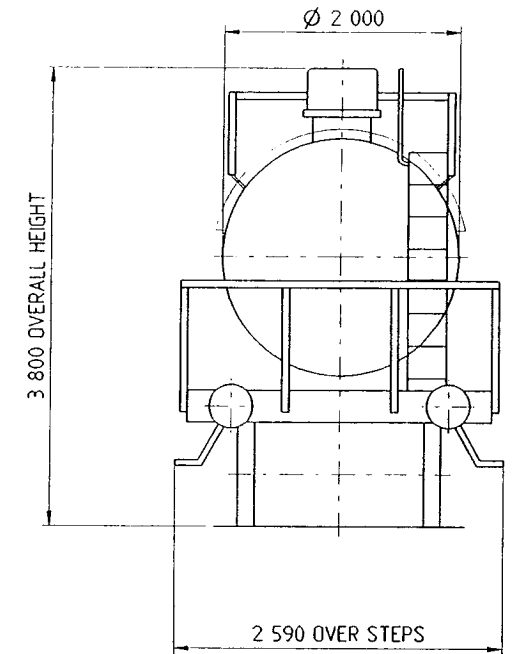
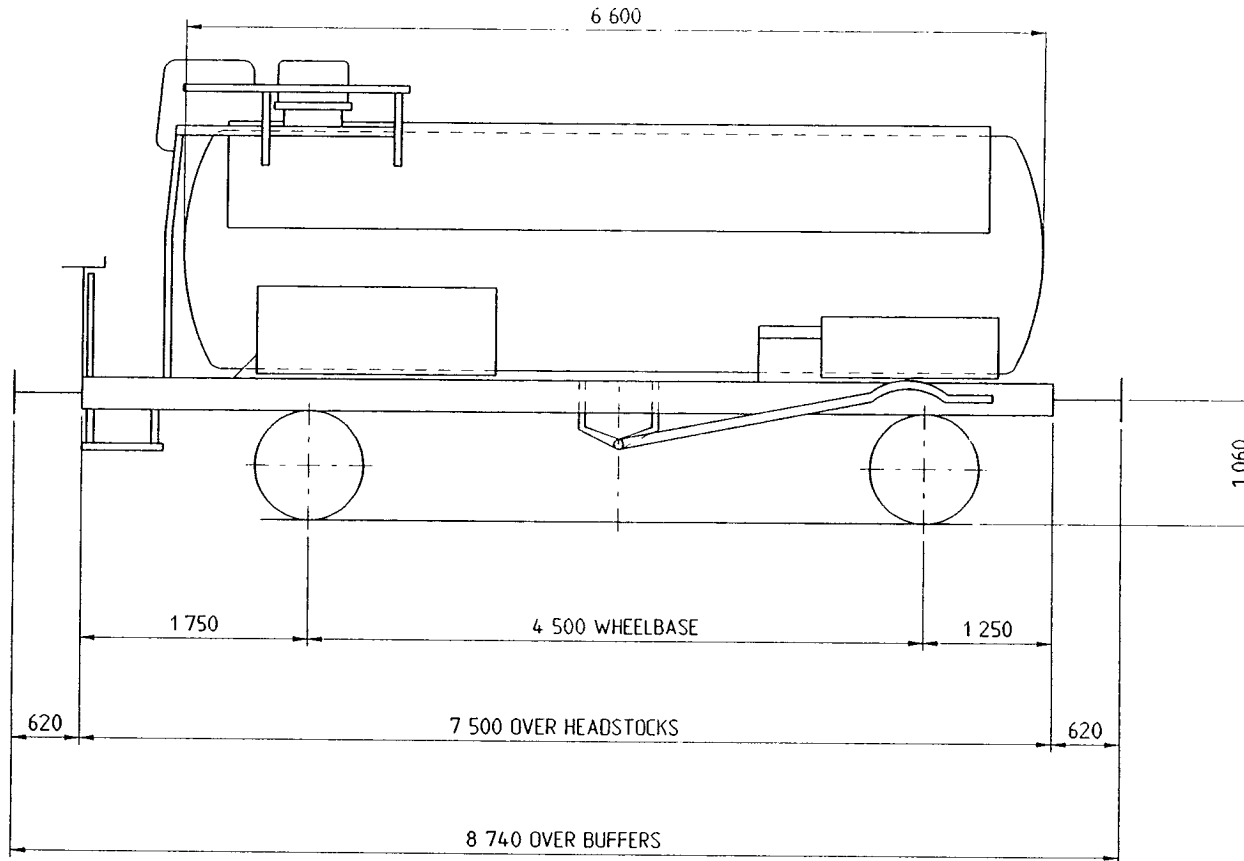
TARE-	10,6 t
CAPACITY, WEIGHT-	25,4 t
CAPACITY, VOLUME-	19 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No. - I/S	

BRAKE-	DUAL
SUSPENSION-	SINGLE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zf & Zef
WAGON No.-	23 83 7190 001, 002 23 83 7197 020, 021
BUILDER-	GALLINARI
OWNER-	SICEDISON



				TOPS INFORMATION									
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	17.8t	21.8t	23.1t		CARKND		50 mile/h UP TO	37 tonne GLW	9 t FORCE UP TO	22 t GLW	4	5	-
120					I	B	B	B	17 t FORCE ABOVE				



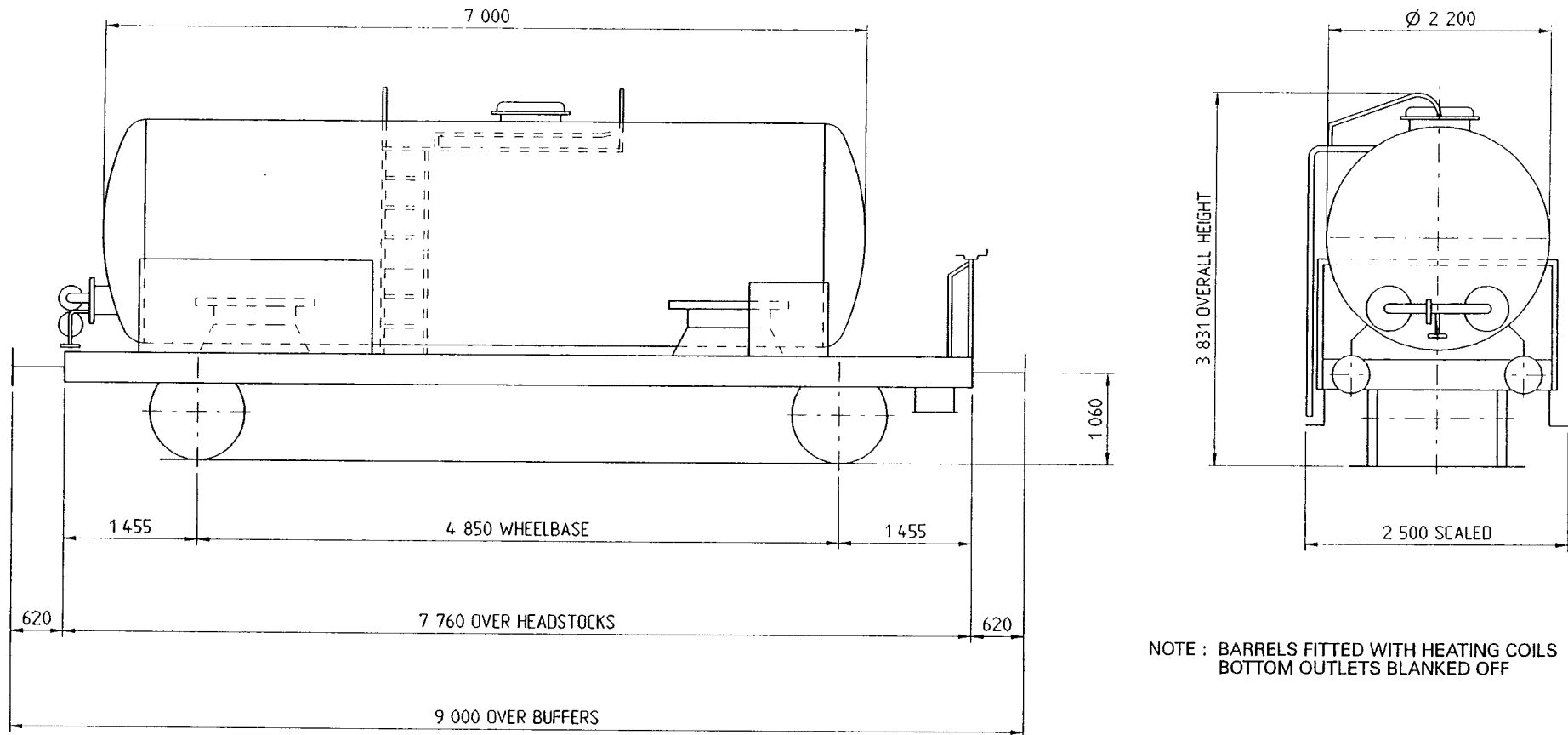
TARE-	14 t
CAPACITY, WEIGHT-	23 t
CAPACITY, VOLUME-	18.5 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	H8886-2

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zfgks
WAGON No.-	23 80 7395 000, 001
BUILDER-	HÖLS CHEMICAL WORKS
OWNER-	DB



					TOPS INFORMATION							
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20.2t	24.2t	28.2t		CARKND	50 mile/h UP TO	40 tonne GLW	5 t FORCE UP TO	15 t GLW	5	6	-
120					I B B B	mile/h ABOVE		13 t FORCE ABOVE				



NOTE : BARRELS FITTED WITH HEATING COILS
 BOTTOM OUTLETS BLANKED OFF

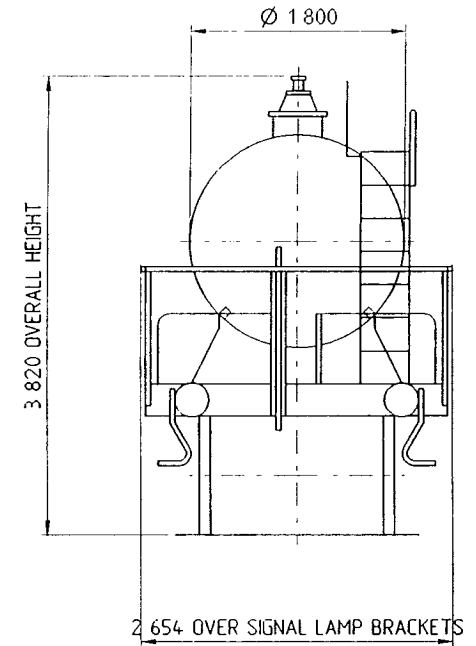
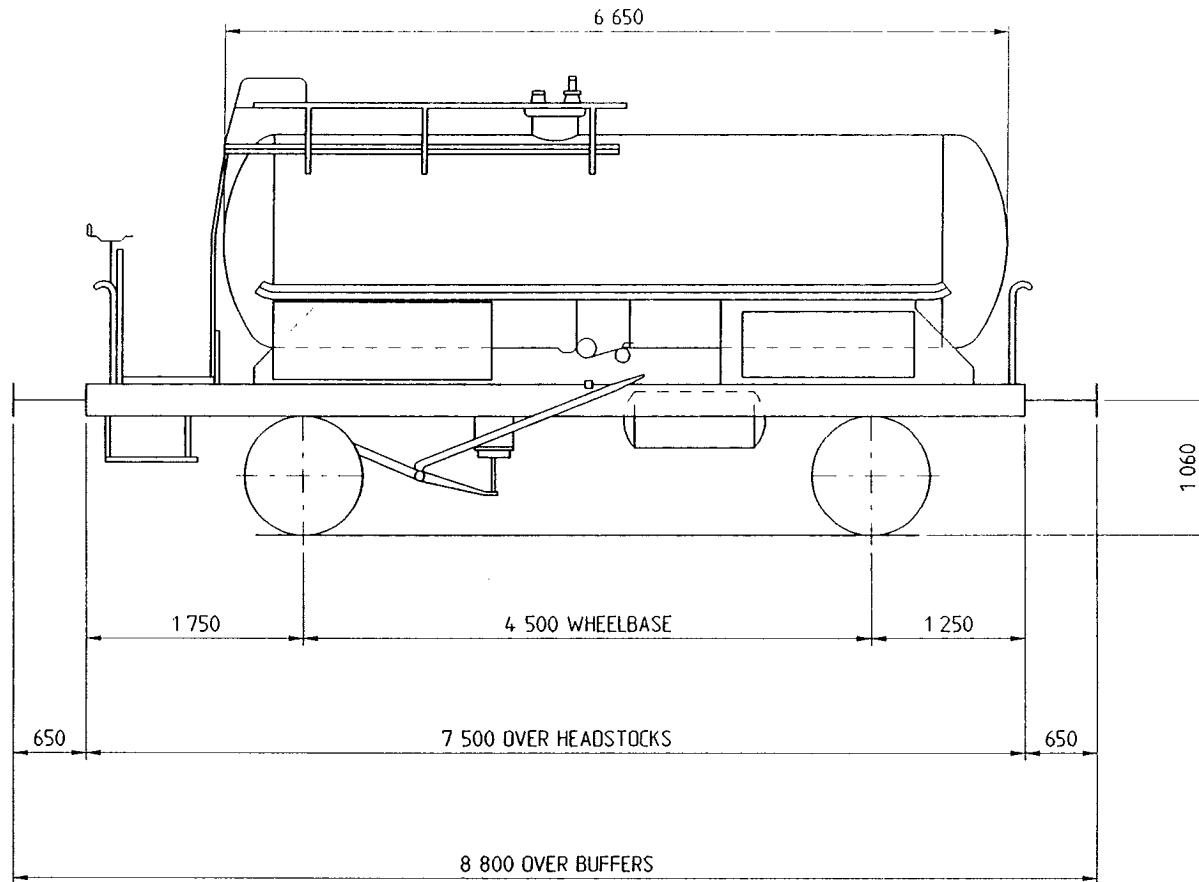
TARE-	11.8 t
CAPACITY, WEIGHT-	28.2 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	233-60.0150

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zef
WAGON No.-	23 83 7197 022, 023
BUILDER-	SIAI-LERICI
OWNER-	SICEDISON



				TOPS INFORMATION									
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	21.2t	22.2t	22.2t		CARKND		60 mile/h UP TO	33 tonne GLW	7 t FORCE UP TO	20 t GLW	4	4	-
120					I	B	B	B	17 t FORCE ABOVE				



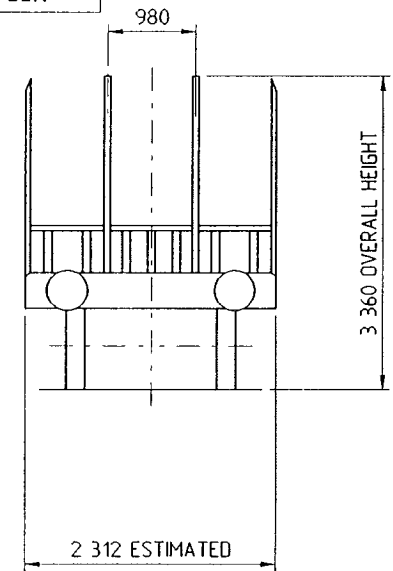
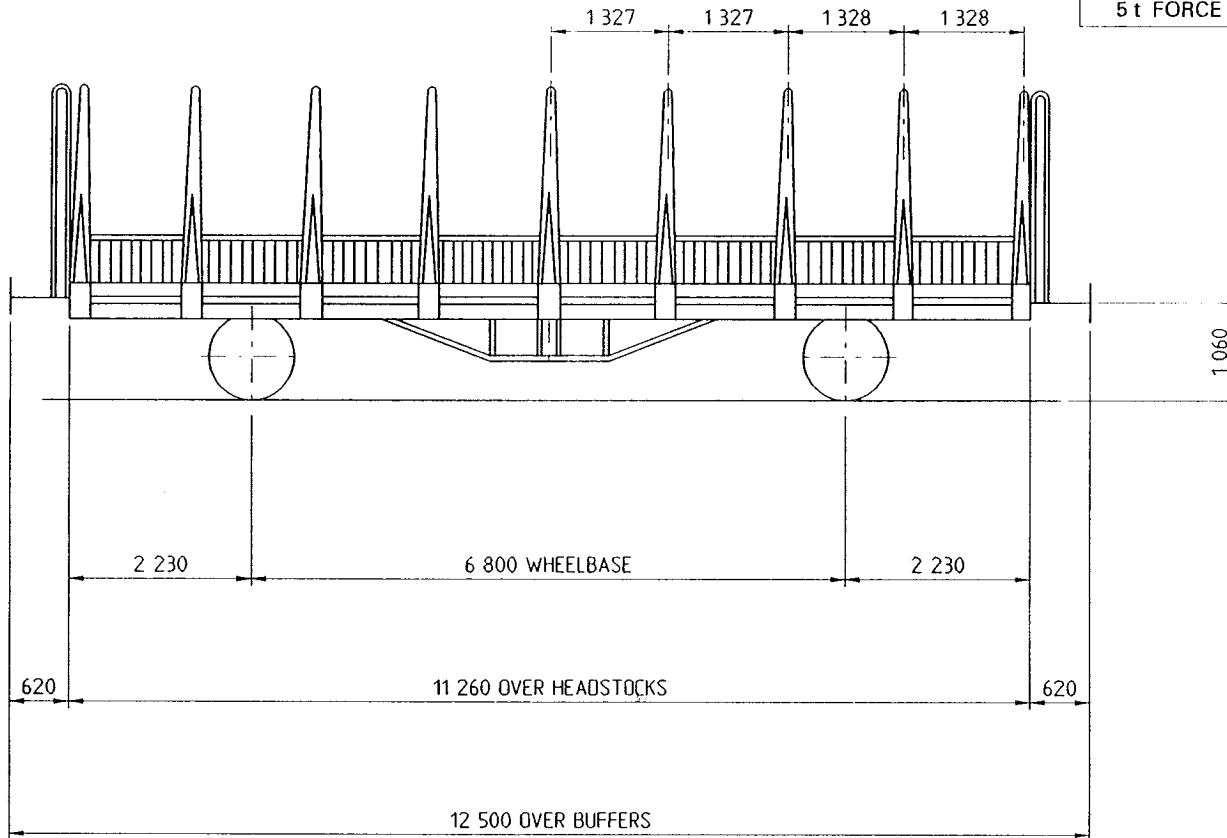
TARE-	10.9 t
CAPACITY, WEIGHT-	22.1 t
CAPACITY, VOLUME-	15 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRG. DRG. No.-	13931-2

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 930
JOURNALS-	Ø 130

TYPE-	Zcfkks
WAGON No.-	23 80 7491 401
BUILDER-	CHEMISCHE WERKE HÜLS
OWNER-	RECKLINGHAUSEN



					TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET	
S	19.5t	23.5t	27.5t			CARKND	60 mile/h UP TO	40 tonne GLW	5 t FORCE UP TO				21 t GLW
120						I F X A	mile/h ABOVE-		18 t FORCE ABOVE				



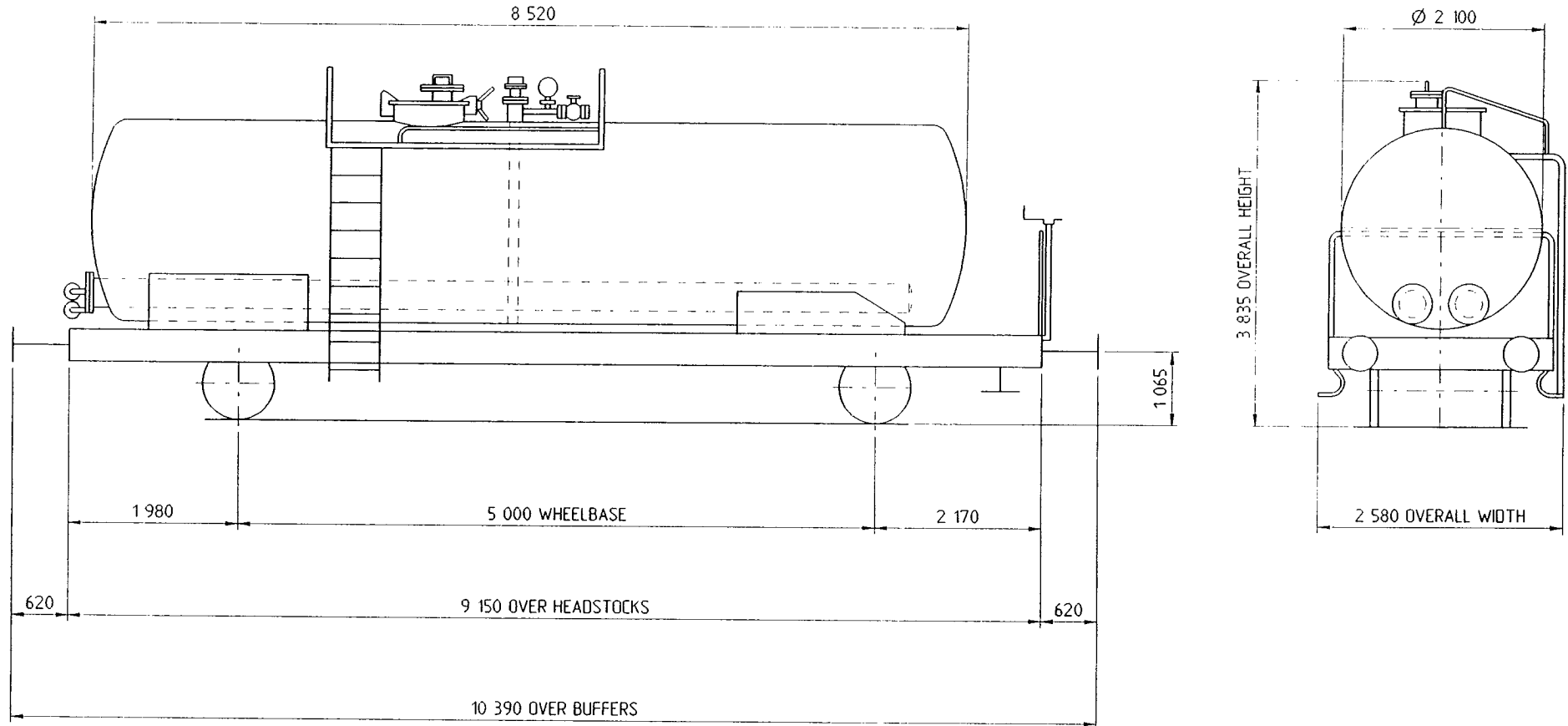
TARE-	12.3 t
CAPACITY, WEIGHT-	27.7 t
CAPACITY, VOLUME-	-
FLOOR AREA-	234 m ²
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	13133

BRAKE-	AIR; VAC (SEE NOTE)
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER ∅ 370
WHEELS-	∅ 1 000
JOURNALS-	∅ 130

TYPE-	Lfms
WAGON No.-	21 80 4142 049, 098, 120
BUILDER-	LINKE-HOFMANN-BUSCH
OWNER-	DB



90	A	B	C	D	TOPS INFORMATION						EXCESS LENGTH	RA (GLW)	DESIGN SHEET		
	20 t	24 t	28 t		AARKND	OPERATING SPEED		BRAKE FORCE DATA		7				6	-
	S				CARKND	50 mile/h UP TO	40 tonne GLW	6 t FORCE UP TO	15 t GLW						
120				I B B B	mile/h ABOVE		14 t FORCE ABOVE								



TARE-	12 t
CAPACITY, WEIGHT-	28 t
CAPACITY, VOLUME-	28 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	4095

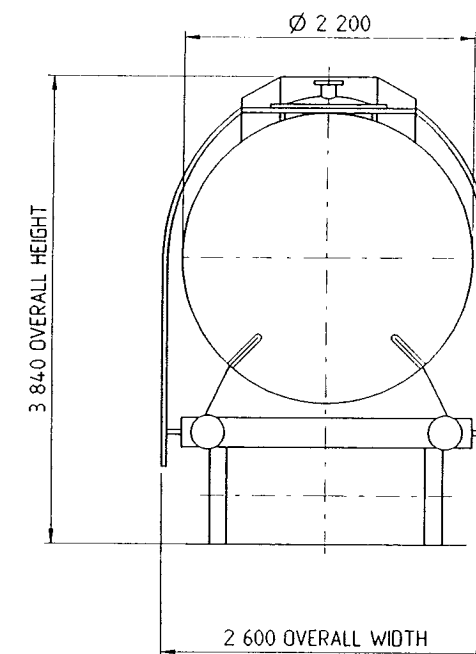
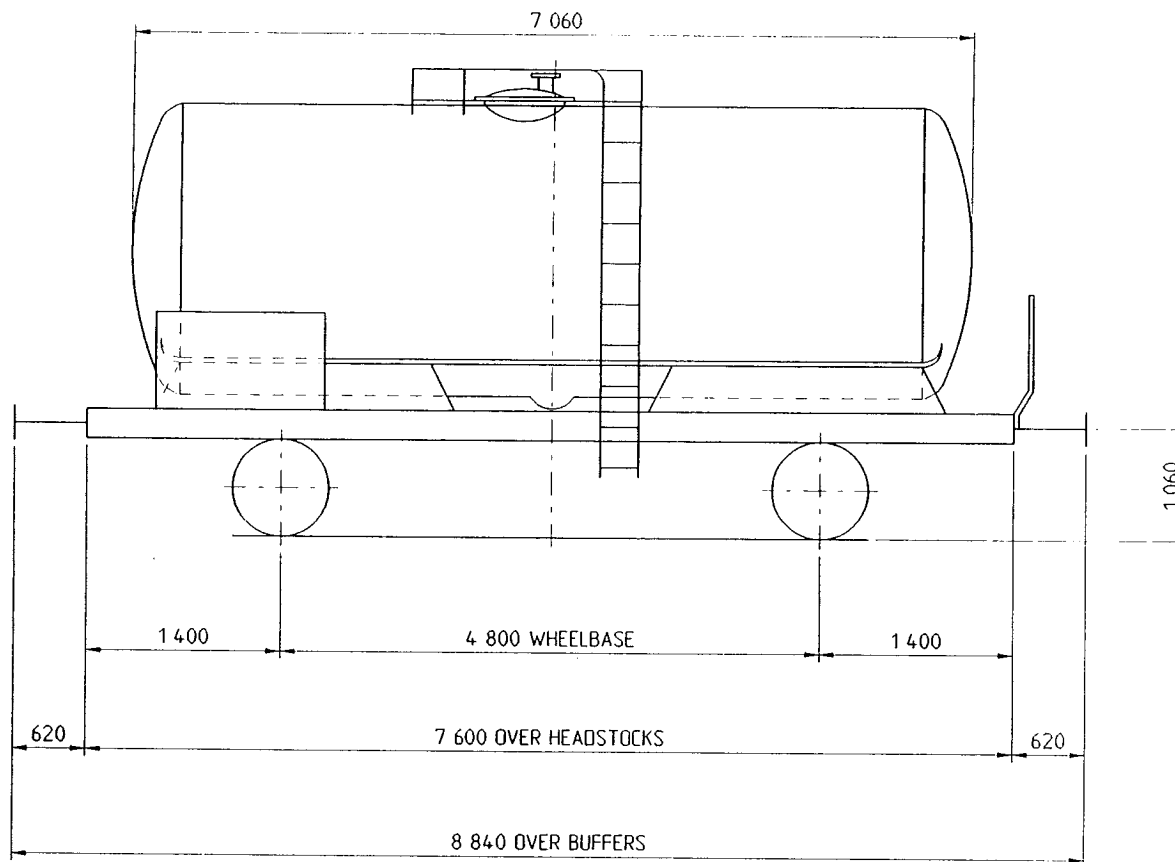
BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø400 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zef
WAGON No.-	23 83 7197 000-007
BUILDER-	EDISON, MILAN
OWNER-	F.S.



				TOPS INFORMATION								
90	A 17.1t	B 21.1t	C 25.1t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S					CARKND	50 mile/h UP TO mile/h ABOVE 36 tonne GLW		5 t FORCE UP TO FORCE ABOVE 36 t GLW		4	5	
120					I B B B							

NOTE :- FIGURES QUOTED FOR GLW, TARE, CAPACITY, ETC. ARE TO SUIT U.K. WITH PERMITTED 83% FILLING



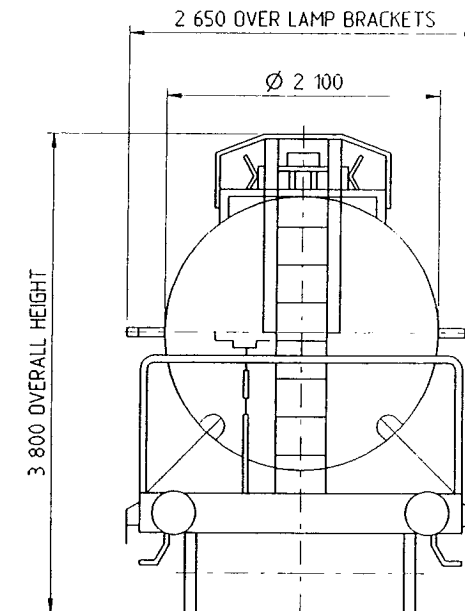
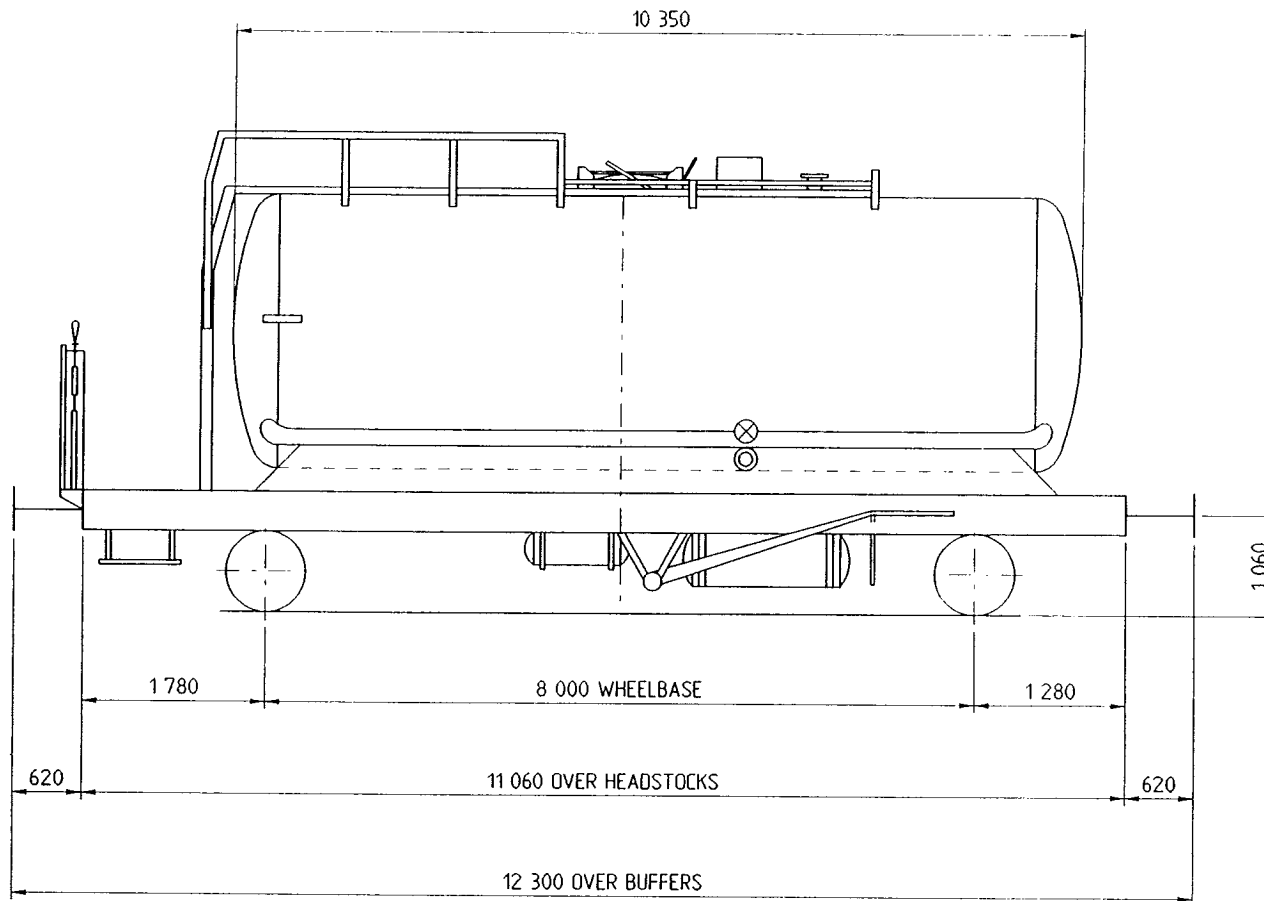
TARE-	10.89 t
CAPACITY, WEIGHT-	25.11 t
CAPACITY, VOLUME-	21 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	89005

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcf
WAGON No.-	23 87 7191 020
BUILDER-	FAUVET - GIREL
OWNER-	SOLVAY & CO



				TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	17.2t	21.2t	25.2t		CARKND	60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	18 t GLW	10	6	-
120	17.2t	21.2t	21.2t		I	50 mile/h ABOVE		15 t FORCE ABOVE				



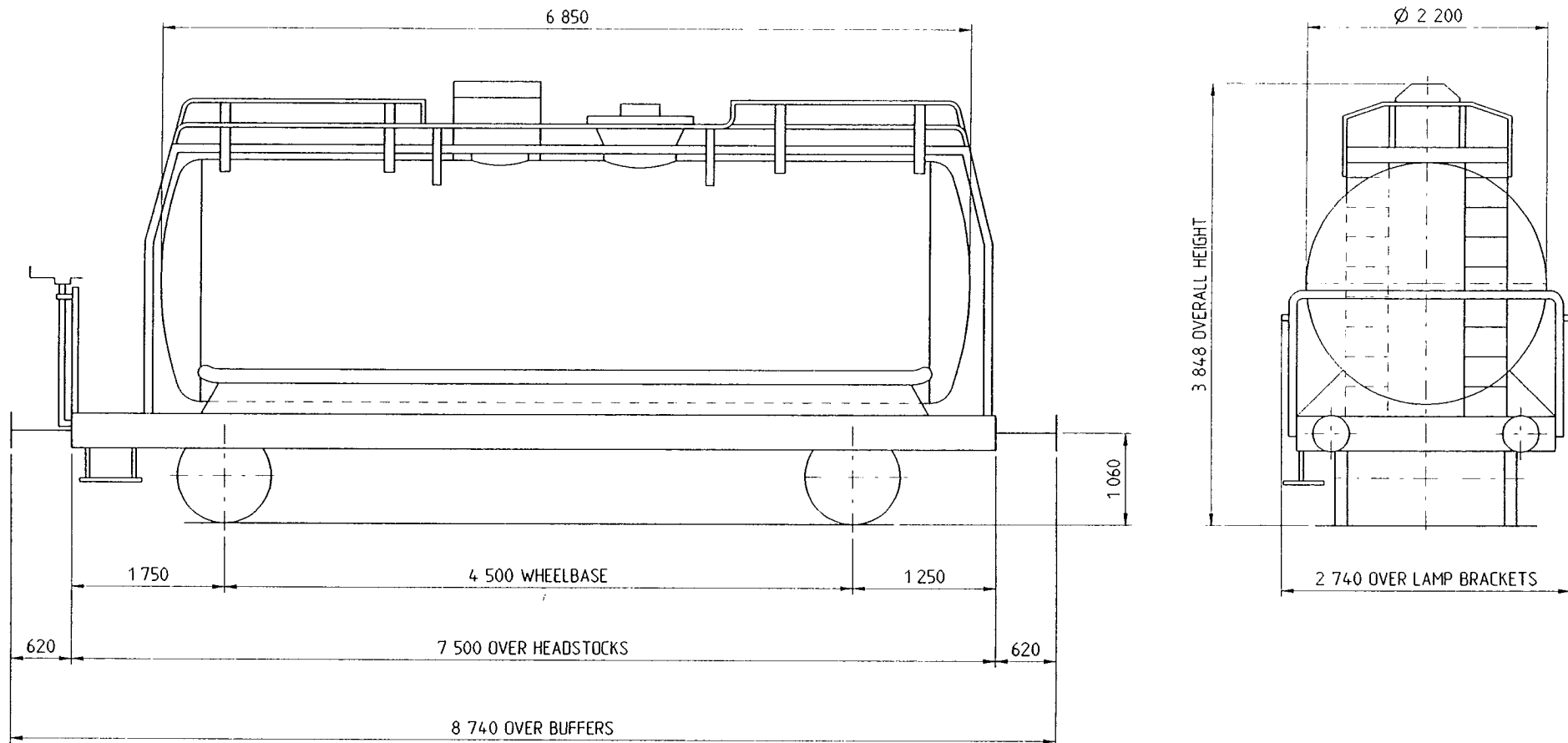
TARE-	14.8 t
CAPACITY, WEIGHT-	25.2 t
CAPACITY, VOLUME-	34 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	01.412

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs ; Zcefs
WAGON No.-	23 80 7391 000-004 23 80 7398 001-005
BUILDER-	V.T.G.
OWNER-	V.T.G.



					TOPS INFORMATION								
90	A 17.2t	B 21.2t	C 25.2t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	17.2t	21.2t	21.2t		CARKND		60 mile/h UP TO	36 tonne GLW	9 t FORCE UP TO	21 t GLW	4	6	-
120					I B X C	50 mile/h ABOVE	18 t FORCE ABOVE						



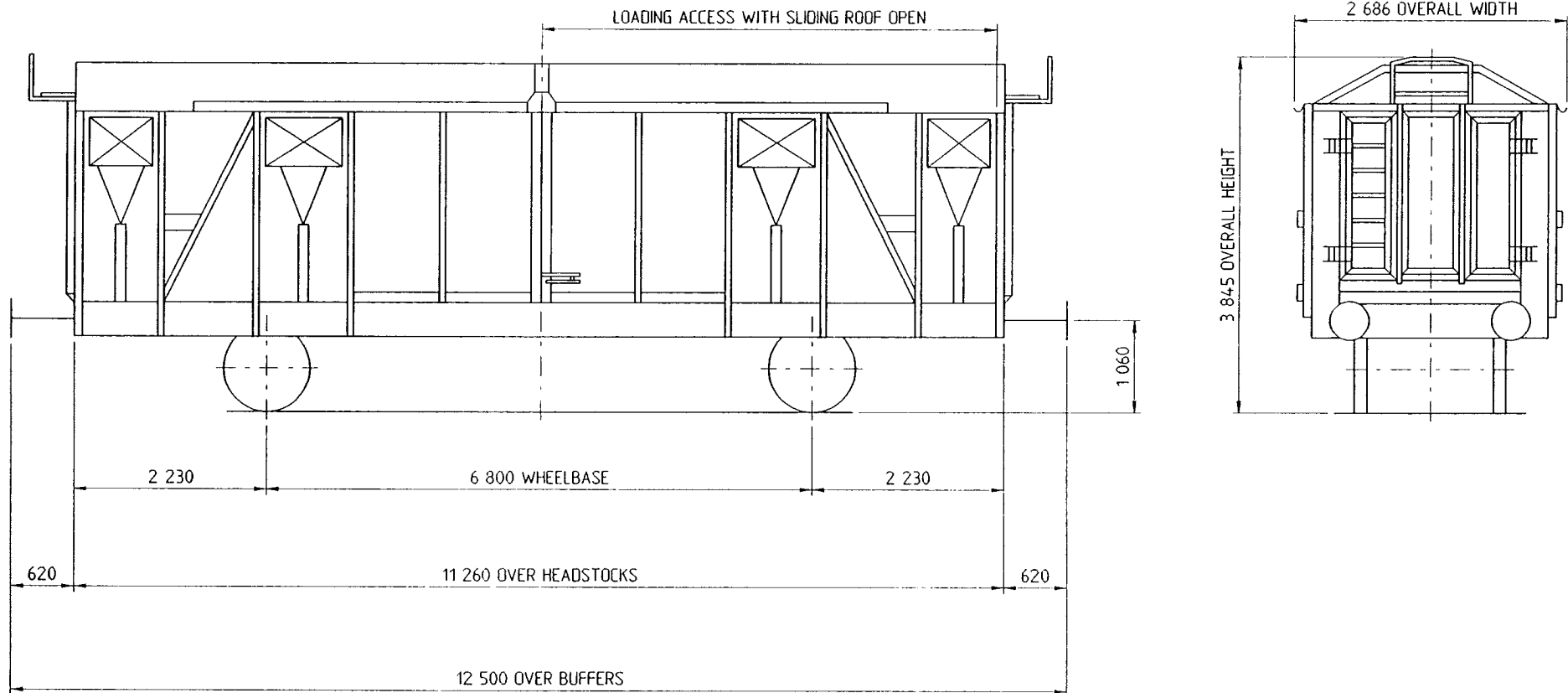
TARE-	14.8 t
CAPACITY, WEIGHT-	25.2 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	W 1450

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 400
BUILDER-	KAMINSKI
OWNER-	EVA



90	A	B	C	D	TOPS INFORMATION							
	18 t	22 t	26 t		AARKND	OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
	S	18 t	22 t	26 t	CARKND	60 mile/h UP TO mile/h ABOVE 39.5 tonne GLW		5 t FORCE UP TO 18 t FORCE ABOVE 21 t GLW		10	6	-
120					I M X S			VAC BRAKE FORCE DATA				
								5 t FORCE UP TO 39.5 t GLW				



TARE-	13.5 t
CAPACITY, WEIGHT-	26.5 t
CAPACITY, VOLUME-	58 m ³
FLOOR AREA-	25 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	12.117.01.01

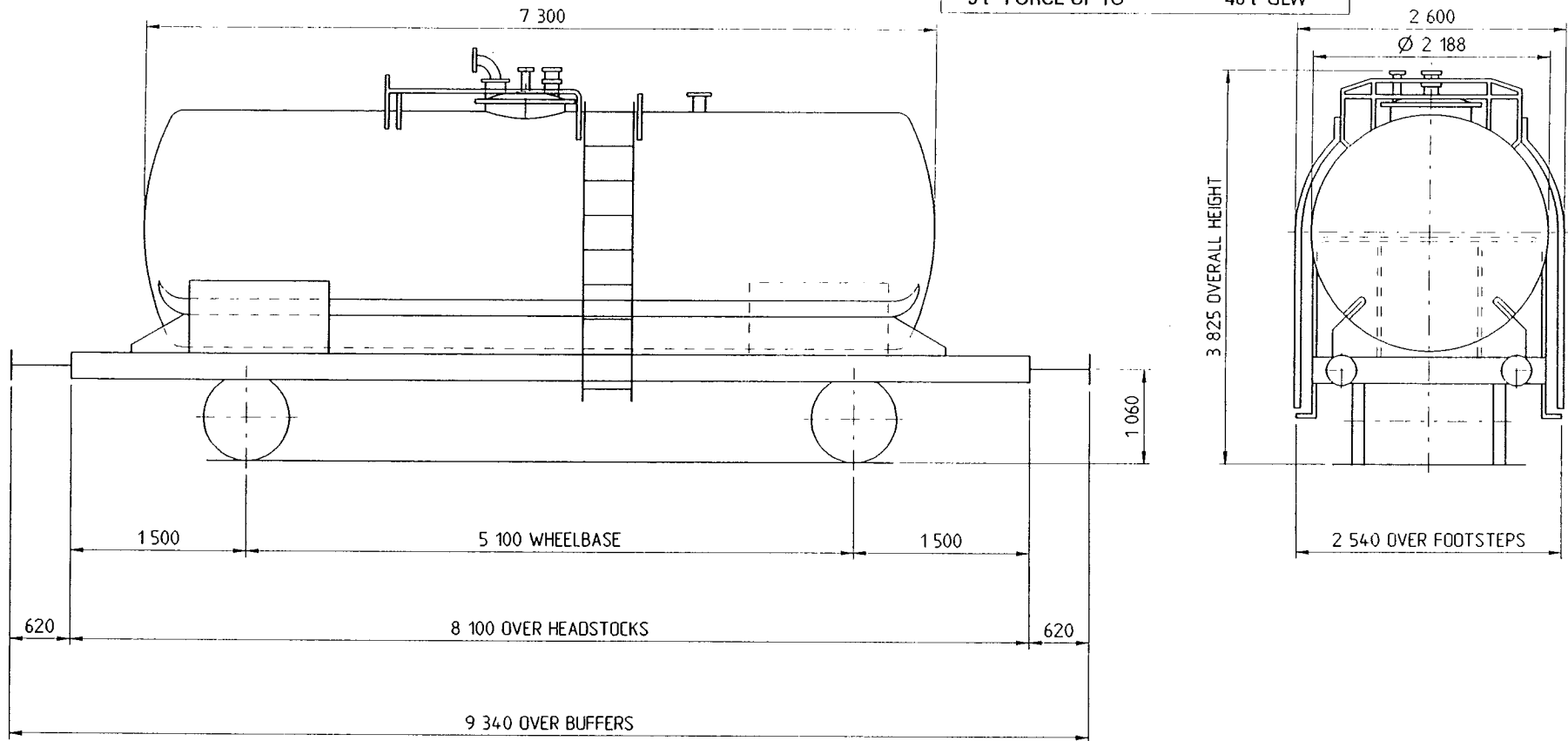
BRAKE-	DUAL & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Tcfs
WAGON No.-	21 80 0795 089 21 80 5795 004, 006, 014, 061, 085, 093
BUILDER-	D.B.
OWNER-	D.B.



	A	B	C	D	TOPS INFORMATION								
90	17 t	21 t	25 t		AARKND		OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S					CARKND		50 mile/h UP TO	40 tonne GLW	14 t FORCE UP TO	21 t GLW	5	5	-
120					I	B	X	B	24 t FORCE ABOVE				
									VAC BRAKE FORCE DATA				
									5 t FORCE UP TO	40 t GLW			

NOTE:- FILL TO 93% OF CAPACITY AT 15°C (ALLYL CHLORIDE)



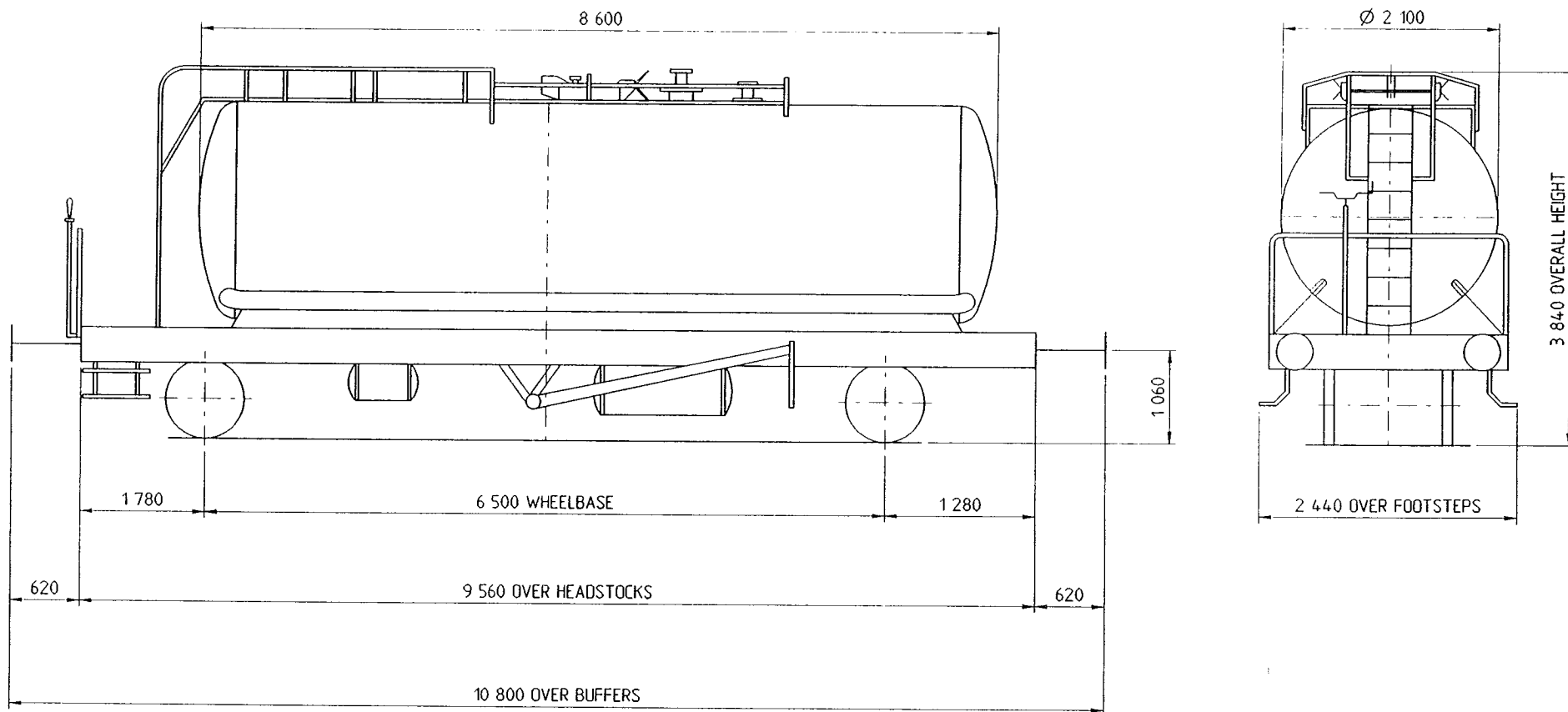
TARE-	10.97 t
CAPACITY, WEIGHT-	25.03 t
CAPACITY, VOLUME-	26 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	91022

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zf
WAGON No.-	23 87 7191 022
BUILDER-	FAUVET - GIREL
OWNER-	SOLVAY & CO



				TOPS INFORMATION									
	A	B	C	D	OPERATING SPEED				BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	19.5t	23.5t	27.5t		60 mile/h UP TO		36 tonne GLW		5 t FORCE UP TO		7	6	-
S	19.5t	23.5t	27.5t		50 mile/h ABOVE				15 t FORCE ABOVE				
120													



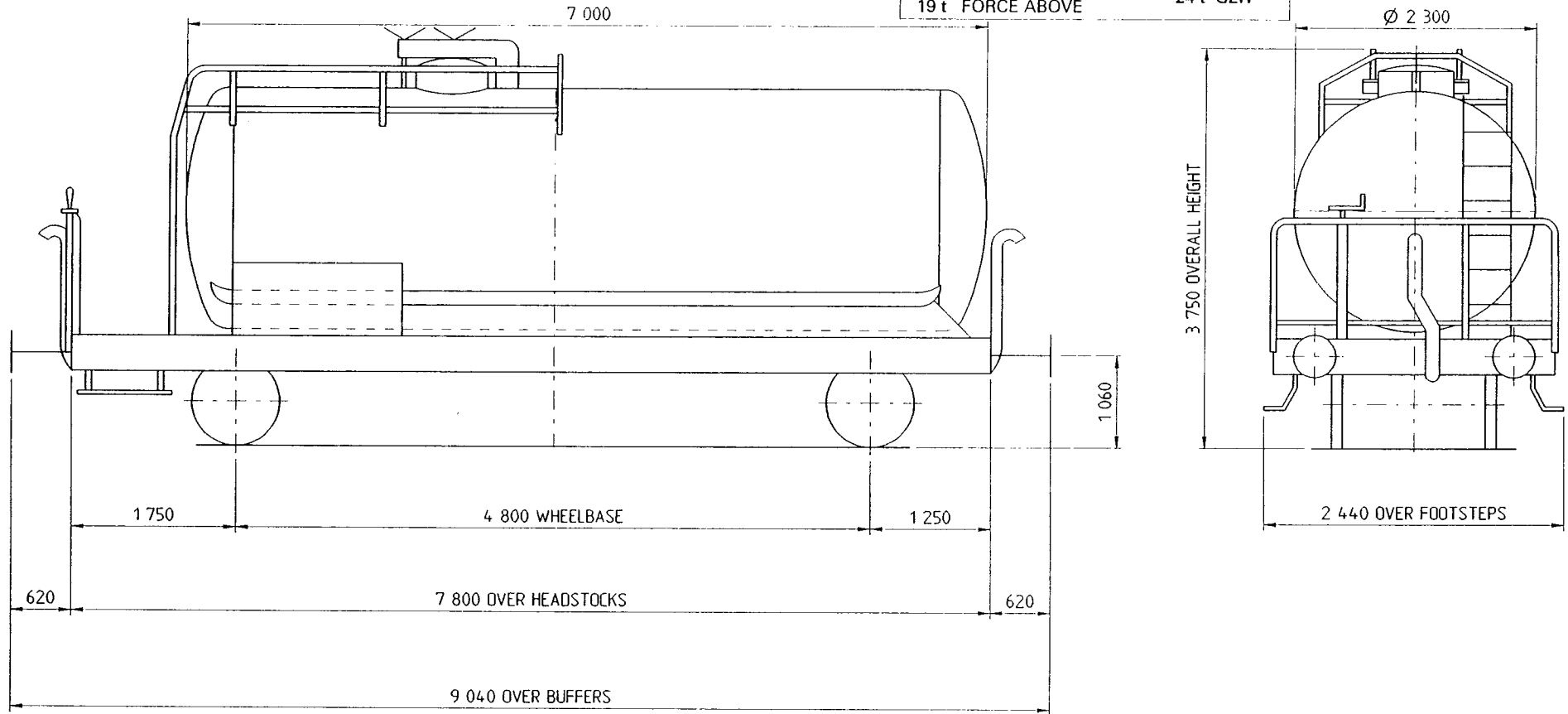
TARE-	12.5 t
CAPACITY, WEIGHT-	27.5 t
CAPACITY, VOLUME-	28 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	2233.01.434

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcefs
WAGON No.-	23 80 7398 006, 007
BUILDER-	V.T.G.
OWNER-	V.T.G.



				TOPS INFORMATION																																																												
90	A	B	C	D	AARKND				OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET																																																	
S	18 t	22 t	26 t		CARKND				60 mile/h UP TO	36 tonne GLW	11 t FORCE UP TO	24 t GLW																																																				
120	18 t	22 t	22 t		I	B	X	C	50 mile/h ABOVE		20 t FORCE ABOVE		5	6	-																																																	
NOTE:- 10 % ULLAGE																																																																
<table border="1"> <thead> <tr> <th colspan="10"></th> <th colspan="2">VAC BRAKE FORCE DATA</th> <th colspan="2"></th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td colspan="10"></td> <td>9 t FORCE UP TO</td> <td>24 t GLW</td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="10"></td> <td>19 t FORCE ABOVE</td> <td></td> <td colspan="2"></td> <td colspan="2"></td> </tr> </tbody> </table>																											VAC BRAKE FORCE DATA																9 t FORCE UP TO	24 t GLW															19 t FORCE ABOVE					
										VAC BRAKE FORCE DATA																																																						
										9 t FORCE UP TO	24 t GLW																																																					
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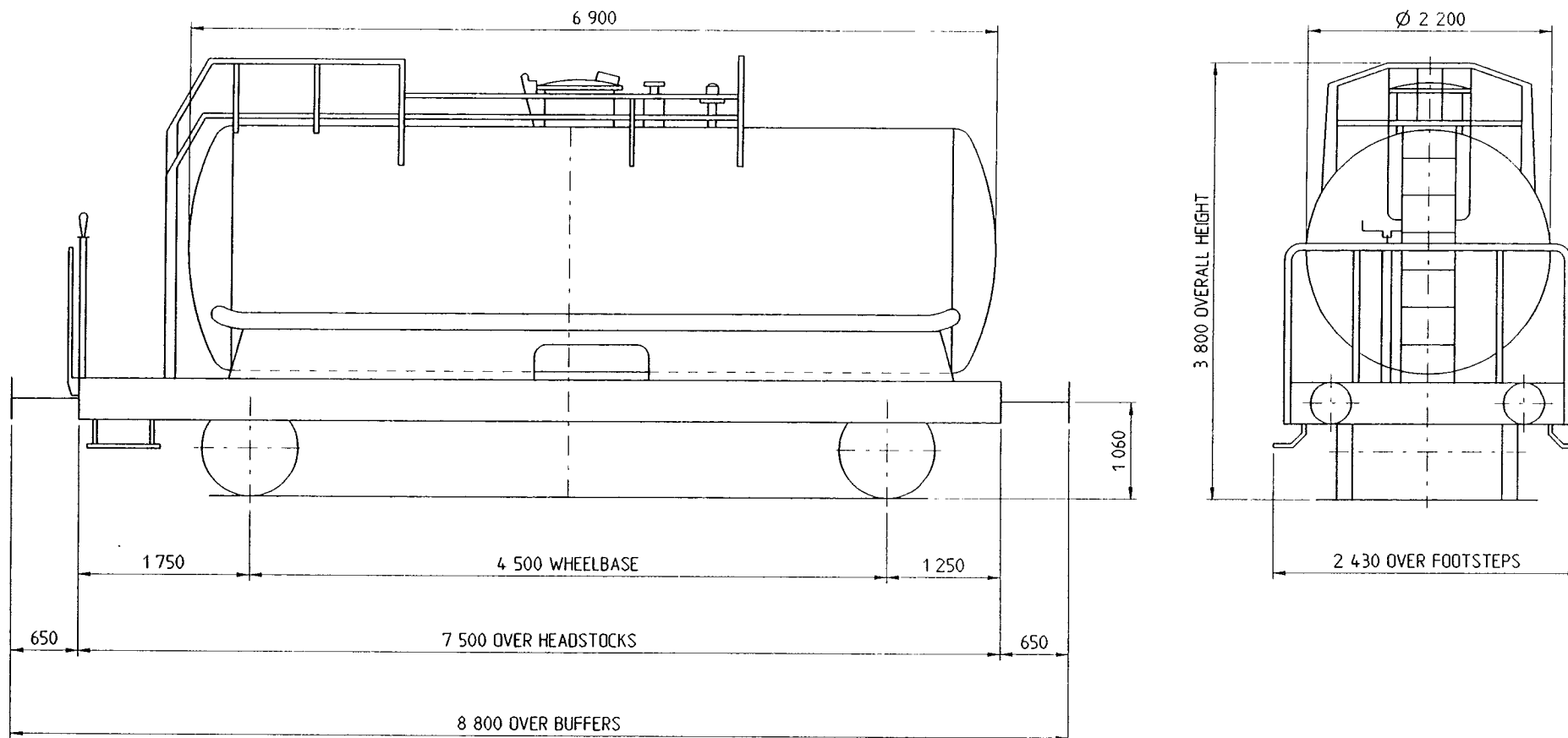
TARE-	14 t
CAPACITY, WEIGHT-	26 t
CAPACITY, VOLUME-	26.4 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	-

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 450 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zfs
WAGON No.-	23 80 7390 405
BUILDER-	HEINRICH WILHELM
OWNER-	VEBA CHEMICALS



				TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
	21 t	25 t	29 t			60 mile/h UP TO	36 tonne GLW	5 t FORCE UP TO	18 t GLW			
S	21 t	25 t	29 t		CARKND	50 mile/h ABOVE		15 t FORCE ABOVE		4	6	-
120					I B B C							



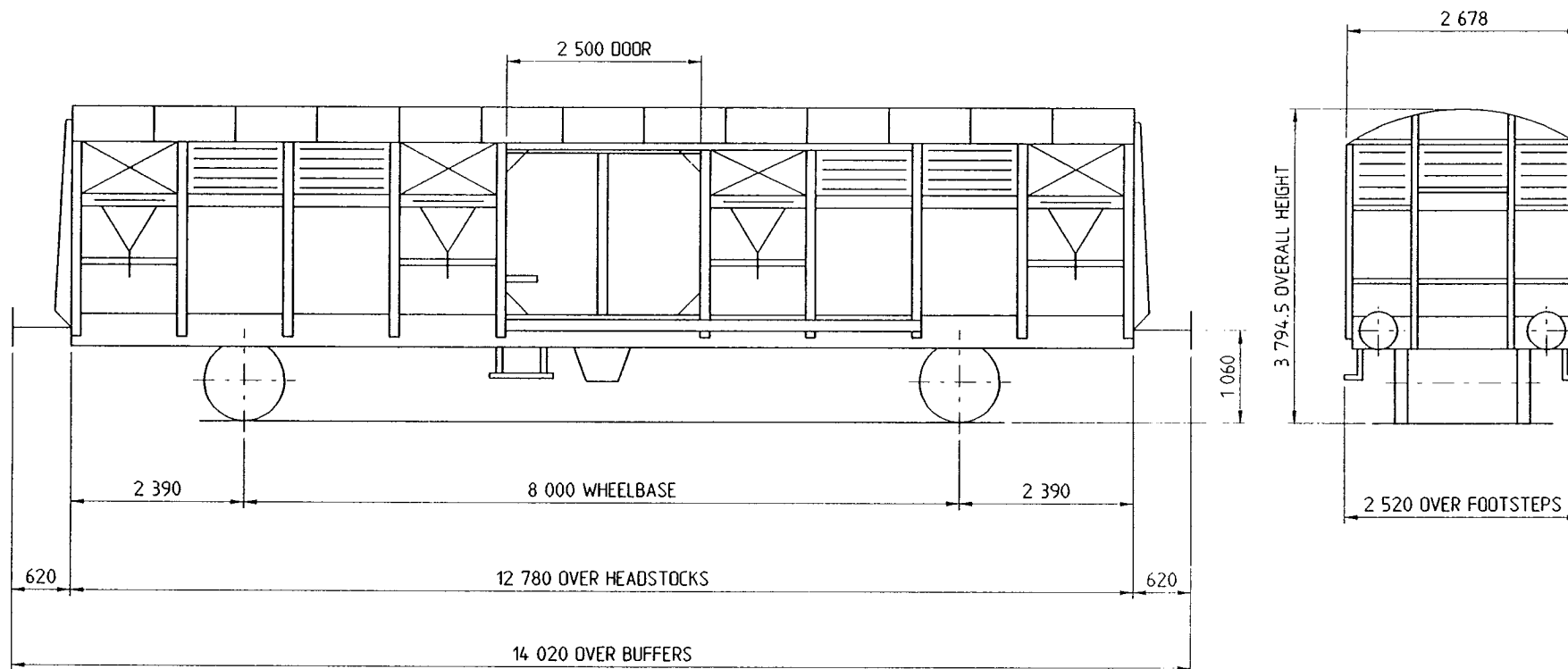
TARE-	11.4 t
CAPACITY, WEIGHT-	28.6 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2333.01.445

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø380
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 016
BUILDER-	V.T.G.
OWNER-	V.T.G.



					TOPS INFORMATION							
90	A 18 t	B 22 t	C 26 t	D	AARKND	OPERATING SPEED		AIR BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	18 t	22 t	25 t		CARKND	60 mile/h UP TO	39 tonne GLW	7 t FORCE UP TO	24 t GLW	12	6	-
120					I L X L	50 mile/h ABOVE		VACUUM BRAKE FORCE DATA				
								5 t FORCE UP TO	40 t GLW			



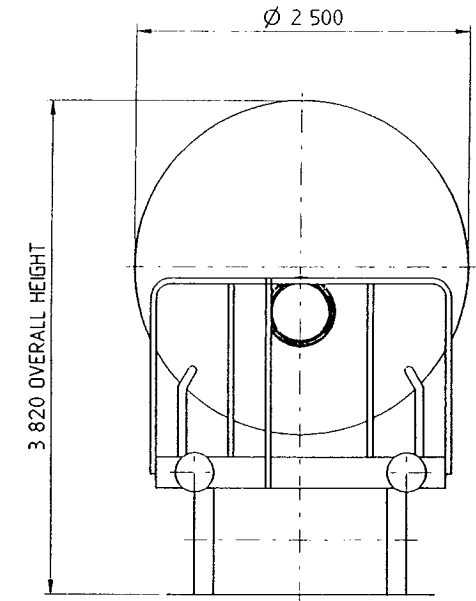
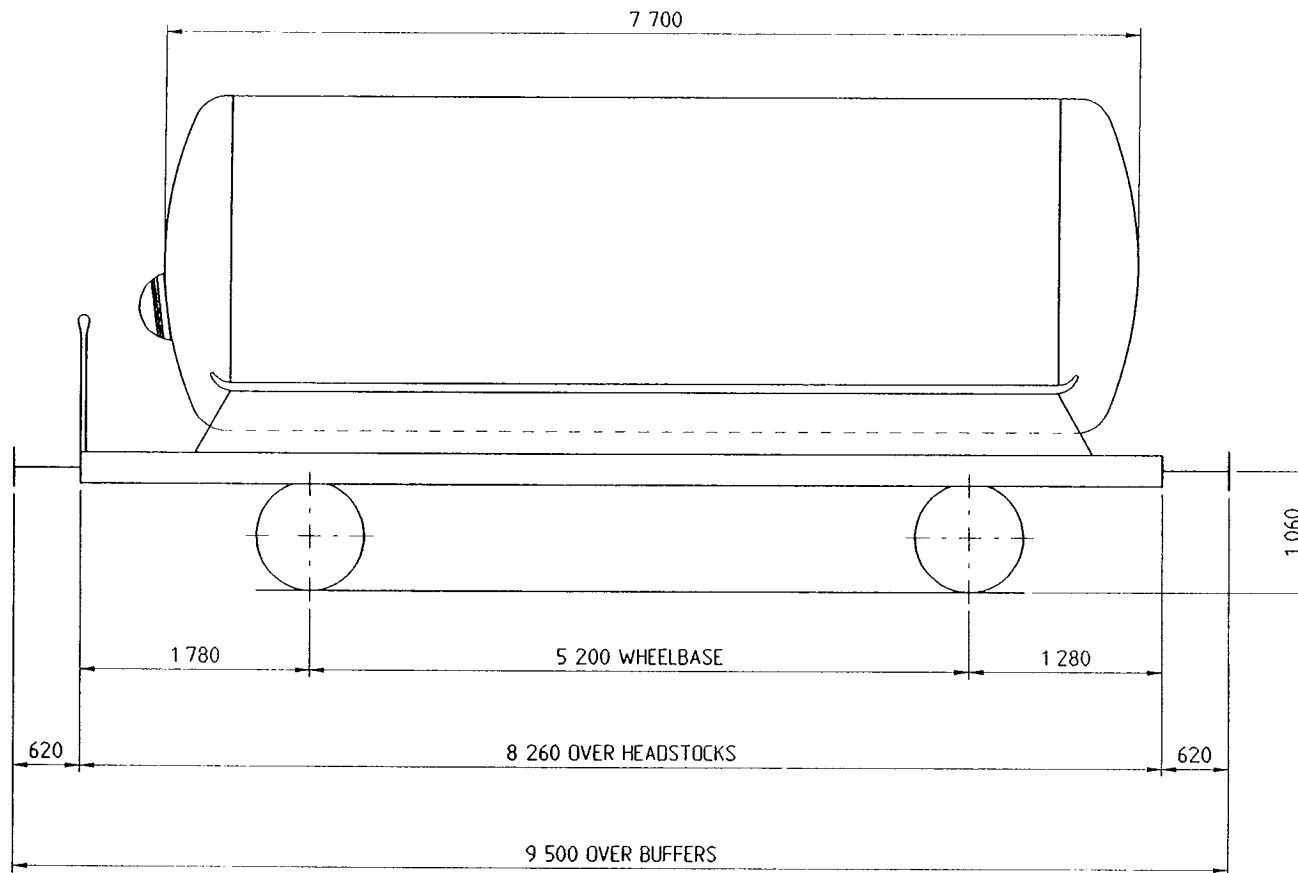
TARE-	14 t
CAPACITY, WEIGHT-	26 t
CAPACITY, VOLUME-	69 m ³
FLOOR AREA-	29 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	10.148160

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	∅ 1 000
JOURNALS-	∅ 130

TYPE-	Hbfs
WAGON No.-	21 87 2380 002 - 999 (RANGE)
BUILDER-	
OWNER-	



				TOPS INFORMATION								
90	A 18 t	B 22 t	C 26 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	18 t	22 t	26 t		CARKND	60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	18 t GLW	5	6	-
120					I B B C	50 mile/h ABOVE		15 t FORCE ABOVE				



TARE-	14 t
CAPACITY, WEIGHT-	26 t
CAPACITY, VOLUME-	35 m ³
FLOOR AREA-	--
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2641.01.455

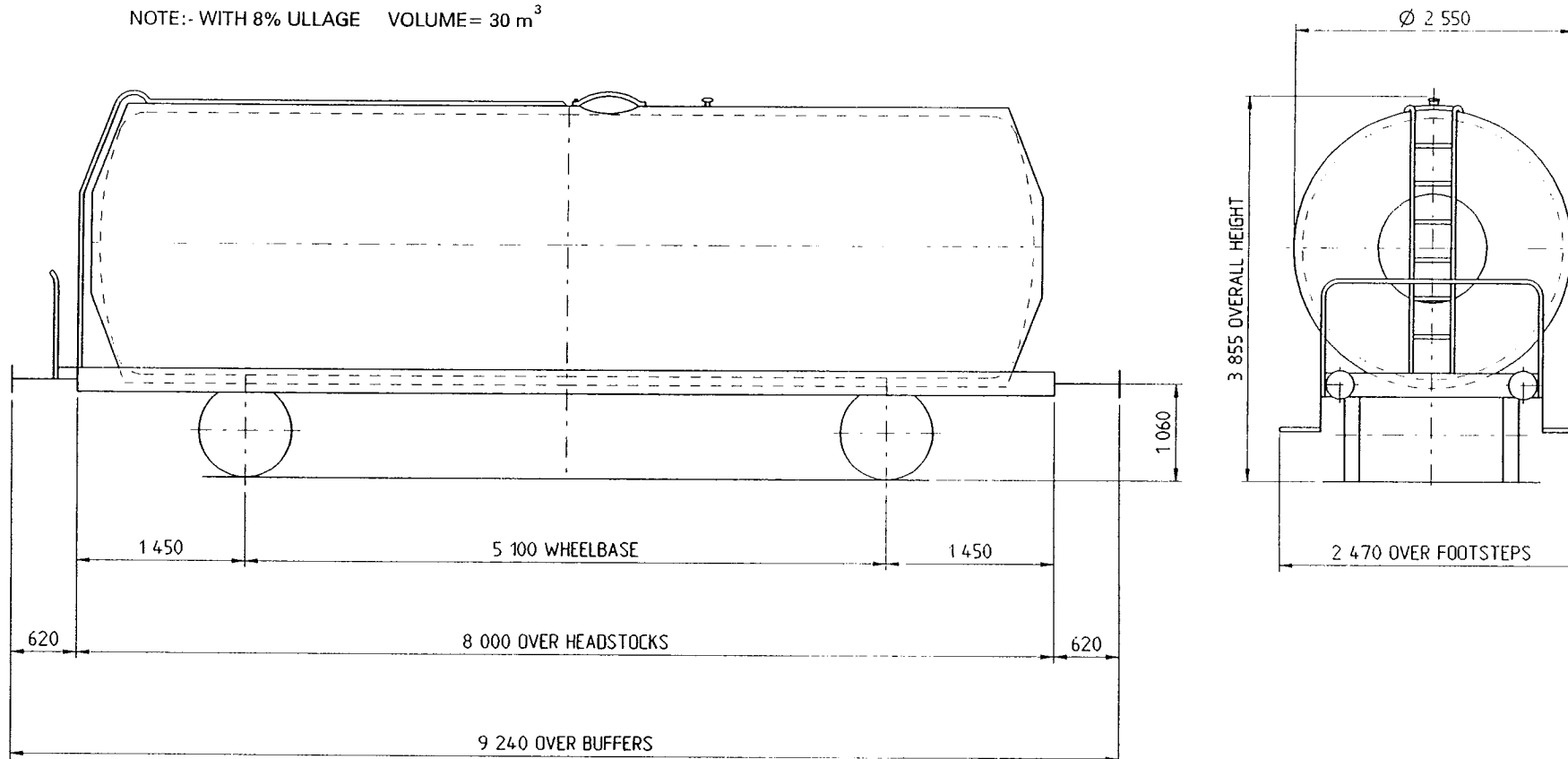
BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 370
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zfgs
WAGON No.-	23 80 7394 000
BUILDER-	V.T.G.
OWNER-	V.T.G.



				TOPS INFORMATION								
90	A 14.2t	B 23.2t	C 27.2t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	15.2t	23.2t	23.2t		CARKND	60 mile/h UP TO	36 tonne GLW	8 t FORCE UP TO	20 t GLW	5	6	-
120					I B X C	50 mile/h ABOVE		16 t FORCE ABOVE				

NOTE:- WITH 8% ULLAGE VOLUME = 30 m³



TARE-	13 t
CAPACITY, WEIGHT-	27 t
CAPACITY, VOLUME-	32.5 m ³ (SEE NOTE)
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	1-2-0-154

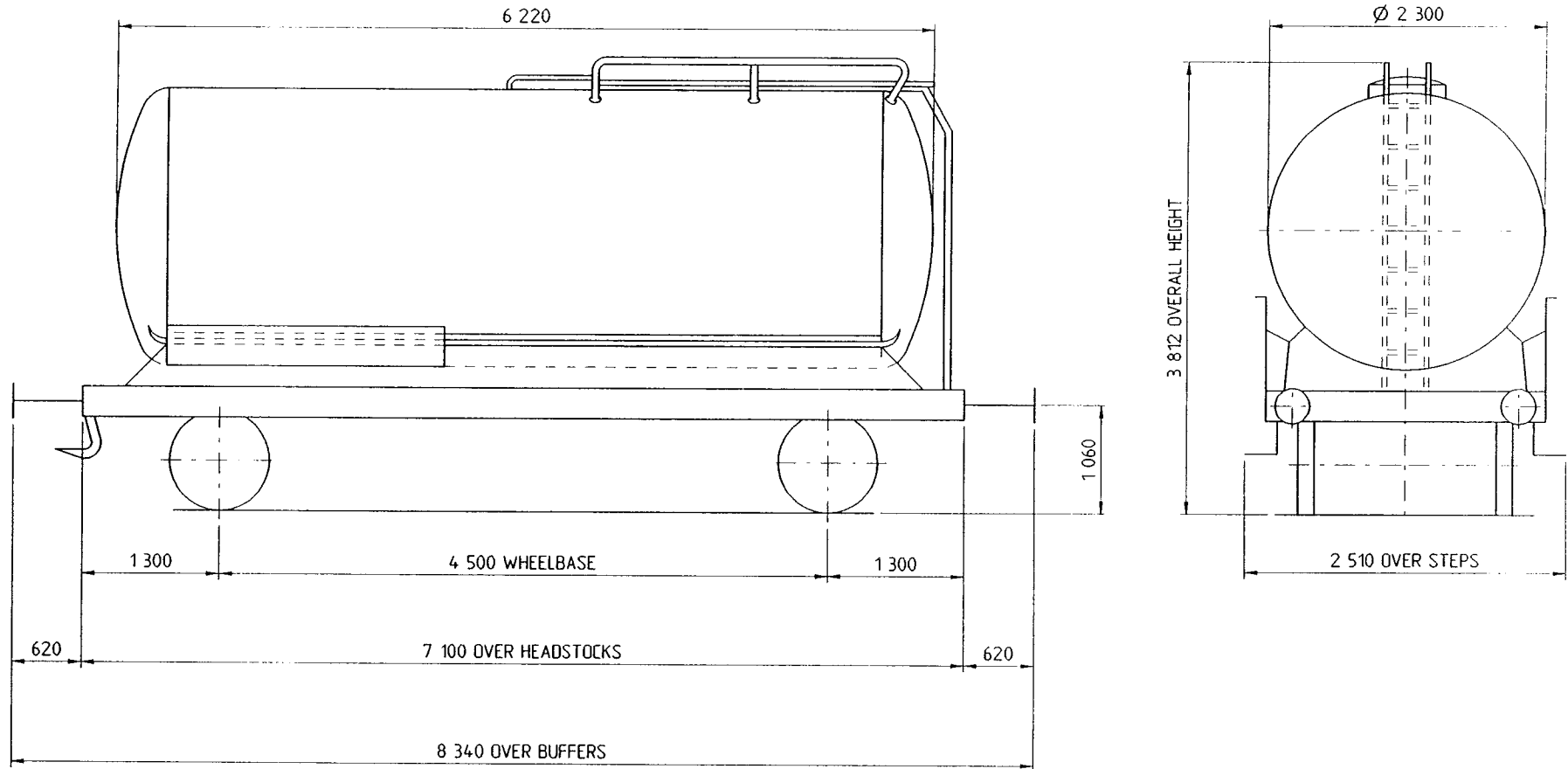
BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 400 HD
WHEELS-	Ø 1000
JOURNALS-	Ø 130

TYPE-	Zefs
WAGON No.-	23 87 7397 000 - 001
BUILDER-	C.F.P.M.
OWNER-	S.N.C.F.



					TOPS INFORMATION								
	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	21.6t	25.8t	25.8t				50 mile/h UP TO mile/h ABOVE		5 t FORCE UP TO FORCE ABOVE		4	5	-
S					CARKND		36 tonne GLW		36 t GLW				
120					I	B	B	B					

NOTE:- NO PLATFORM



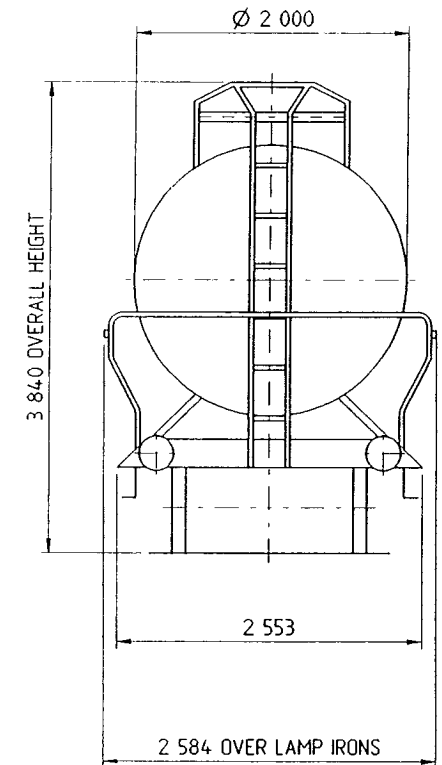
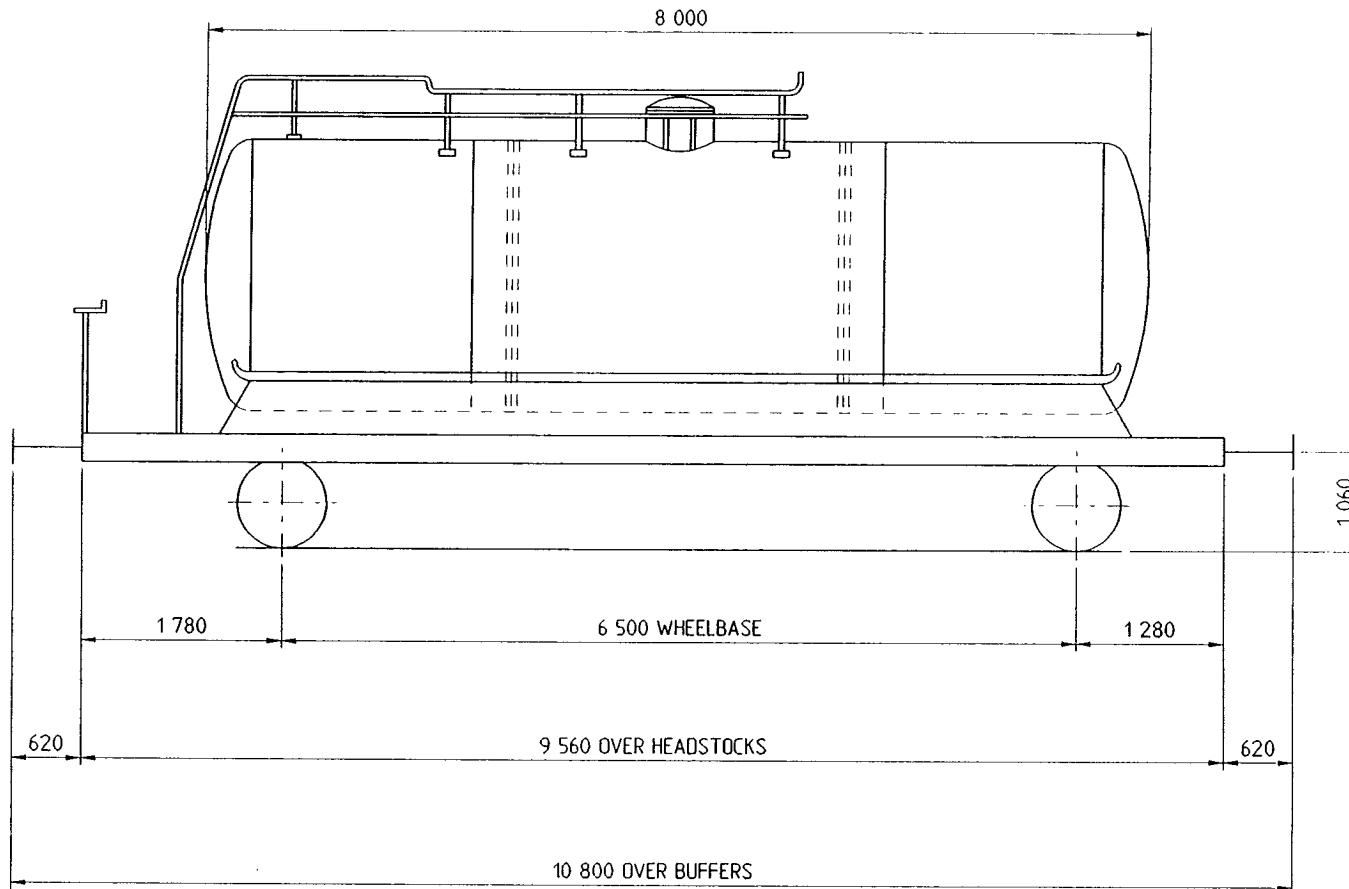
TARE-	10.23 t
CAPACITY, WEIGHT-	25.77 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	92685

BRAKE-	AIR & VAC THRO' PIPE: SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø400 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zf
WAGON No.-	23 87 7190 503, 506
BUILDER-	FAUVET GIREL
OWNER-	ERMEWA



					TOPS INFORMATION							
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	19.8t	23.8t	27.8t	CARKND		60 mile/h UP TO	36 tonne GLW	8 t FORCE UP TO	20 t GLW			
120	19.8t	23.8t	23.8t	I B B C		50 mile/h ABOVE		17 t FORCE ABOVE				



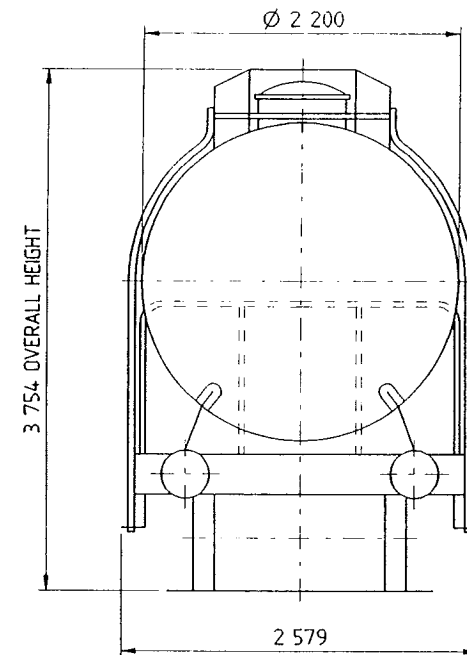
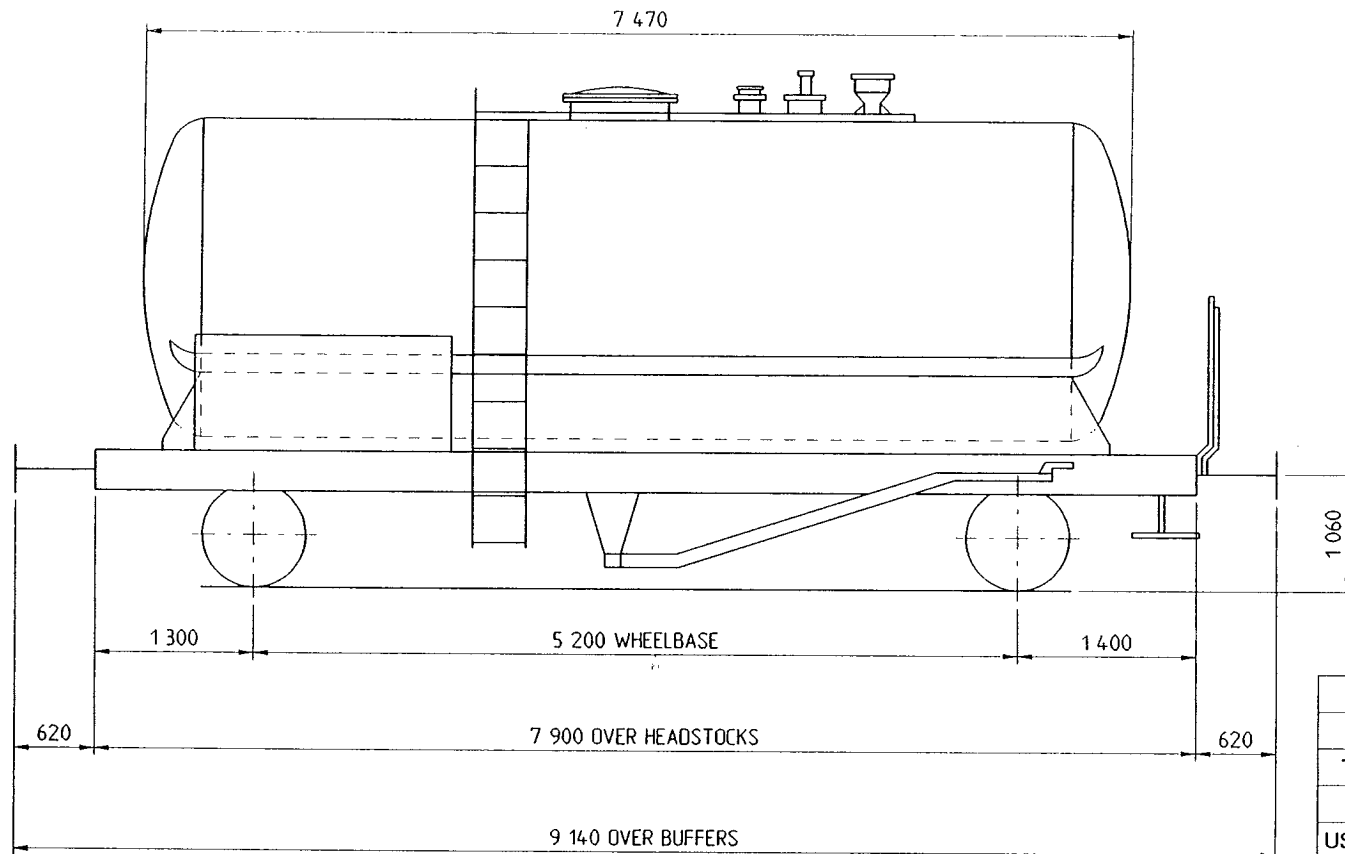
TARE-	12.2 t
CAPACITY, WEIGHT-	27.8 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K192.01.01

BRAKE-	AIR & VAC THRO' PIPE: PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 370
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 708-710
BUILDER-	GRAAFF
OWNER-	CONTINENTAL OIL TRANSPORT



				TOPS INFORMATION									
90	A 21.4t	B 25.4t	C 29.4t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET	
S					CARKND	50 mile/h UP TO mile/h ABOVE		13 t FORCE UP TO 23 t FORCE ABOVE		AIR 22 t GLW	5	6	-
120					I B X B	40 tonne GLW		6 t FORCE UP TO 18 t FORCE ABOVE		VAC 22 t GLW			



NOTE:	FRANCE		ENGLAND	
DENSITY	1.13	1.20	1.13	1.20
TOTAL CAPACITY (hl)	264.5	264.5	264.5	264.5
LOSS ON ROUTE	4%	7.5%	15.2%	20.3%
USEFUL CAPACITY (hl)	254	244.5	224.5	211

TARE-	10.65t
CAPACITY, WEIGHT-	29.35t
CAPACITY, VOLUME-	26 m ³ (SEE NOTE)
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	93167

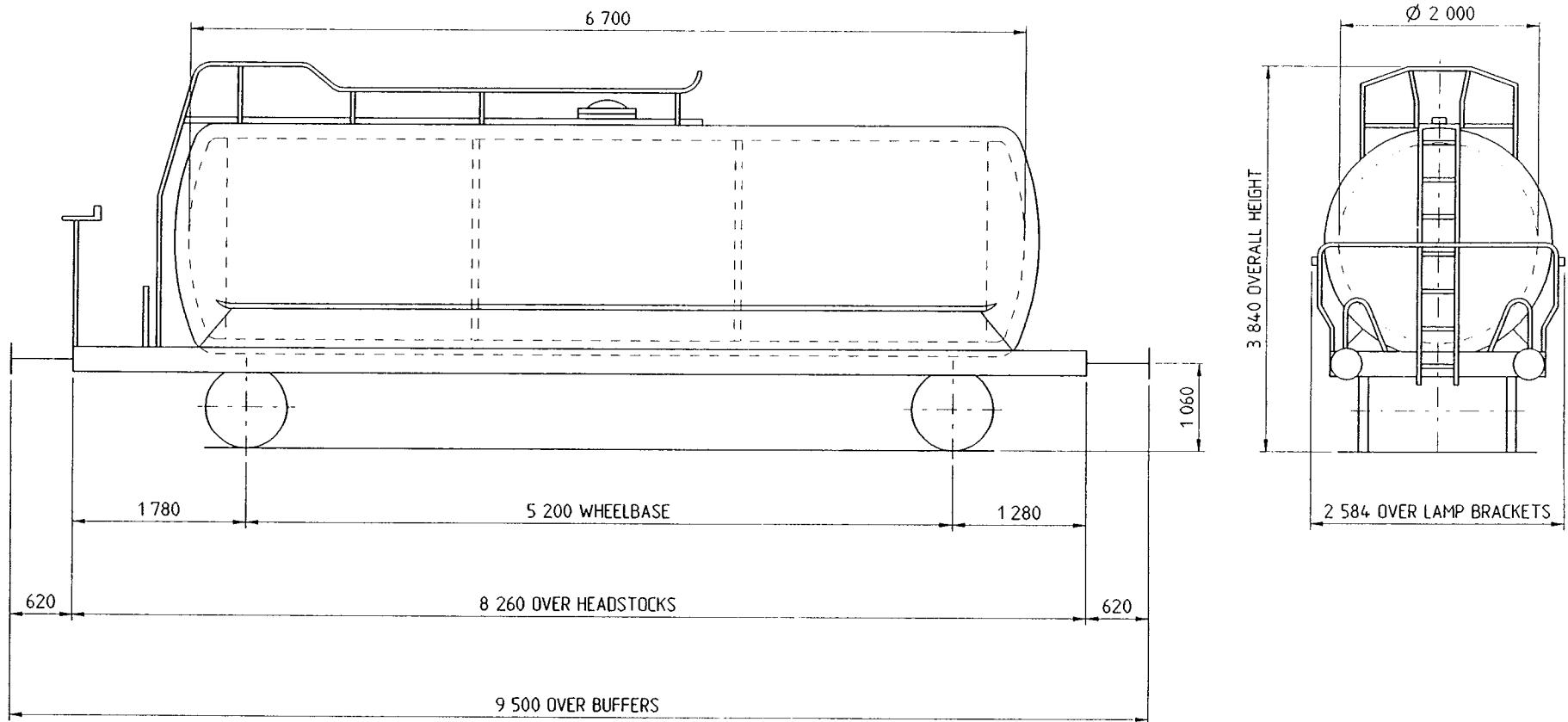
BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcf
WAGON No.-	23 87 7191 021, 023
BUILDER-	FAUVET-GIREL
OWNER-	ITEROX CHIMIE



				TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20.2t	24.2t	28.2t		CARKND	60 mile/h UP TO	36 tonne GLW	8 t FORCE UP TO	20 t GLW	5	6	-
120					I B B C	50 mile/h ABOVE		17 t FORCE ABOVE				

NOTE: FITTED WITH HEATING DEVICES



TARE-	12.2 t
CAPACITY, WEIGHT-	27.8 t
CAPACITY, VOLUME-	20 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K194.01.-01

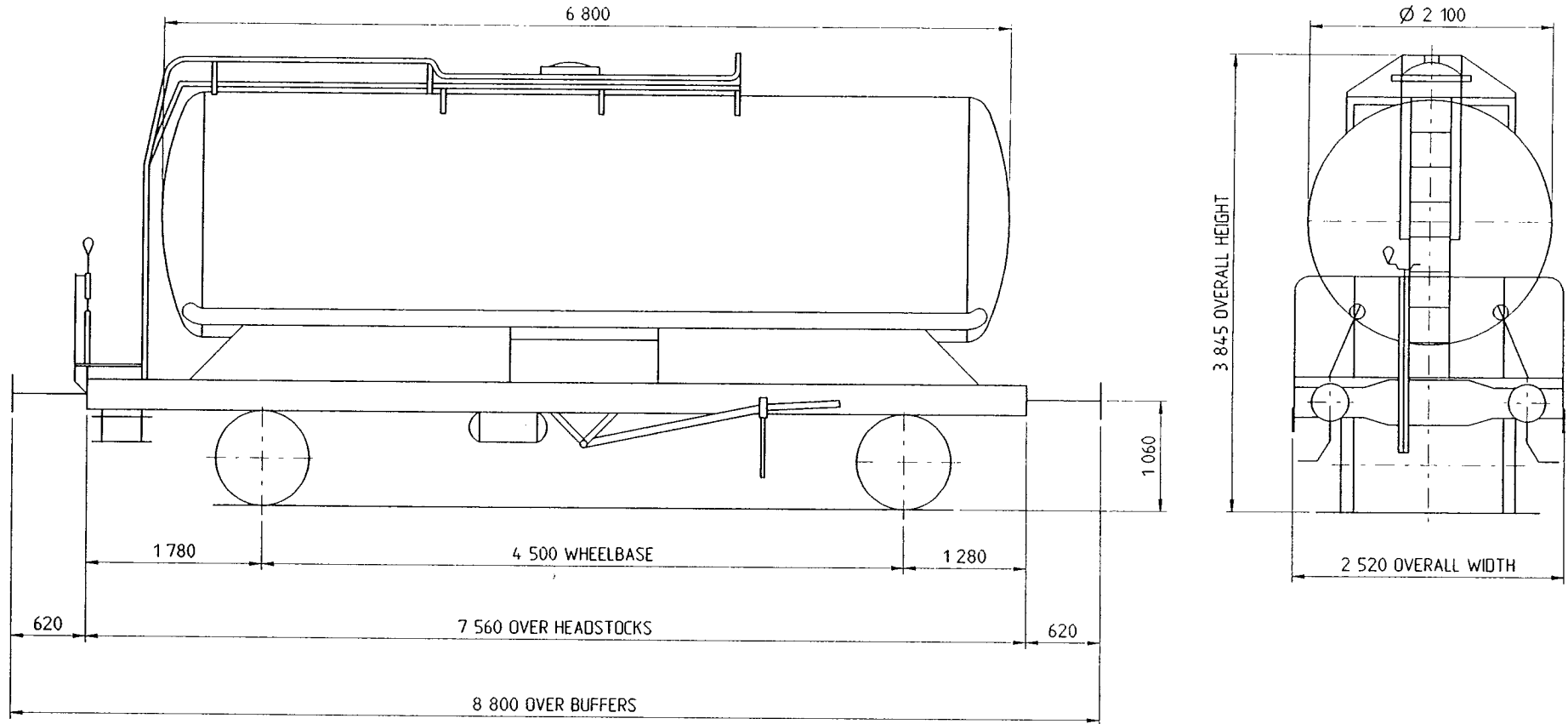
BRAKE-	AIR & VAC THRO' PIPE: PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER \varnothing 370
WHEELS-	\varnothing 1000
JOURNALS-	\varnothing 130

TYPE-	Zcefs
WAGON No.-	23 80 7398 603, 23 80 7391 711-715, 717
BUILDER-	GRAAFF ELZE
OWNER-	CONTINENTAL OIL TRANSPORT



		TOPS INFORMATION										
90	A 20.6t	B 24.6t	C 28.6t	D	AARKND	OPERATING SPEED	BRAKE FORCE DATA	EXCESS LENGTH	RA (GLW)	DESIGN SHEET		
S	20.6t	24.6t	24.6t		CARKND	60 mile/h UP TO 50 mile/h ABOVE	36 tonne GLW	6 t FORCE UP TO 18 t FORCE ABOVE	21 t GLW	4	6	-
120					I B B C							

NOTE:- MAXIMUM LOADING FOR THIONYL CHLORIDE IS 25 t, 30% ULLAGE



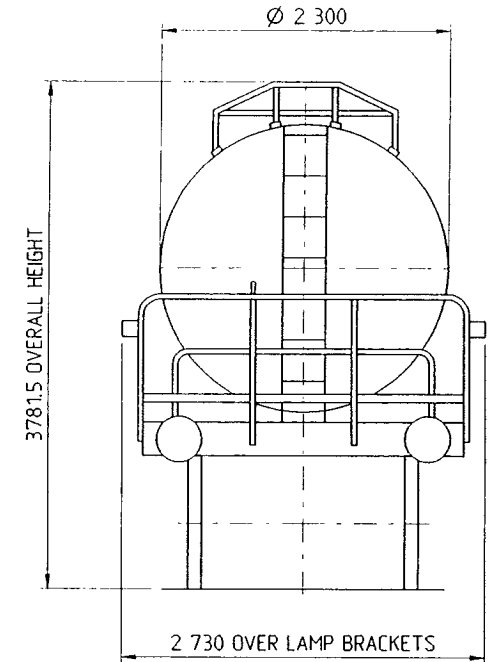
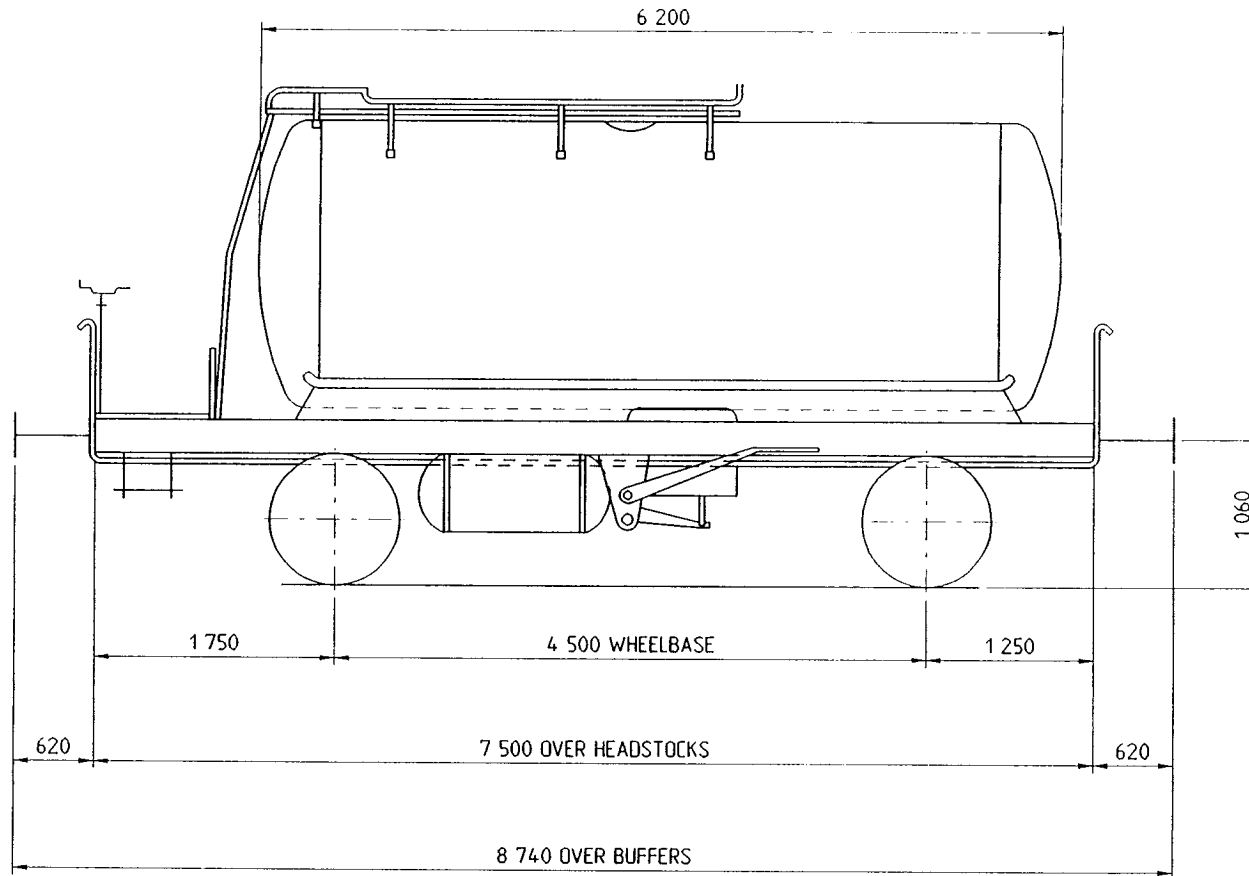
TARE-	11.4 t
CAPACITY, WEIGHT-	28.6 t
CAPACITY, VOLUME-	22 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2219.01.479

BRAKE-	AIR & VAC THRO' PIPE: PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 370
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 012, 013
BUILDER-	V.T.G.
OWNER-	V.T.G.



				TOPS INFORMATION											
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET		
	21 t	25 t	29 t				60 mile/h UP TO 50 mile/h ABOVE		36 tonne GLW		5 t FORCE UP TO 18 t FORCE ABOVE	21 t GLW	4	6	-
S	21 t	25 t	29 t		CARKND										
120					I	B	B	B							



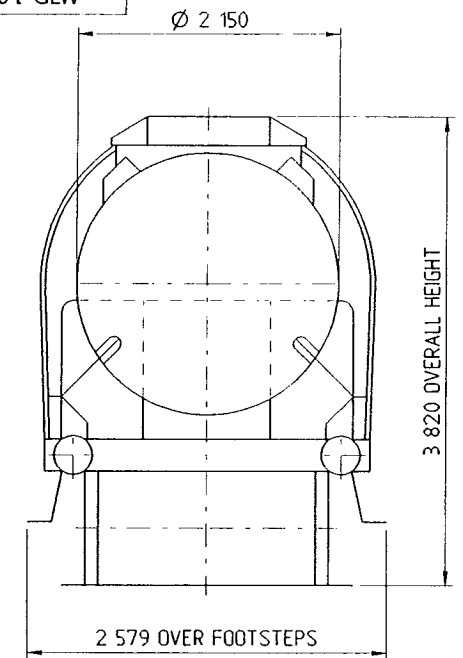
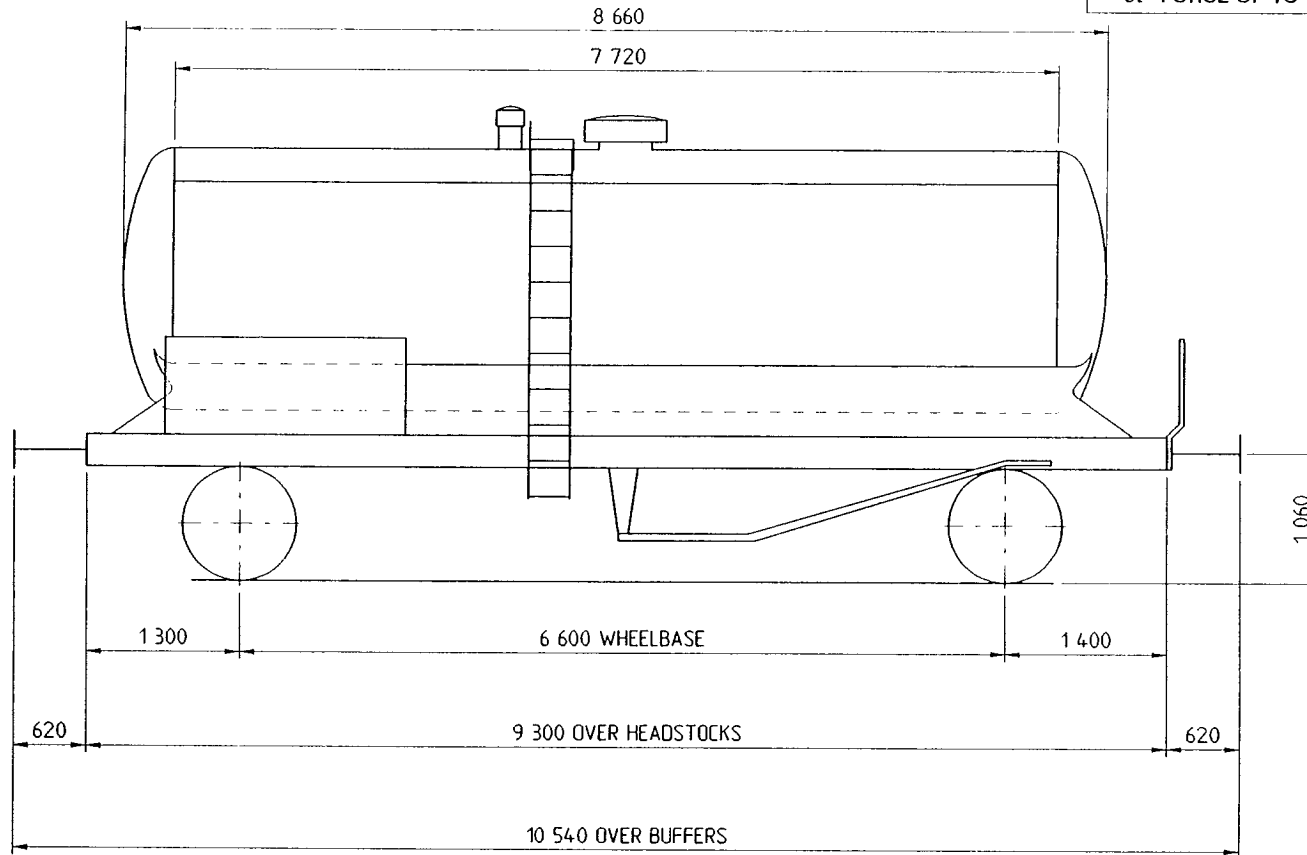
TARE-	11 t
CAPACITY, WEIGHT-	29 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	W14 76

BRAKE-	AIR & VAC THRO' PIPE, PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zfs
WAGON No.-	23 80 7390 406, 407
BUILDER-	KAMINSKI
OWNER-	PEROXID - CHEMIE



				TOPS INFORMATION							
90	A 19.3t	B 23.3t	C 27.1t	D	AARKND	OPERATING SPEED	AIR BRAKE FORCE DATA	EXCESS LENGTH	RA (GLW)	DESIGN SHEET	
S	19.3t	23.3t	27.1t		CARKND	60 mile/h UP TO 50 mile/h ABOVE	6 t FORCE UP TO 18 t FORCE ABOVE	22 t GLW	7	6	-
120					I B X B	36 tonne GLW	VAC BRAKE FORCE DATA 5t FORCE UP TO	36 t GLW			



NOTE: USABLE CAPACITY 24.5 m³ (18.11% ULLAGE)

TARE-	12.7 t
CAPACITY, WEIGHT-	27.3 t
CAPACITY, VOLUME-	30 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	93731

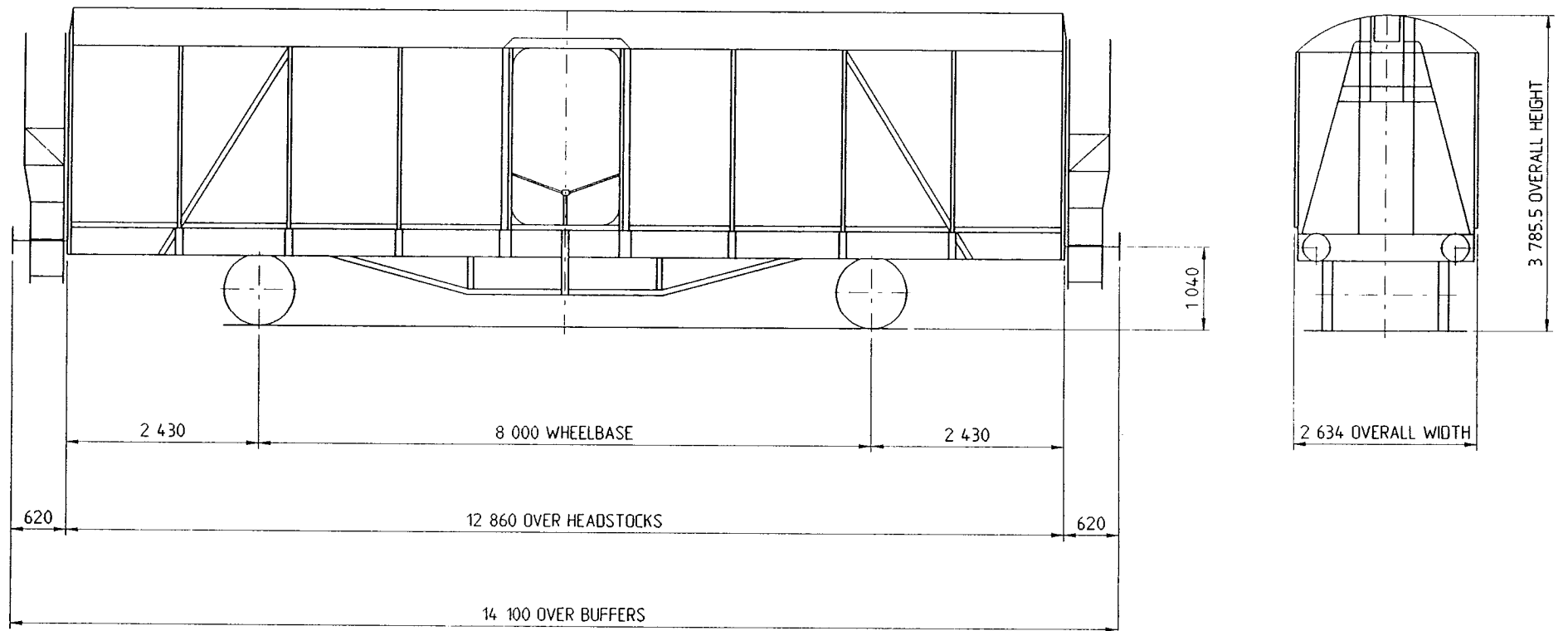
BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø370
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zfs
WAGON No.-	23 87 7390 005, 006, 007
BUILDER-	FAUVET GIREL
OWNER-	METROPOLITAN SOCIETY FOR SPECIAL TRAFFIC



				TOPS INFORMATION								
90	A 14 t	B 18 t	C 18 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	14 t	18 t	18 t		CARKND	60 mile/h UP TO	36 tonne GLW	8 t FORCE UP TO	18 t GLW	13	5	-
120					I I B L	mile/h ABOVE		15 t FORCE ABOVE				

NOTE: CAPACITY INCLUDES APPROX. 3t OF ICE



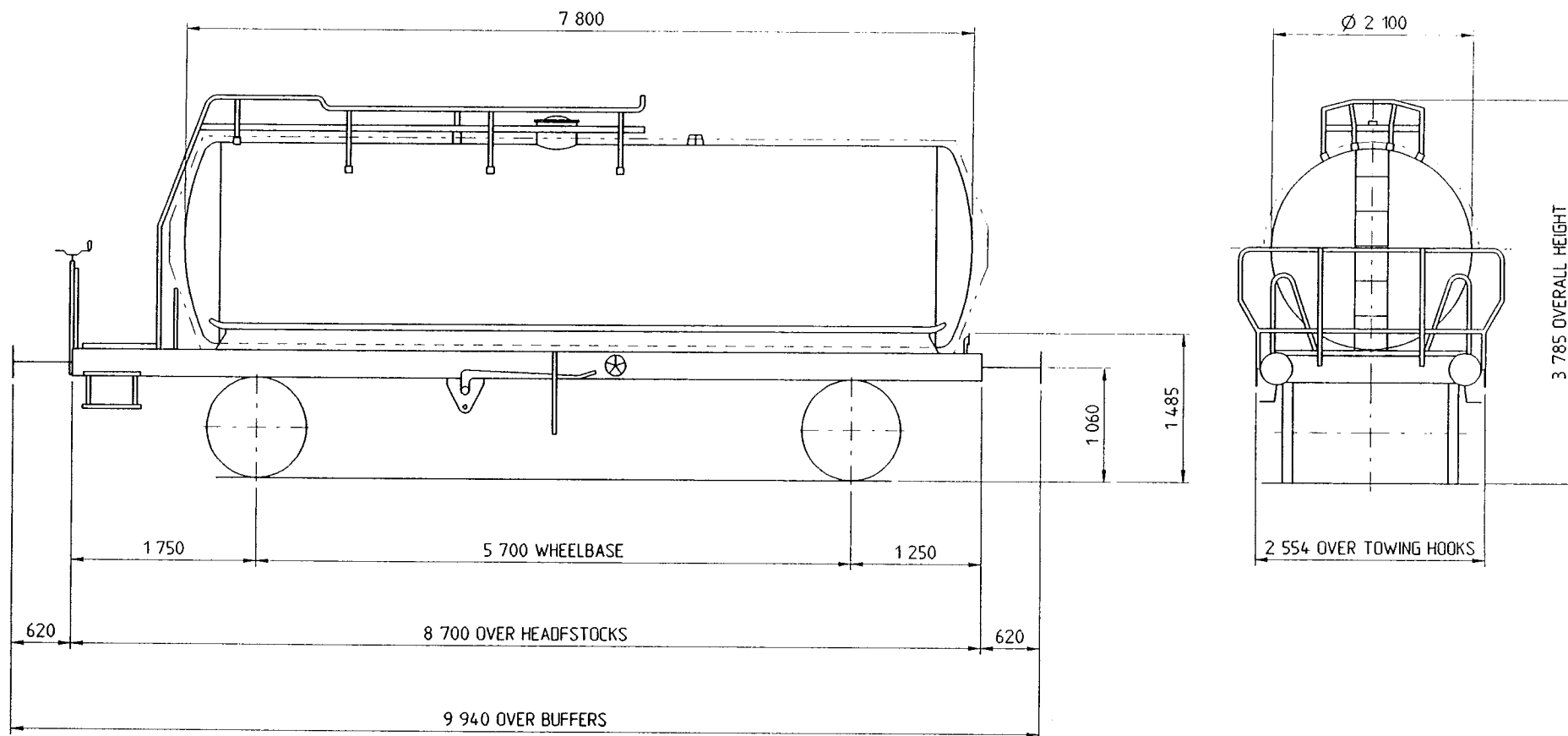
TARE-	18 t
CAPACITY, WEIGHT-	18 t
CAPACITY, VOLUME-	52 m ³
FLOOR AREA-	24.5 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	160

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	lbefs
WAGON No.-	01 83 8092 510, 531
BUILDER-	F.S.
OWNER-	F.S.



				TOPS INFORMATION										
	A	B	C	D	AARKND			OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	19.6t	23.6t	27.6t					60 mile/h UP TO		8 t FORCE UP TO		6	6	-
S	19.6t	23.6t	27.6t		CARKND			40 tonne GLW		18 t FORCE ABOVE				
120					I	B	B	C	60 mile/h ABOVE		21 t GLW			



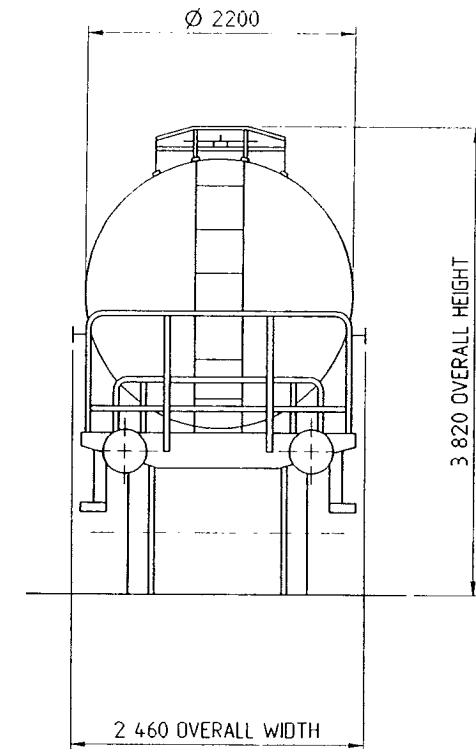
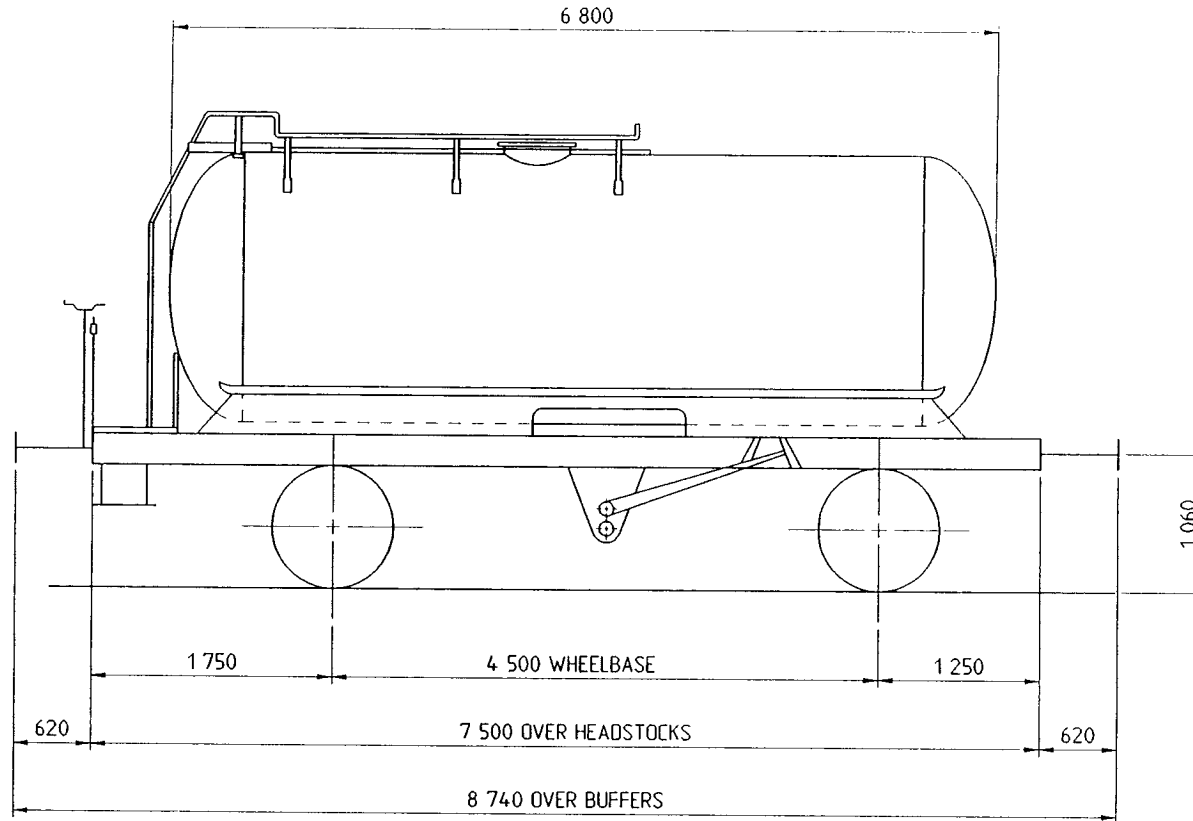
TARE-	12.4 t
CAPACITY, WEIGHT-	27.6 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K 332.01.00

BRAKE-	AIR & VAC. THRO' PIPE PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RING FEDER Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs Zcefs
WAGON No.-	23 80 7391 703-707 23 80 7398 401-405
BUILDER-	GRAAFF
OWNER-	CONTINENTAL OIL TRANSPORT



				TOPS INFORMATION									
90	A 21 t	B 25 t	C 29 t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	21 t	25 t	29 t		CARKND		60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	19 t GLW	5	6	-
120					I	B	B	C	50 mile/h ABOVE	16 t FORCE ABOVE			



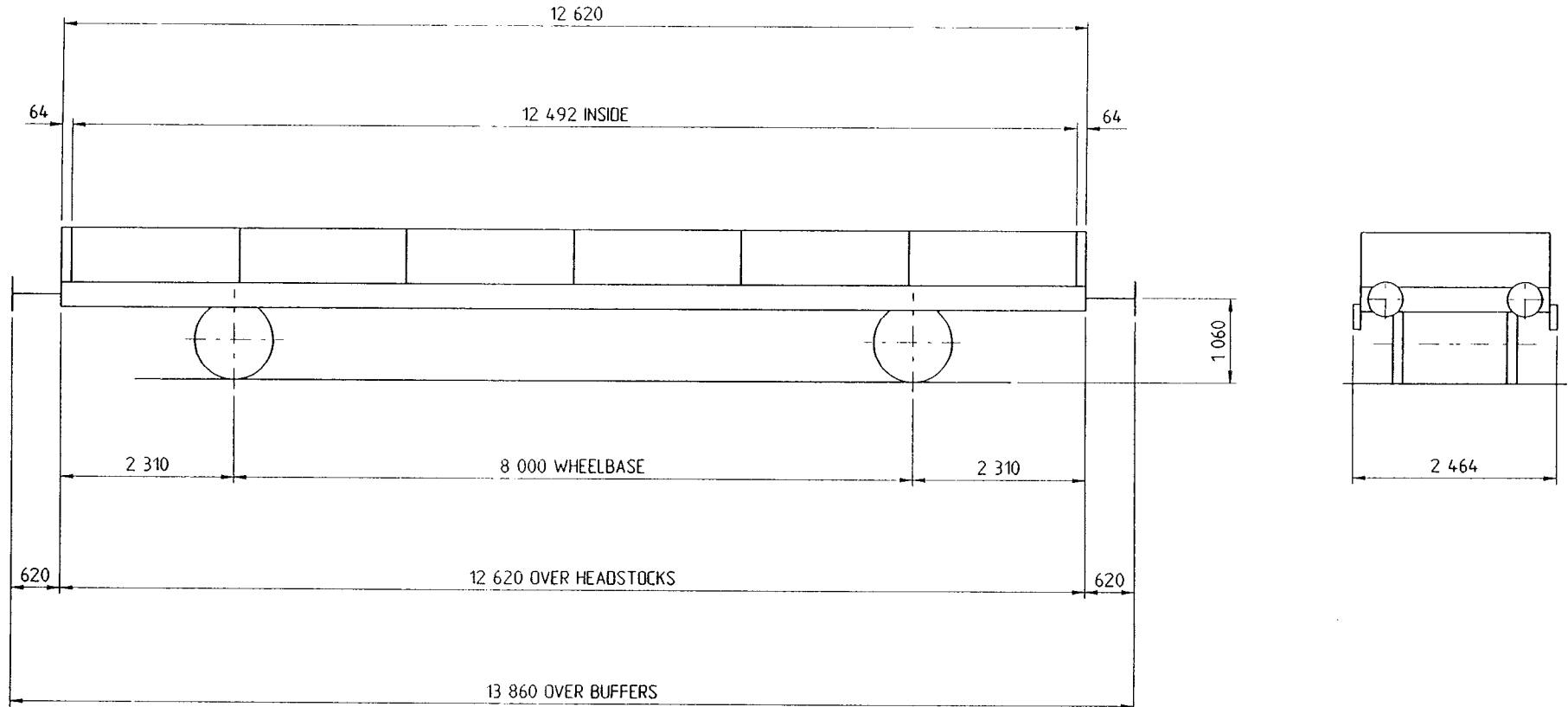
TARE-	10.4 t
CAPACITY, WEIGHT-	29.6 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	W 1556

BRAKE-	AIR VAC THRO' PIPE .PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	U.I.C.
BUFFERS-	RINGFEDER
WHEELS-	Ø 1000
JOURNALS-	Ø 130

TYPE-	Zfs
WAGON No.-	23 80 7390 408-416
BUILDER-	KAMINSKI
OWNER-	PEROXID-CHEMIE



					TOPS INFORMATION							
90	A 20.5t	B 24.5t	C 28.5t	D	AARKND CARKND I F B B	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW) 6	DESIGN SHEET W3030
S	20.5t	24.5t	24.5t			60 mile/h UP TO	36 tonne GLW	5 t FORCE UP TO	18 t GLW			
120						50 mile/h ABOVE		15 t FORCE ABOVE				



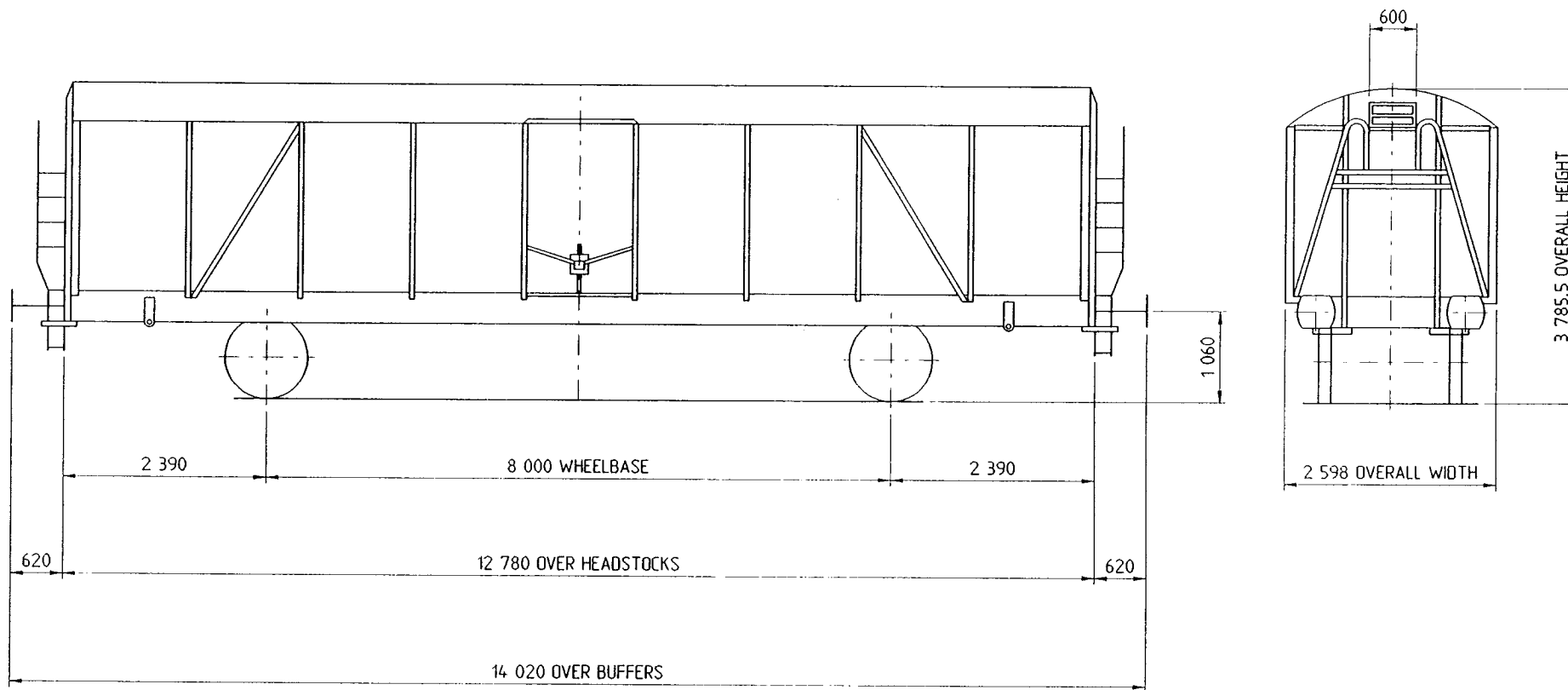
TARE-	11.5 t
CAPACITY, WEIGHT-	28.5 t
CAPACITY, VOLUME-	12.5 m ³
FLOOR AREA-	27.8 m ²
MIN.CURVE-	-
GEN.ARRGT.DRG.No.-	10 184 153 S.N.C.F.

BRAKE-	AIR, VAC THRO' PIPE; SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ -
JOURNALS-	∅ -

TYPE-	Lfis
WAGON No.-	21 87 4145 200-229, 231, 233, 234, 236-251, 254-264, 266-288, 290-293, 295-299, 25 87 4145 230, 232, 235, 252, 253, 265, 289, 294
BUILDER-	-
OWNER-	S.N.C.F.



					TOPS INFORMATION							
90	A 14 t	B 18 t	C 22 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	14 t	18 t	18 t		CARKND	60 mile/h UP TO	36 tonne GLW	9 t FORCE UP TO	21 t GLW	12	6	-
120					I I B H	50 mile/h ABOVE		18 t FORCE ABOVE				



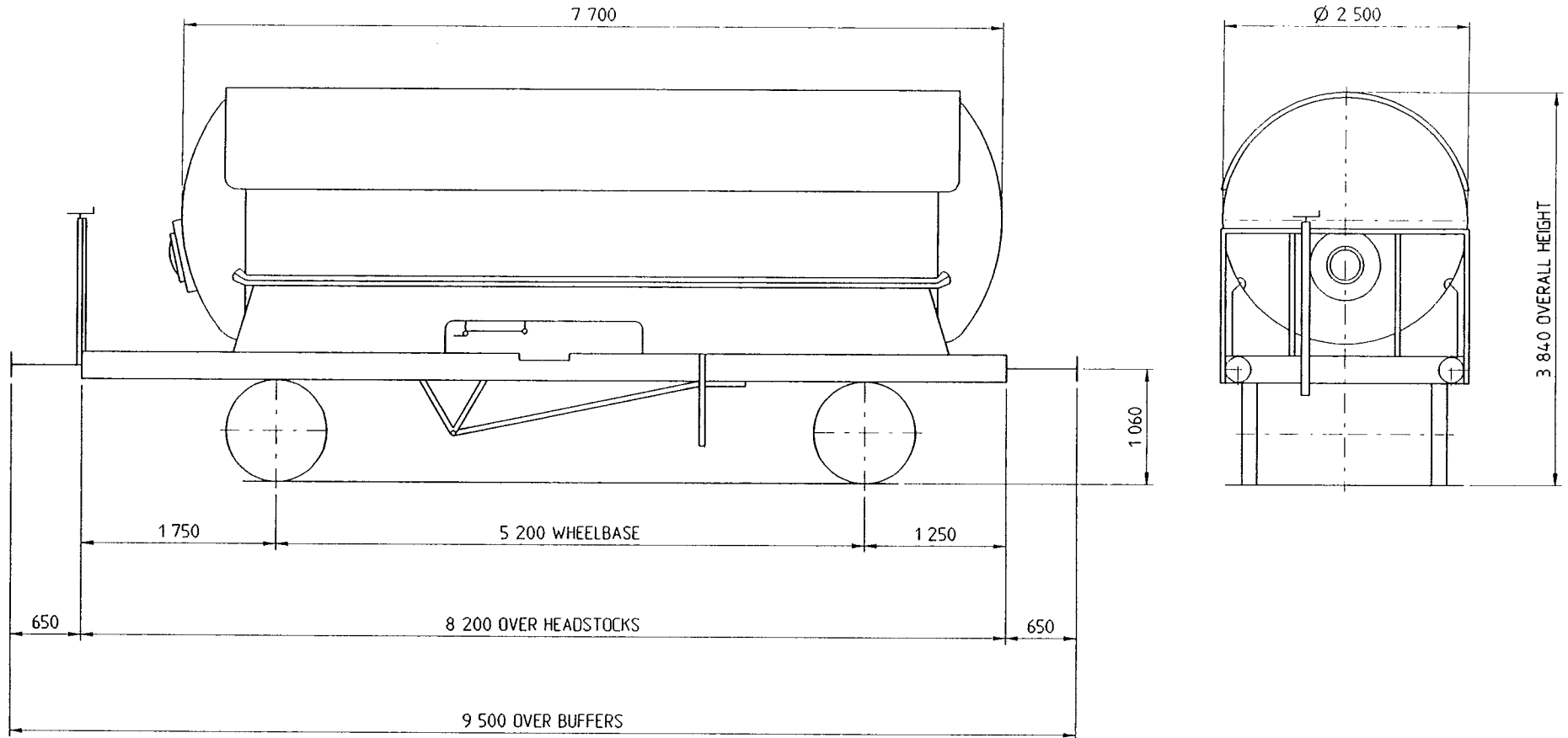
TARE-	18 t
CAPACITY, WEIGHT-	22 t
CAPACITY, VOLUME-	44 m ³
FLOOR AREA-	23.5 m ²
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	IF 01/1

BRAKE-	AIR & VAC THRO' PIPE; SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	lbefs
WAGON No.-	04 83 8092 430 - 456, 458 - 476, 478 - 484,
BUILDER-	BRUGEOISE & NIVELLES BRUGES
OWNER-	F.S.



				TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
18t	20.6t	20.6t				60 mile/h UP TO	34.5 tonne GLW	10 t FORCE UP TO	21 t GLW	5	4	-
S	18t	20.6t	20.6t		CARKND	mile/h ABOVE		18 t FORCE ABOVE				
120					I B B B							



TARE-	14 t
CAPACITY, WEIGHT-	20.5 t
CAPACITY, VOLUME-	35 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2641.01.532

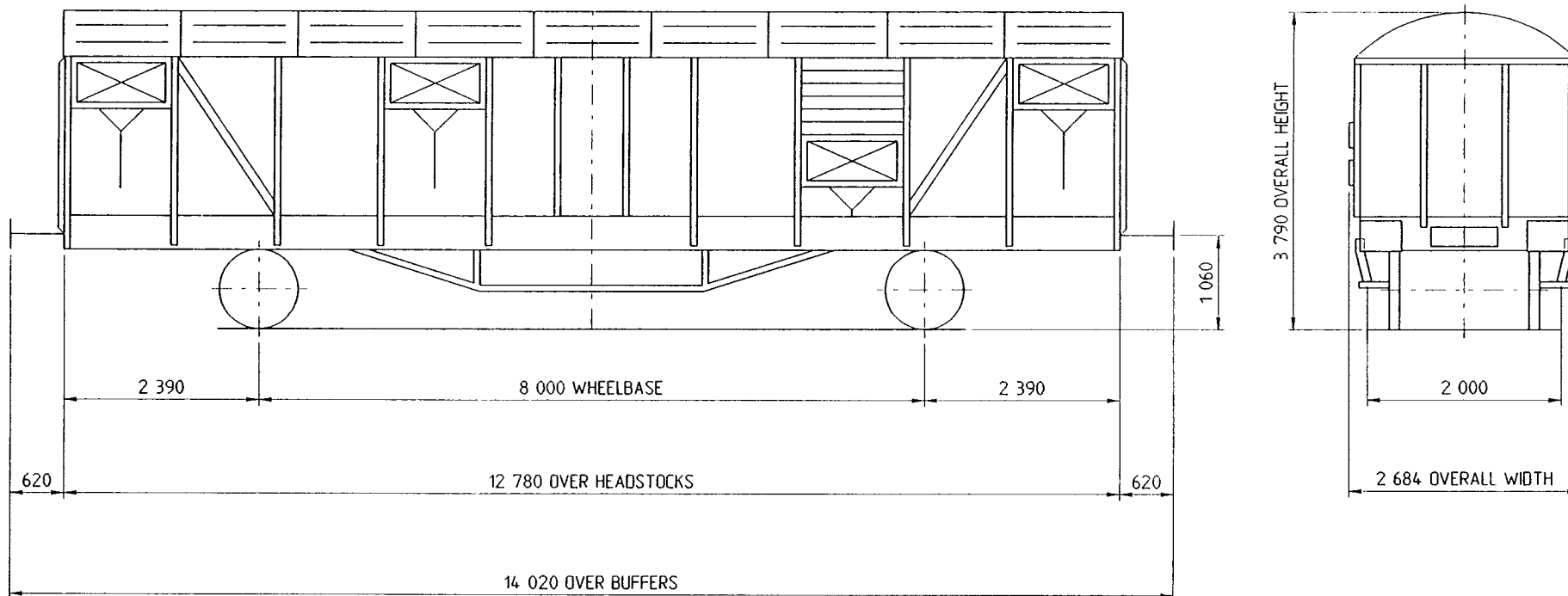
BRAKE-	AIR & VAC THRO' PIPE; PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 370
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zfgkks
WAGON No.-	23 80 7492 001
BUILDER-	V.T.G.
OWNER-	V.T.G.



				TOPS INFORMATION									
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET	
S	17.5t	21.5t	21.5t	25.5t		CARKND	60 mile/h UP TO	36 tonne GLW	7 t FORCE UP TO				18 t GLW
120						I L B L	50 mile/h ABOVE		15 t FORCE ABOVE				

NOTE ; - LENGTH OF LOAD	CARRYING CAPACITY
1.5 m IN THE MIDDLE	13.78 t
3.0 m IN THE MIDDLE	15.74 t



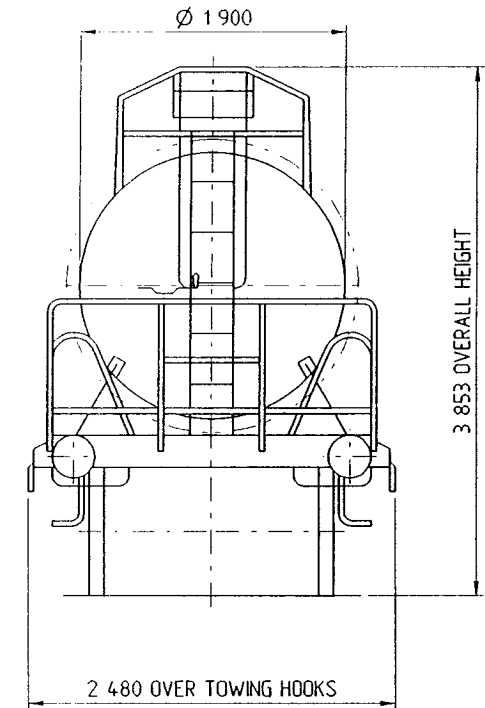
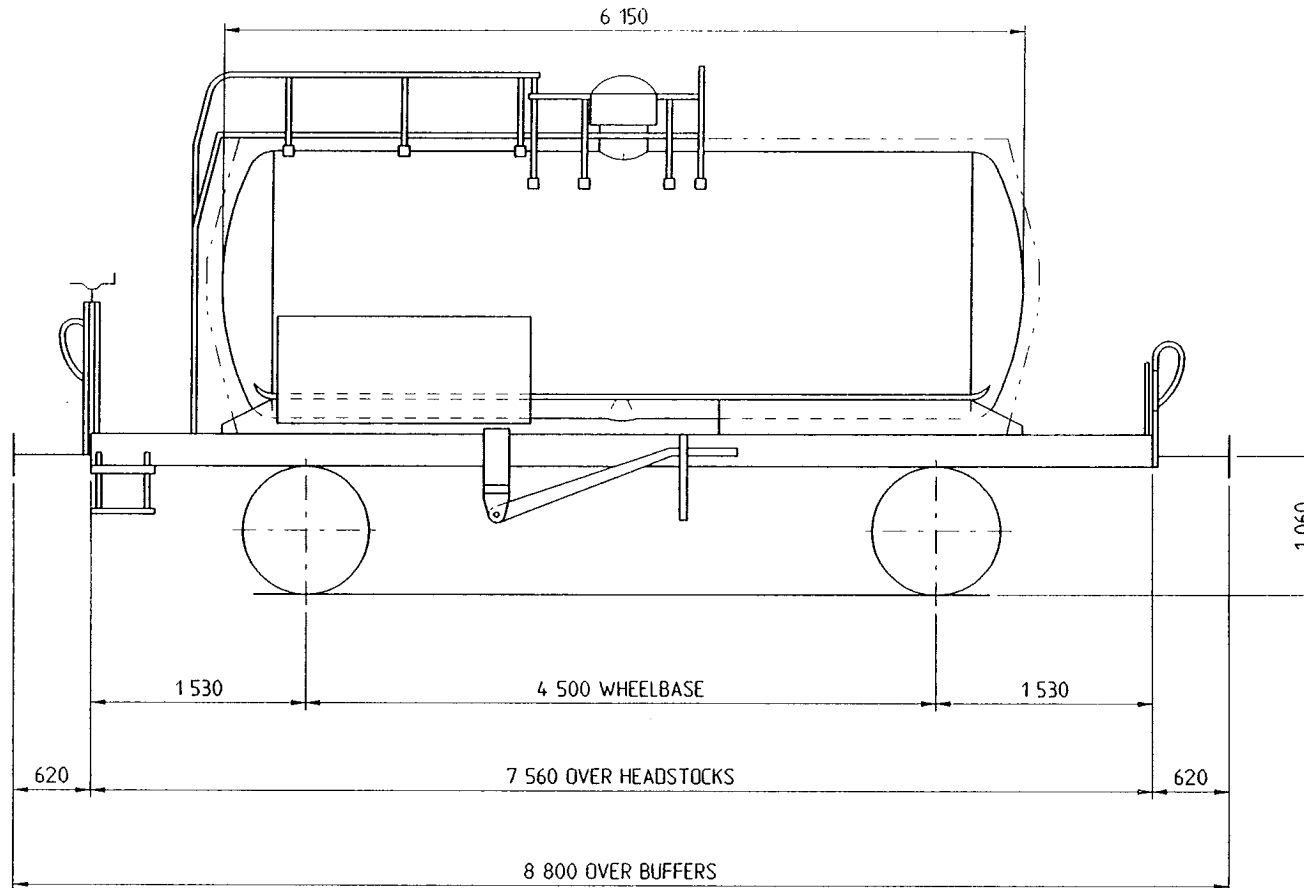
TARE-	14.5 t
CAPACITY, WEIGHT-	25.5 t
CAPACITY, VOLUME-	66 m ³
FLOOR AREA-	28.5 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	459.9.502.00.00.0

BRAKE-	AIR & VAC THRO' PIPE: SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC 450x350 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Hbfs
WAGON No.-	21 54 2380 000-062, 064-099
BUILDER-	TATRA POPRAD
OWNER-	C.S.D.



					TOPS INFORMATION									
	A	B	C	D	AARKND			OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	16.9t	20.9t	24.9t					60 mile/h UP TO		6 t FORCE UP TO		4	6	-
S	16.9t	20.9t	20.9t		CARKND			50 mile/h ABOVE		15 t FORCE ABOVE				
120					I	B	B	C	36 tonne GLW		18 t GLW			



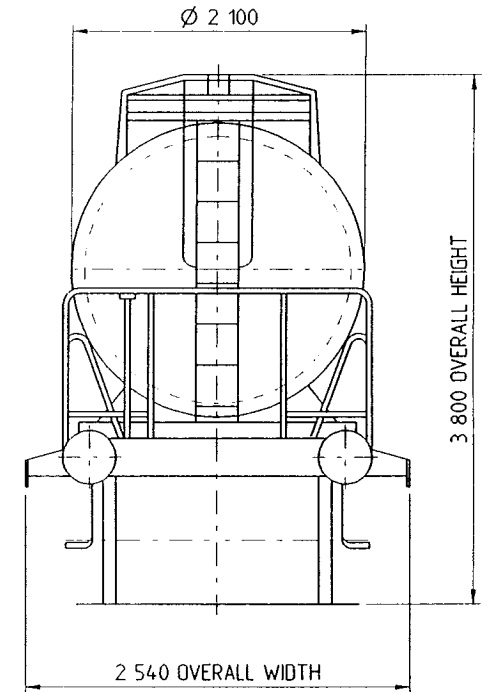
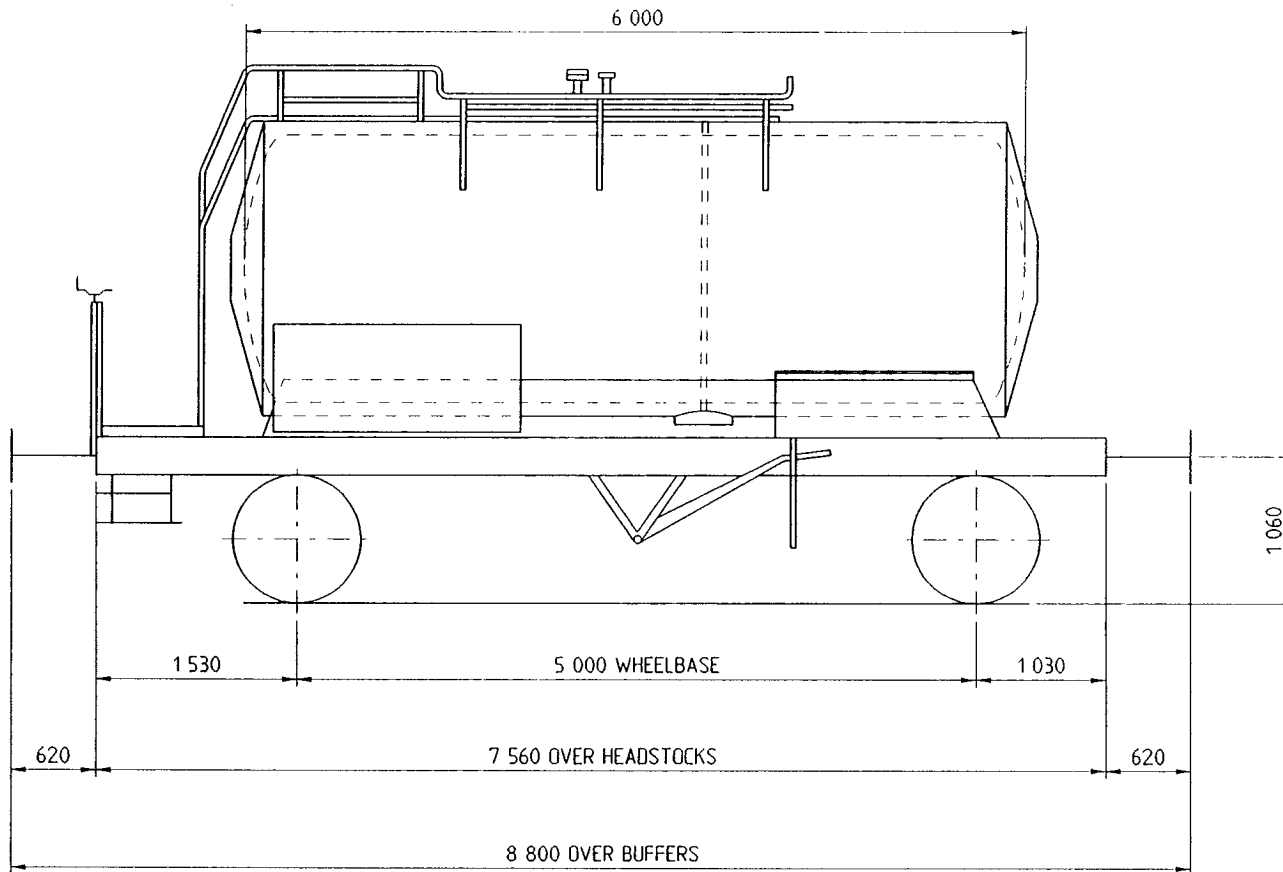
TARE-	15.1 t
CAPACITY, WEIGHT-	24.9 t
CAPACITY, VOLUME-	16 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2013.01.536

BRAKE-	AIR & VAC THRO' PIPE: SIDE LEVER & PLATFORM SCREW
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs Zcfkks
WAGON No.-	23 80 7391 017-023 23 80 7491 000-012
BUILDER-	V.T.G.
OWNER-	V.T.G.



						TOPS INFORMATION								
90	A 19.3t	B 23.3t	C 27.3t	D	DB ONLY	C	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	19.3t	23.3t	23.3t		S	27.3t	CARKND	60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	24 t GLW	4	6	-
120							I B B C	50 mile/h ABOVE		20 t FORCE ABOVE				



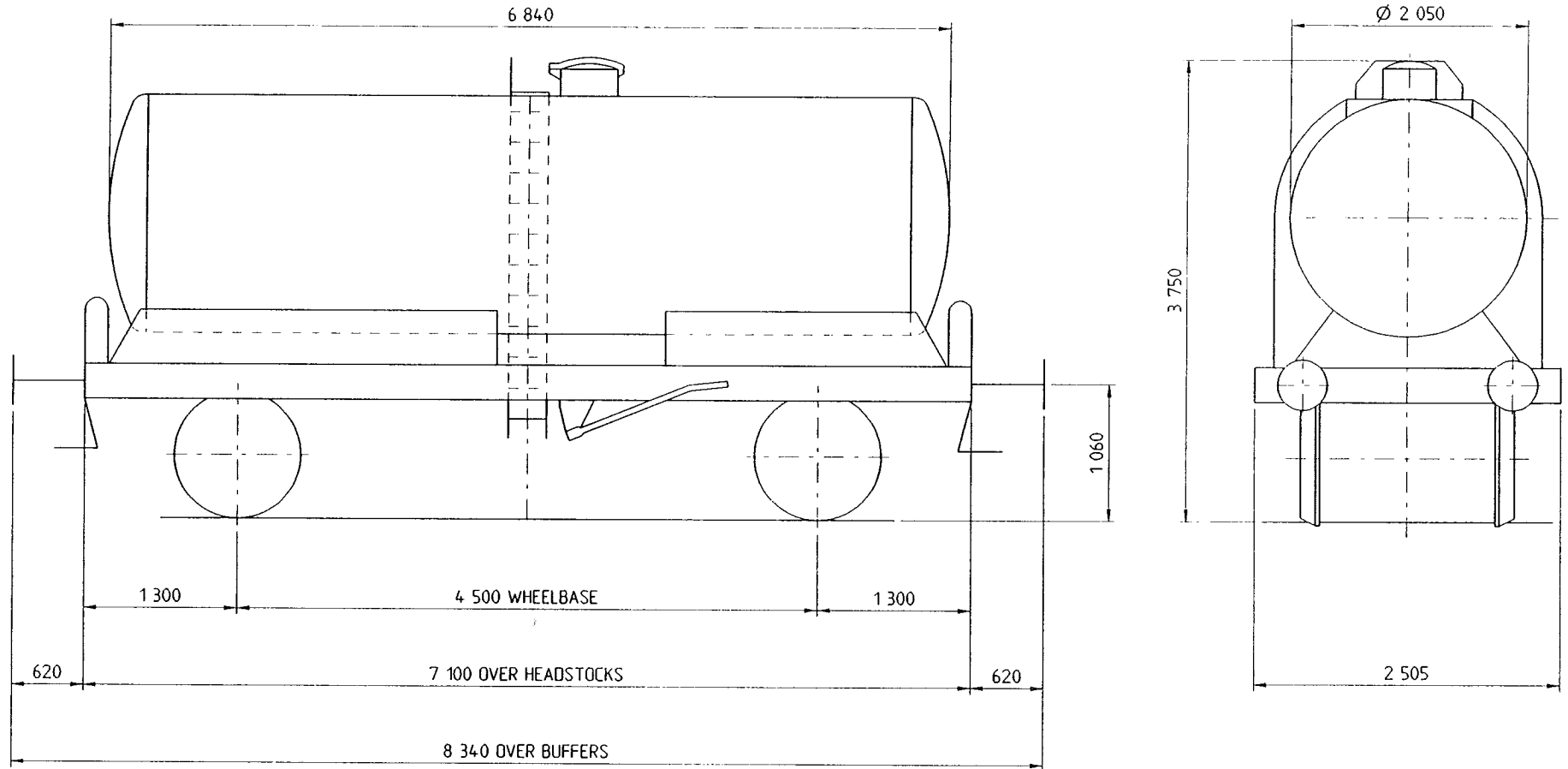
TARE-	12.7 t
CAPACITY, WEIGHT-	27.3 t
CAPACITY, VOLUME-	18 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2017.01.541

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø370 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 024, 025
BUILDER-	V.T.G.
OWNER-	V.T.G.



					TOPS INFORMATION											
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET			
S	21.9t	25.9t	25.9t		CARKND		60 mile/h UP TO mile/h ABOVE		36 tonne GLW		5 t FORCE UP TO 15 t FORCE ABOVE		18 t GLW	-	5	W3287
120					I	B	B	B								



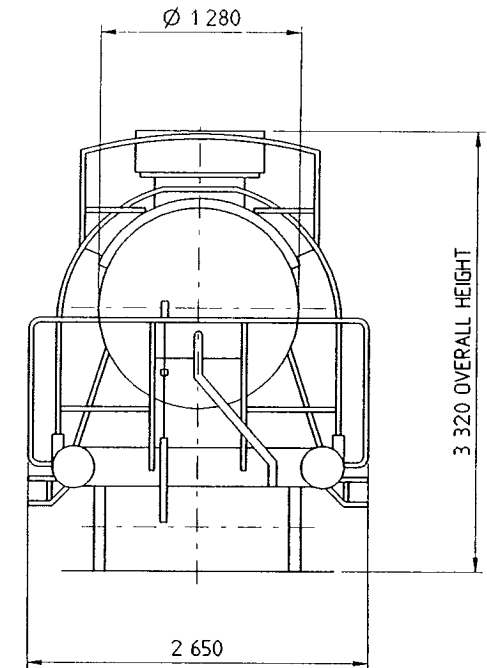
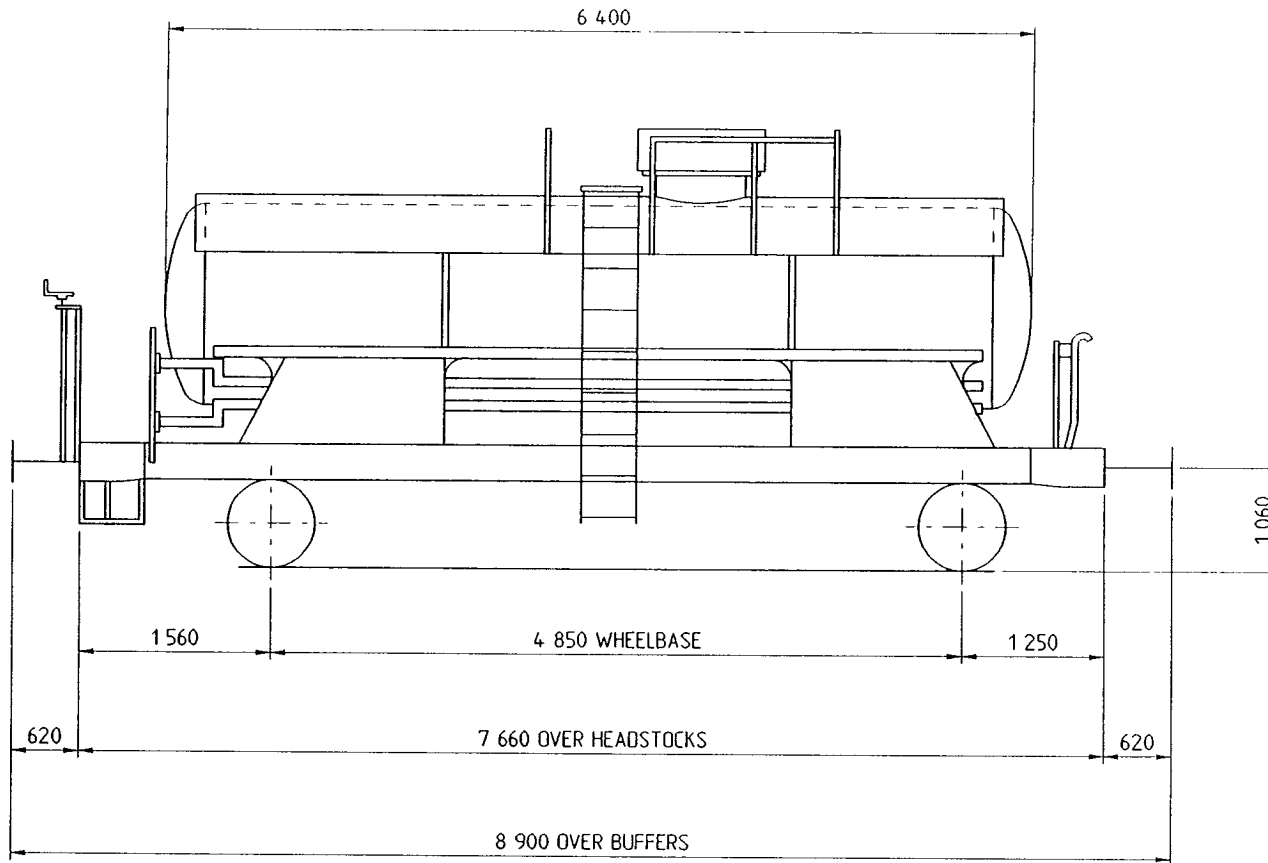
TARE-	10.1 t
CAPACITY, WEIGHT-	25.9 t
CAPACITY, VOLUME-	20,000 l
FLOOR AREA-	-
MIN.CURVE-	-
GEN.ARRGT.DRG.No.-	PL 460

BRAKE-	AIR, VAC THRO' PIPE; HAND LEVER
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ -
JOURNALS-	∅ -

TYPE-	Zfs
WAGON No.-	23 87 7390 501
BUILDER-	ATELIERS DE JOIGNY S.A.
OWNER-	S.N.C.F.



					TOPS INFORMATION								
90	A 18.3t	B 22.3t	C 22.3t	D 22.3t	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	18.3t	22.3t	22.3t		CARKND		60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	18 t GLW	4	5	-
120					I	B	B	C	15 t FORCE ABOVE				



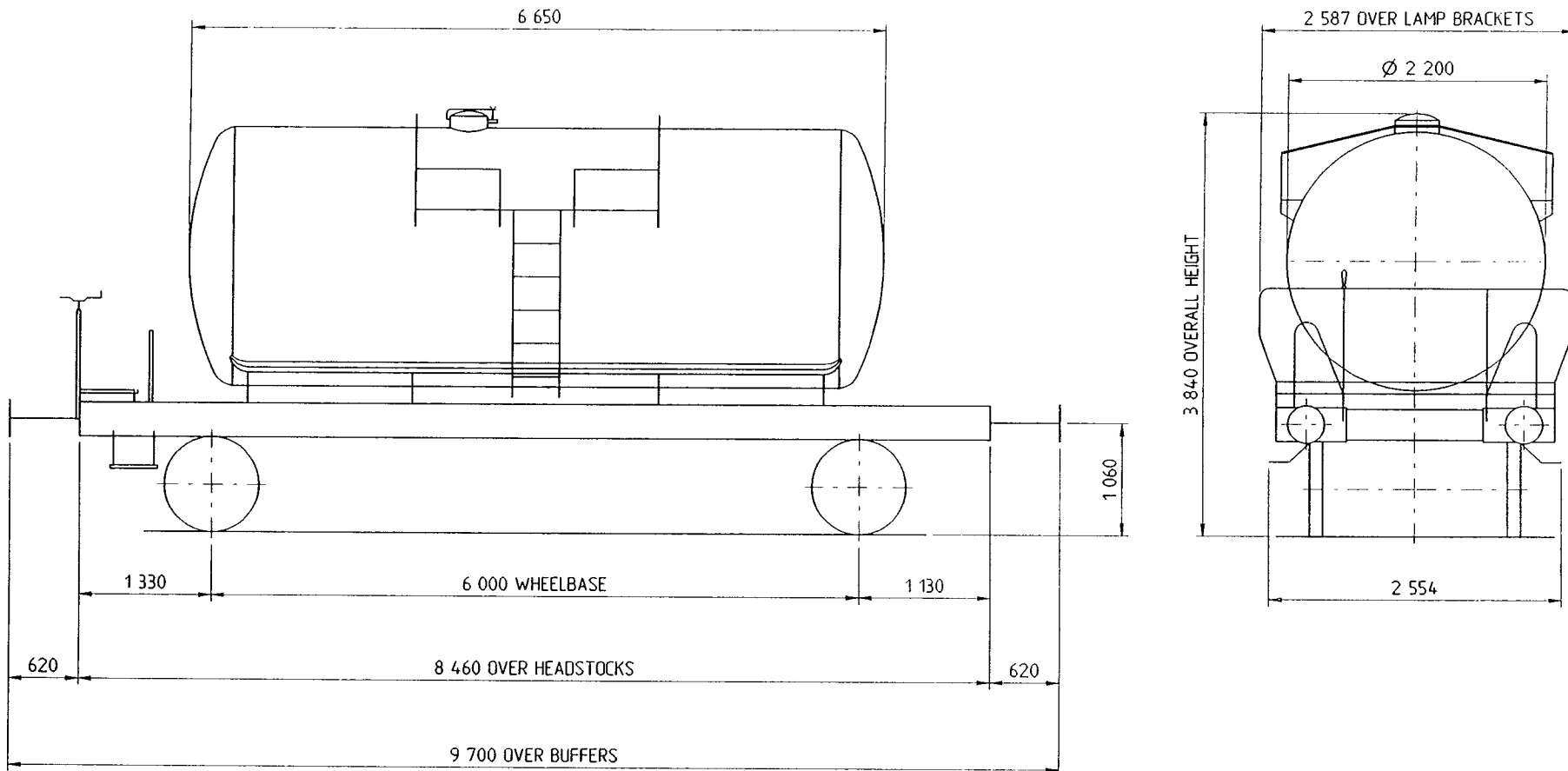
TARE-	13.7 t
CAPACITY, WEIGHT-	22.3 t
CAPACITY, VOLUME-	17.8 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	3 110264

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 450 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zfgkks
WAGON No.-	23 85 7492 200, 201, 700
BUILDER-	JOSEPH MEYER
OWNER-	SANDOZ



					TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET	
S	19.5t	23.5t	23.5t			CARKND	60 mile/h UP TO	36 tonne GLW	9 t FORCE UP TO				25 t GLW
120						I B B C	50 mile/h ABOVE		21 t FORCE ABOVE				



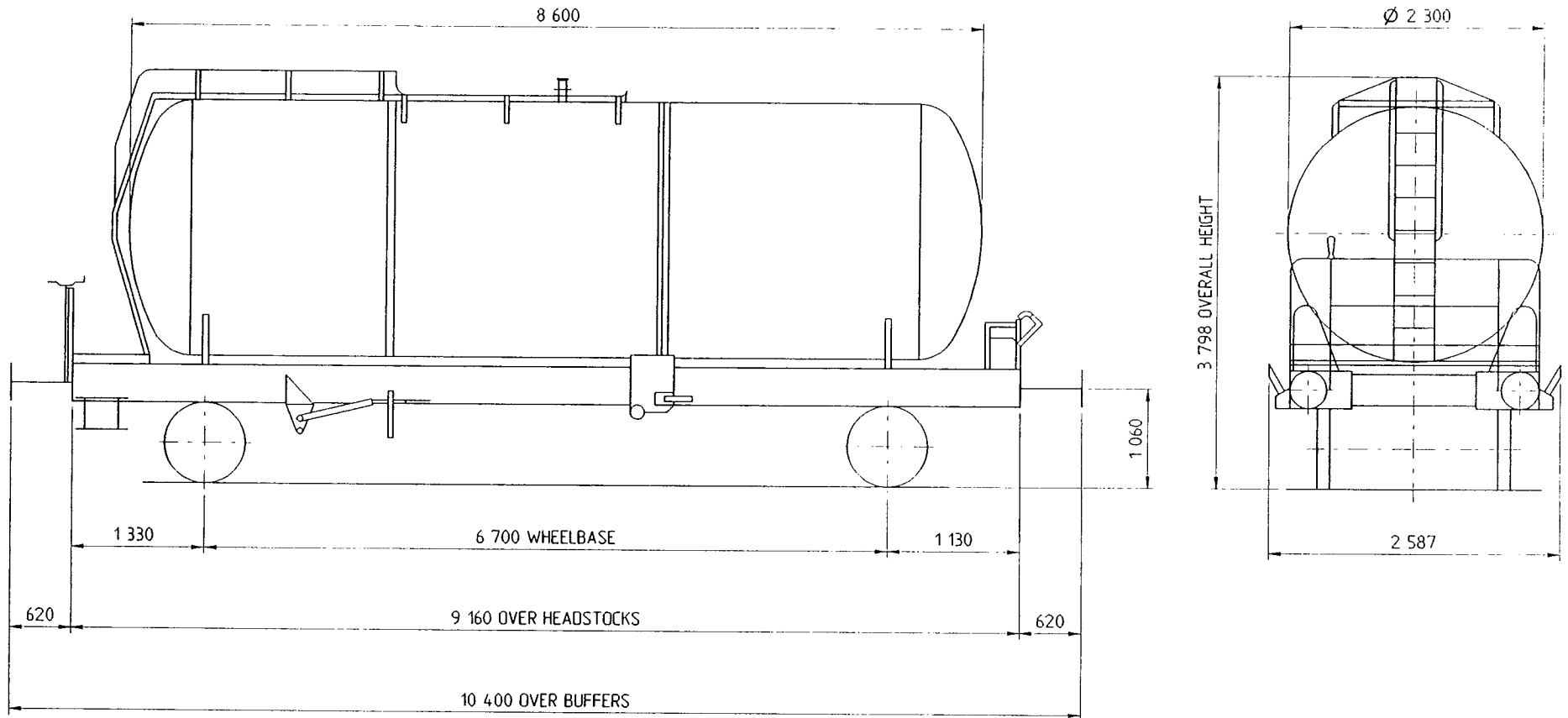
TARE-	12.5 t
CAPACITY, WEIGHT-	27.5 t
CAPACITY, VOLUME-	24.4 m
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	410-1

BRAKE-	AIR; VAC THRO' PIPE
SUSPENSION-	SINGLE LINK: 9 PLATE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 370 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zcefs
WAGON No.-	23 80 7398 400
BUILDER-	DB MINDEN
OWNER-	TRANSGAZ



				TOPS INFORMATION												
	A	B	C	D	AARKND			OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET		
90	19.4t	23.4t	27.4t					60 mile/h UP TO		10 t FORCE UP TO		7	6	-		
S	19.4t	23.4t	27.4t		CARKND			40 tonne GLW		21 t FORCE ABOVE					25 t GLW	
120					I	B	B	C								



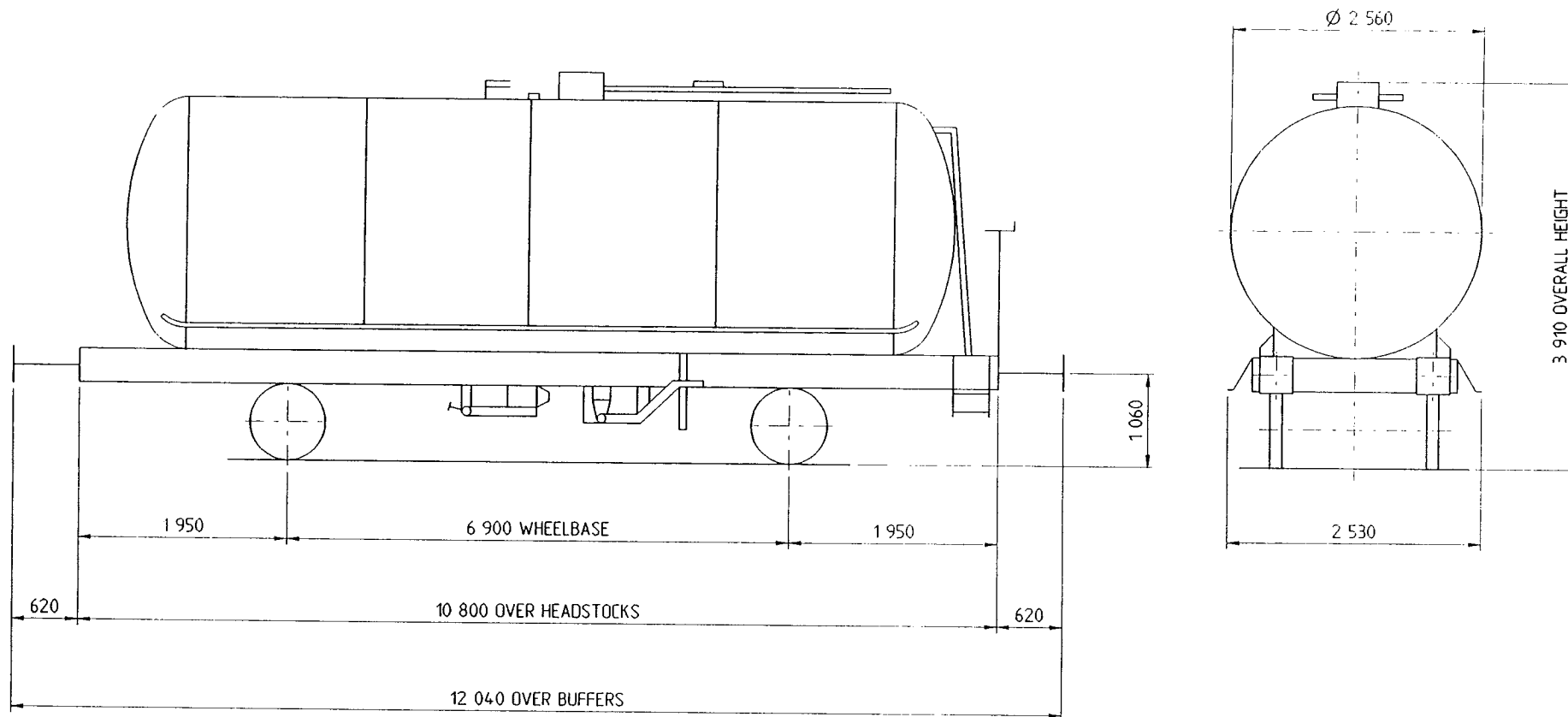
TARE-	12.35 t
CAPACITY, WEIGHT-	27.65 t
CAPACITY, VOLUME-	34 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K 360.01.00

BRAKE-	AIR; VAC THRO'PIPE
SUSPENSION-	SINGLE LINK; 9 PLATE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 026-034
BUILDER-	GRAFFE ELZE
OWNER-	V.T.G.



	A	B	C	D	TOPS INFORMATION								
90	19.4t	23.4t	27.4t		AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	19.4t	23.4t	23.4t		CARKND		60 mile/h UP TO	36 tonne GLW	13 t FORCE UP TO	21 t GLW	9	6	-
120					I	B	B	C	23 t FORCE ABOVE				



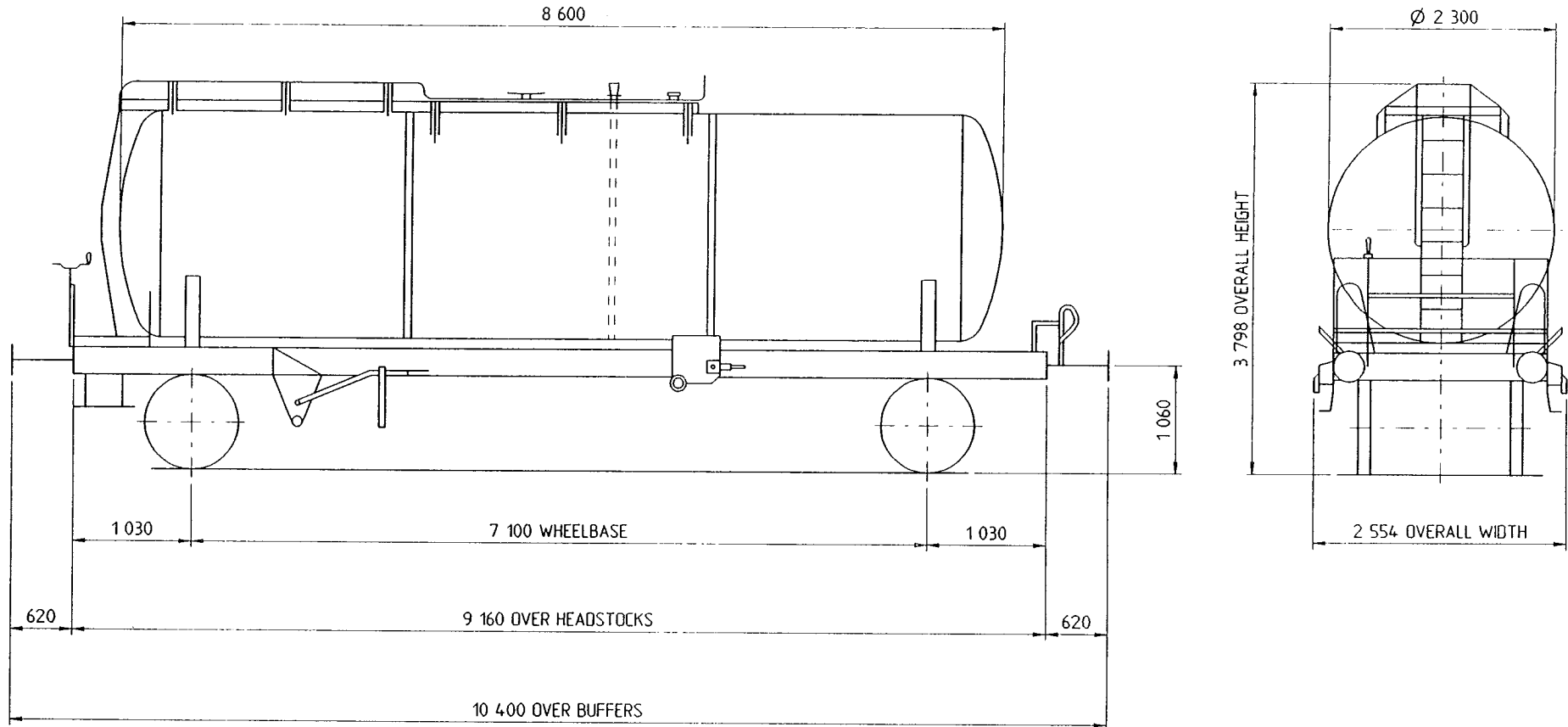
TARE-	12.6 t
CAPACITY, WEIGHT-	27.4 t
CAPACITY, VOLUME-	38 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	C.1553.1

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 87 7391 001-004
BUILDER-	LORMAFER
OWNER-	ALGECO



										TOPS INFORMATION				
90	A	B	C	D	DB ONLY		AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	19 t	23 t	27 t		S	27 t	CARKND	60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	21 t GLW	7	6	-
120							I B B C	50 mile/h ABOVE		18 t FORCE ABOVE				



TARE-	13 t
CAPACITY, WEIGHT-	27 t
CAPACITY, VOLUME-	34 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K376.01.00

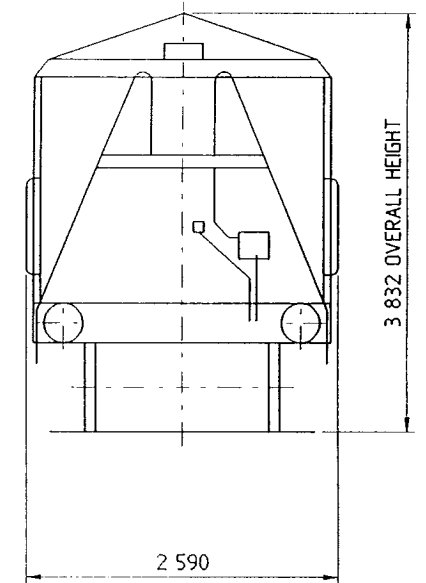
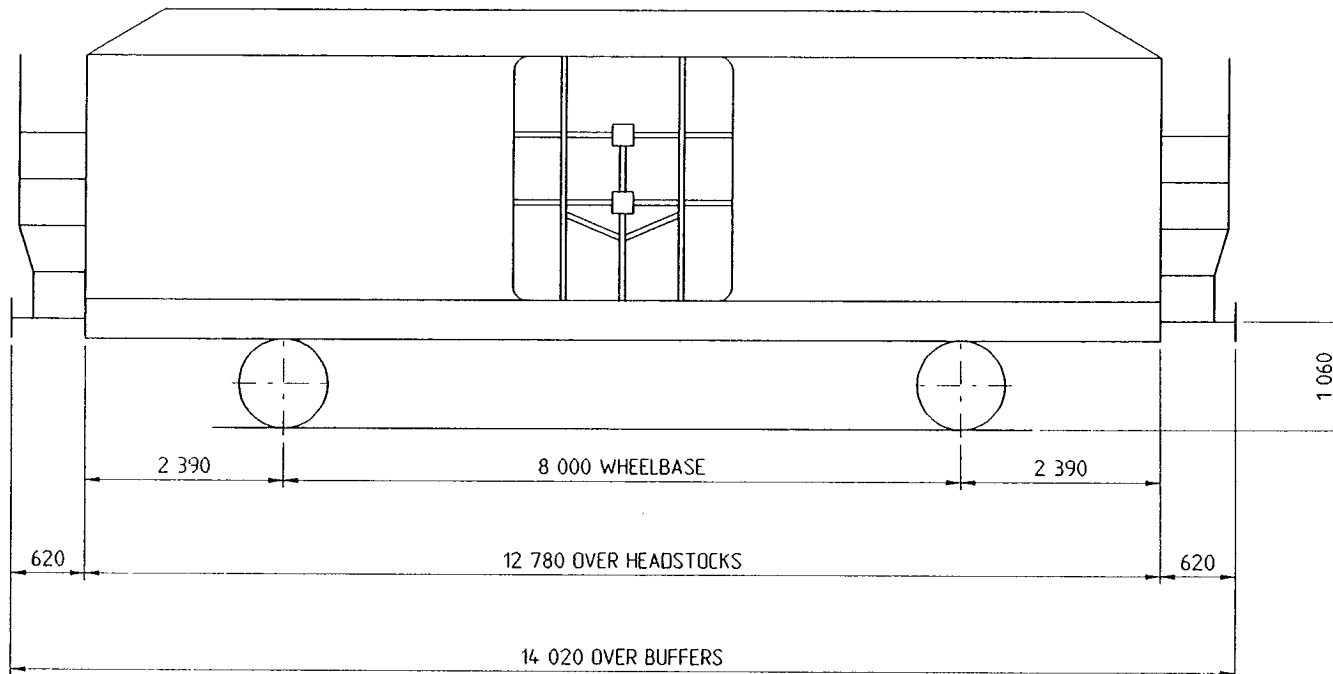
BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 450 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 035-037, 039-042, 044, 045
BUILDER-	GRAAFF ELZE
OWNER-	V.T.G.



Railfreight Distribution
International Ferry Vehicles (Foreign Administration) 40 t GLW 2 AXLE REFRIGERATOR VAN IIE 375
Vehicle Diagram Book No. 340

					TOPS INFORMATION								
90	A 17.8t	B 21.8t	C 25.8t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	17.8t	21.8t	25.8t		CARKND		60 mile/h UP TO 40 tonne GLW mile/h ABOVE		- FORCE UP TO - FORCE ABOVE		12	6	-
120					I	I	B	L	a + (b x tonnes) GLW 3.25 + (0.72 x t)				



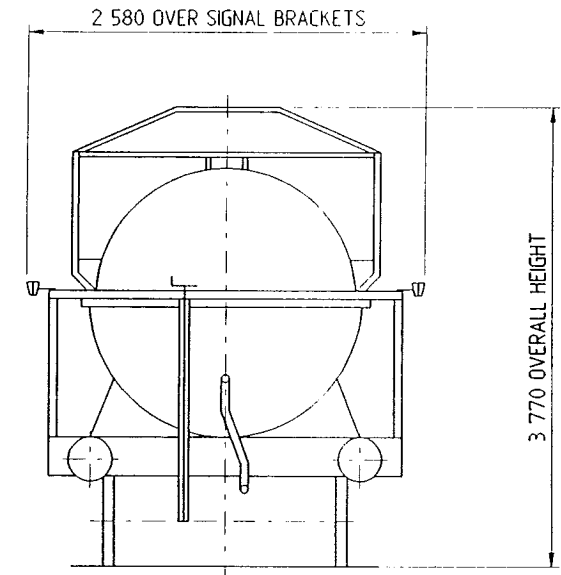
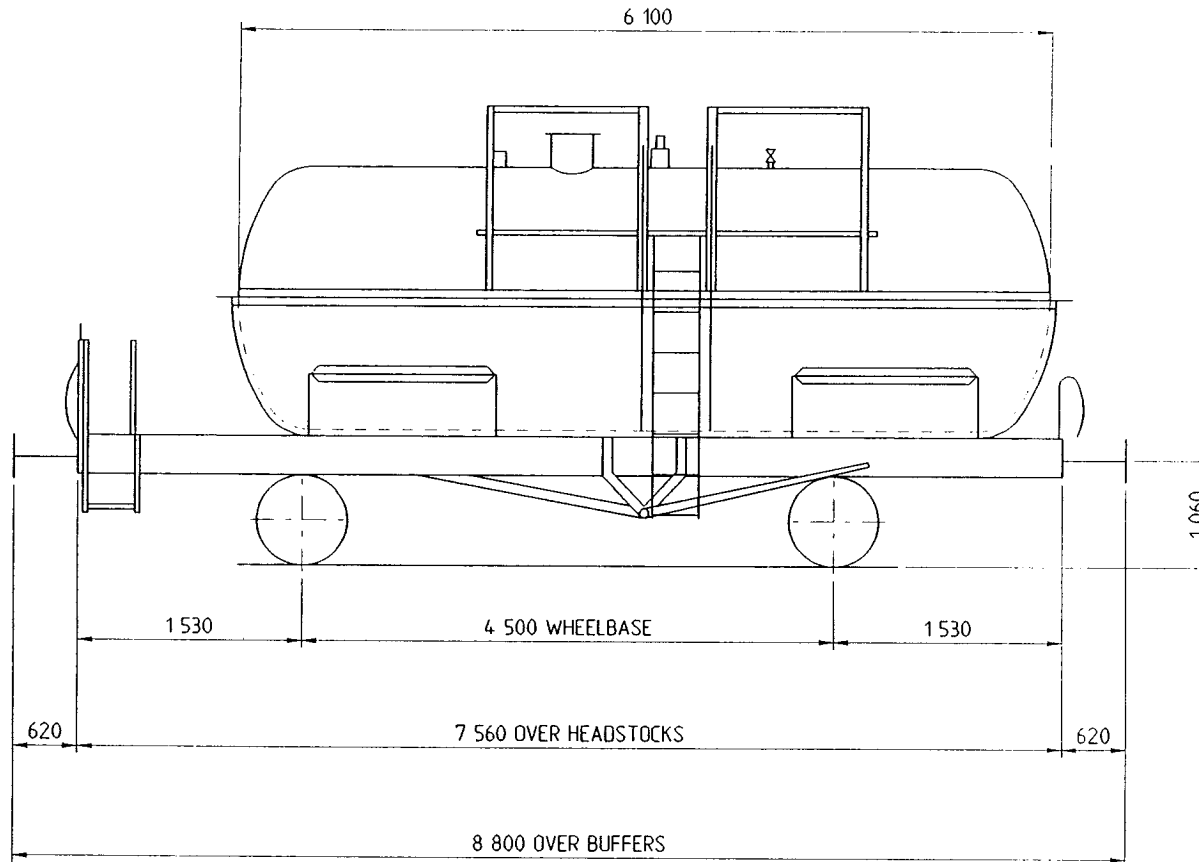
TARE-	14.25 t
CAPACITY, WEIGHT-	25.75 t
CAPACITY, VOLUME-	44 m ³
FLOOR AREA-	23.6 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2138

BRAKE-	AIR & VACUUM THRO' PIPE; SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Ibefs Ibefhps
WAGON No.-	03 83 8089 000 - 979 (RANGE) 03 83 8087 205 11 83 0887 138
BUILDER-	SNIA VISCOSA
OWNER-	INTERFRIGO



TOPS INFORMATION												
90	A 18.6t	B 22.6t	C 22.6t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S					CARKND	50 mile/h UP TO	36 tonne GLW	9 t FORCE UP TO	20 t GLW	4	5	-
120					I B B B	mile/h ABOVE		17 t FORCE ABOVE				



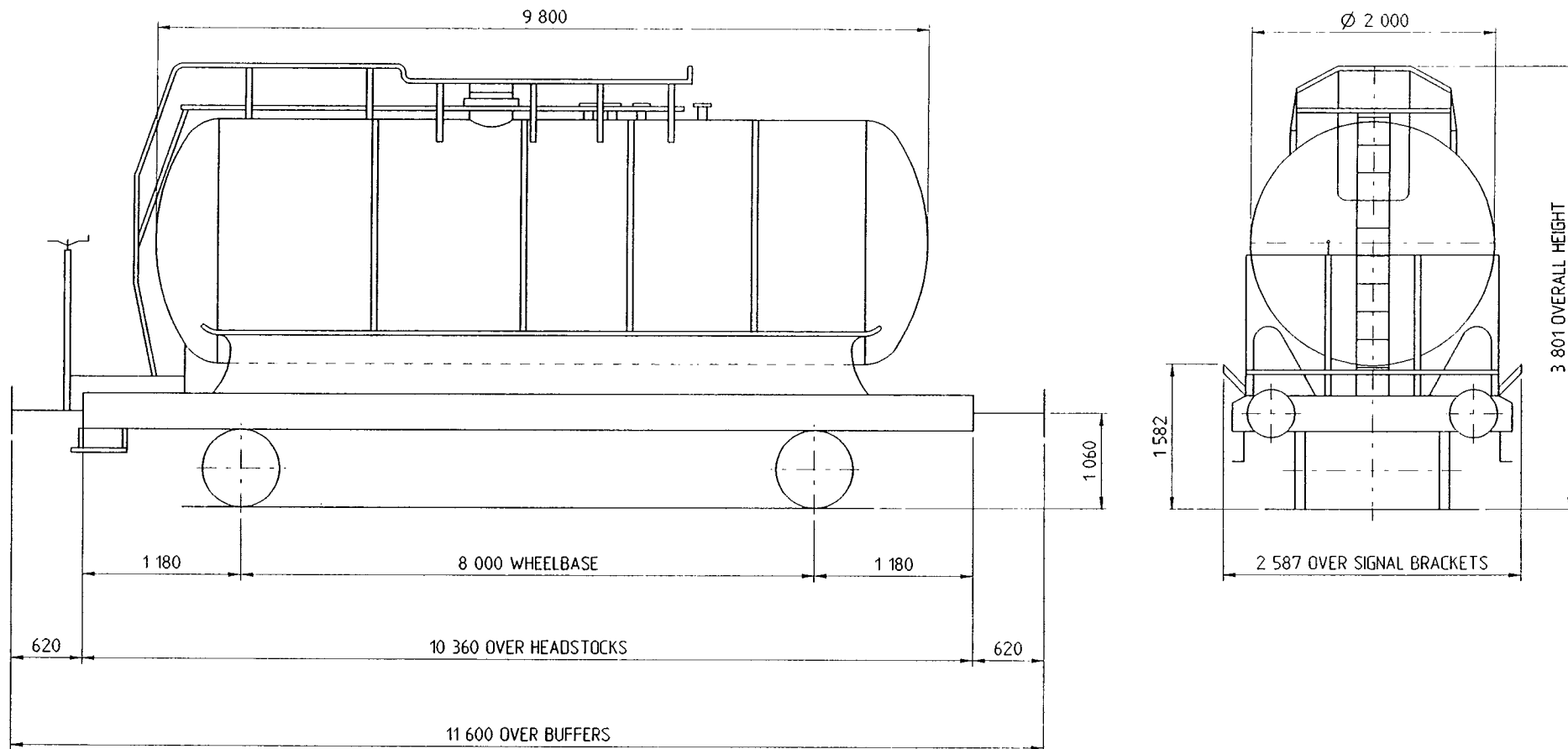
TARE-	13.4 t
CAPACITY, WEIGHT-	22.6 t
CAPACITY, VOLUME-	13.5 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	01.578

BRAKE-	AIR; VACUUM THRO' PIPE
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zcefkk
WAGON No.-	23 80 7187 000
BUILDER-	LINKE-HOFMANN-BUSCH
OWNER-	V.T.G.



					TOPS INFORMATION							
90	A 18 t	B 22 t	C 26 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	18 t	22 t	22 t		CARKND	60 mile/h UP TO	36 tonne GLW	10 t FORCE UP TO	25 t GLW	9	6	-
120					I B A B	50 mile/h ABOVE		21 t FORCE ABOVE				



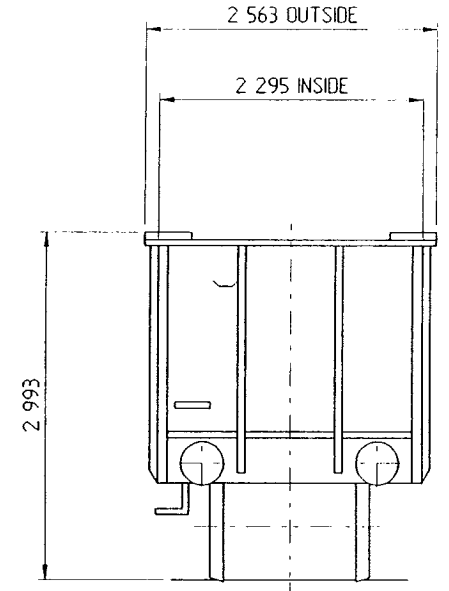
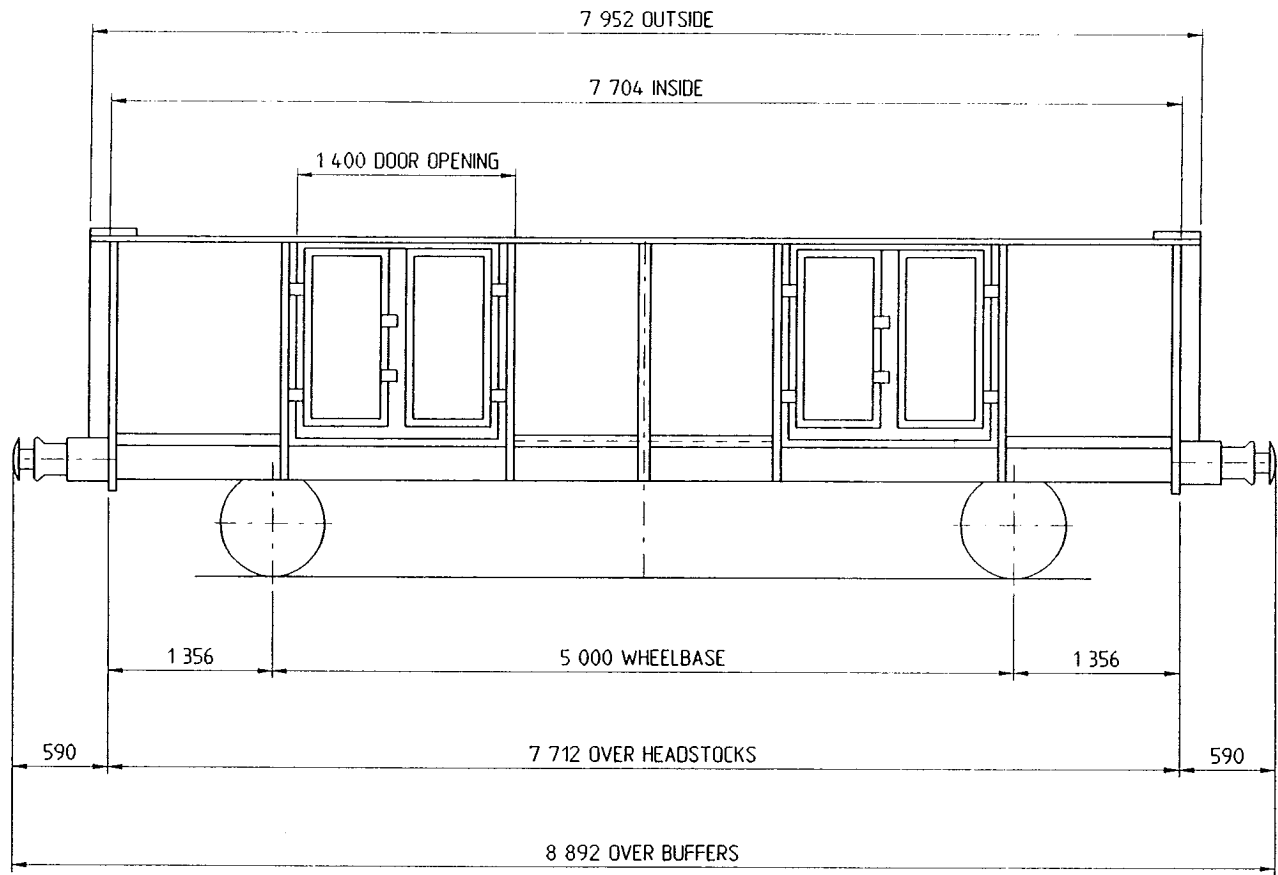
TARE-	14 t
CAPACITY, WEIGHT-	26 t
CAPACITY, VOLUME-	30 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K 383 01 00

BRAKE-	AIR; PLATFORM & SIDE LEVER
SUSPENSION-	SINGLE LINK 9 X 1 400 SPRINGS
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER
WHEELS-	Ø 940
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 046
BUILDER-	GRAAF ELZE
OWNER-	V. T. G. HAMBURG



					TOPS INFORMATION								
90	A 21.5t	B 25.5t	C 29.5t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	21.5t	25.5t	25.5t		CARKND		60 mile/h UP TO	36 tonne GLW	7 t FORCE UP TO	21 t GLW	-	6	-
120					I	O	B	B	50 mile/h ABOVE	18 t FORCE ABOVE			



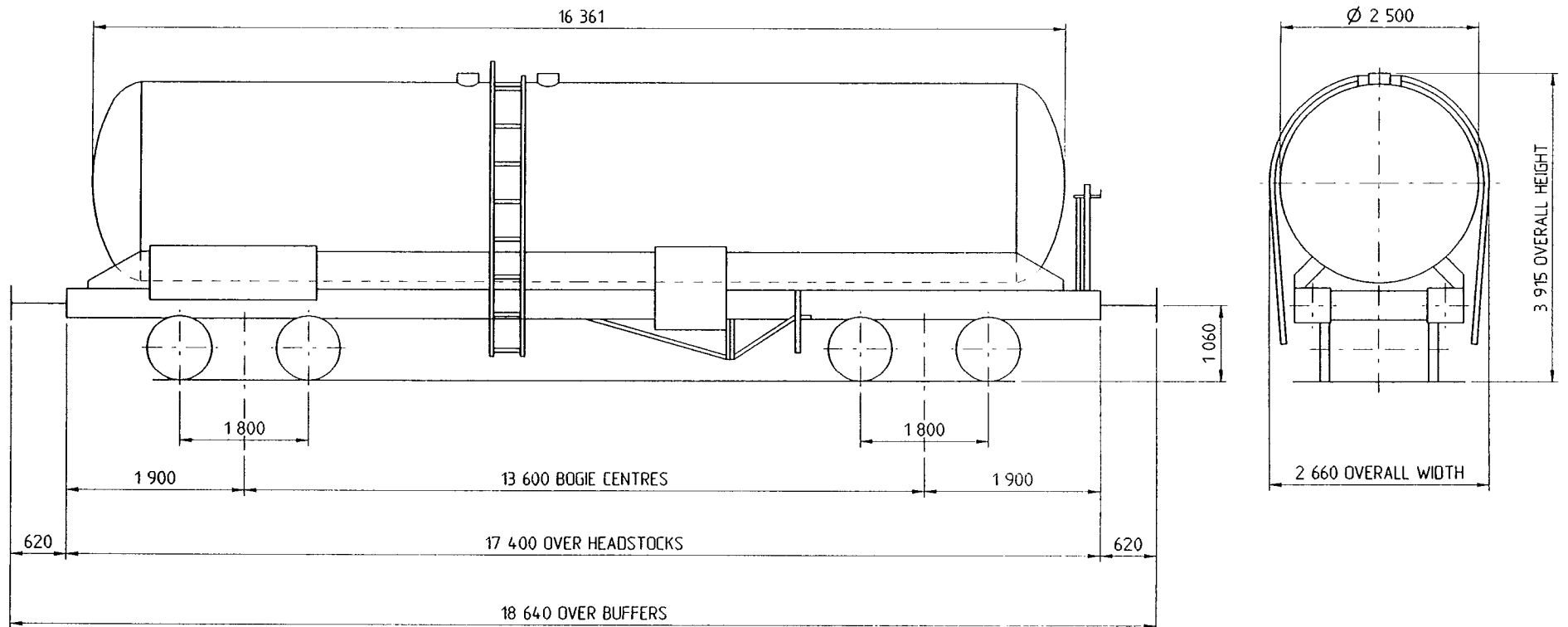
TARE-	10.5 t
CAPACITY, WEIGHT-	29.5 t
CAPACITY, VOLUME-	30.4 m ³
FLOOR AREA-	17.7 m ²
MIN.CURVE-	-
GEN.ARRGT.DRG.No.-	10.188 015

BRAKE-	AIR, VAC THRO' PIPE; LEVER
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ 1 000
JOURNALS-	∅ -

TYPE-	Ffs
WAGON No.-	21 87 6094 000-010, 012-049
BUILDER-	S.N.C.F.
OWNER-	S.N.C.F.



					TOPS INFORMATION								
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	57 t	57 t	57 t		CARKND		60 mile/h UP TO	80 tonne GLW	15 t FORCE UP TO	40 t GLW	10	6	-
120					I	C	B	D	37 t FORCE ABOVE				



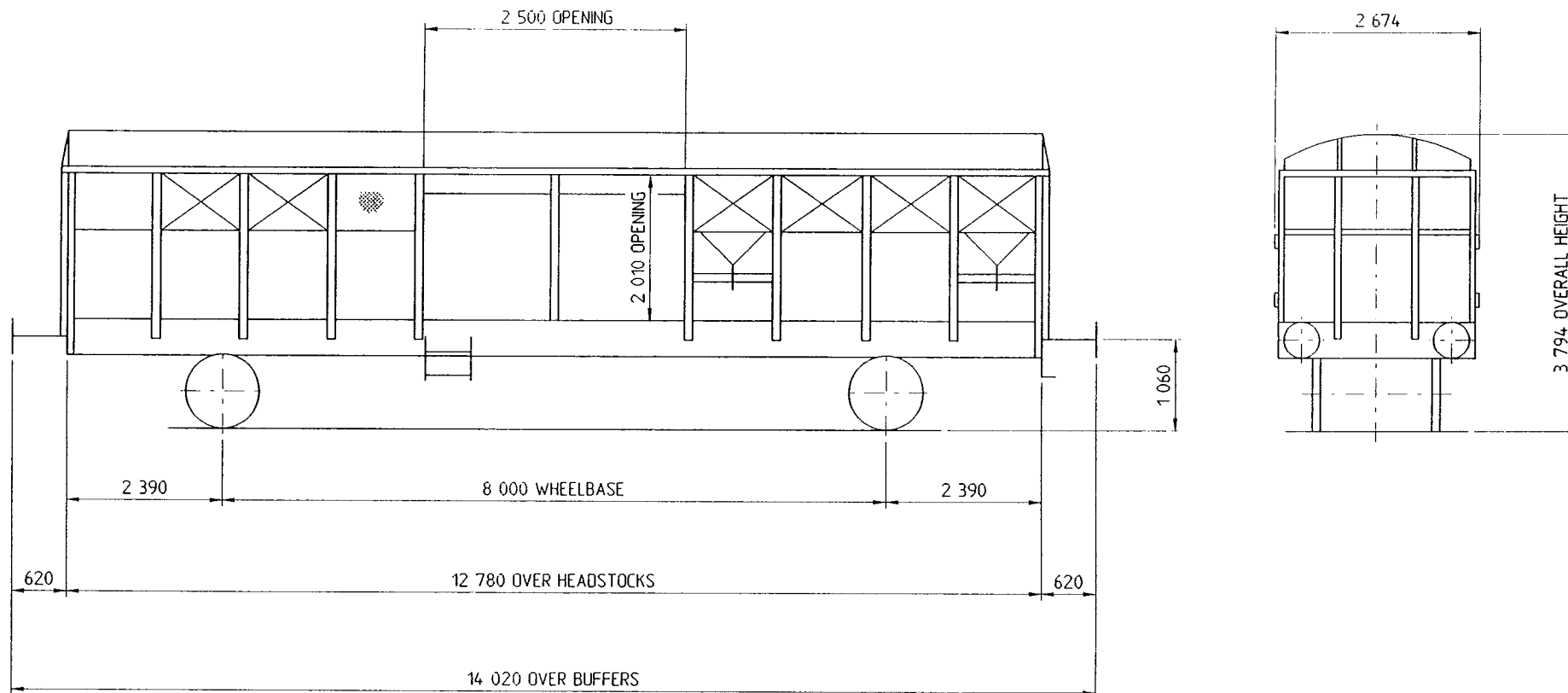
TARE-	23 t
CAPACITY, WEIGHT-	57 t
CAPACITY, VOLUME-	77 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	98599

BRAKE-	AIR; VACUUM THRO' PIPE
SUSPENSION-	Y 25 C BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC U5
WHEELS-	$\varnothing 920$
JOURNALS-	$\varnothing 130$

TYPE-	Zacfs
WAGON No.-	33 87 7895 000-006
BUILDER-	FAUVET-GIREL
OWNER-	ERMEWA



					TOPS INFORMATION							
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	17.5t	21.5t	21.5t		CARKND	60 mile/h UP TO 35.5 tonne GLW mile/h ABOVE		7 t FORCE UP TO 21 t GLW 18 t FORCE ABOVE		12	6	-
120					I L B L							



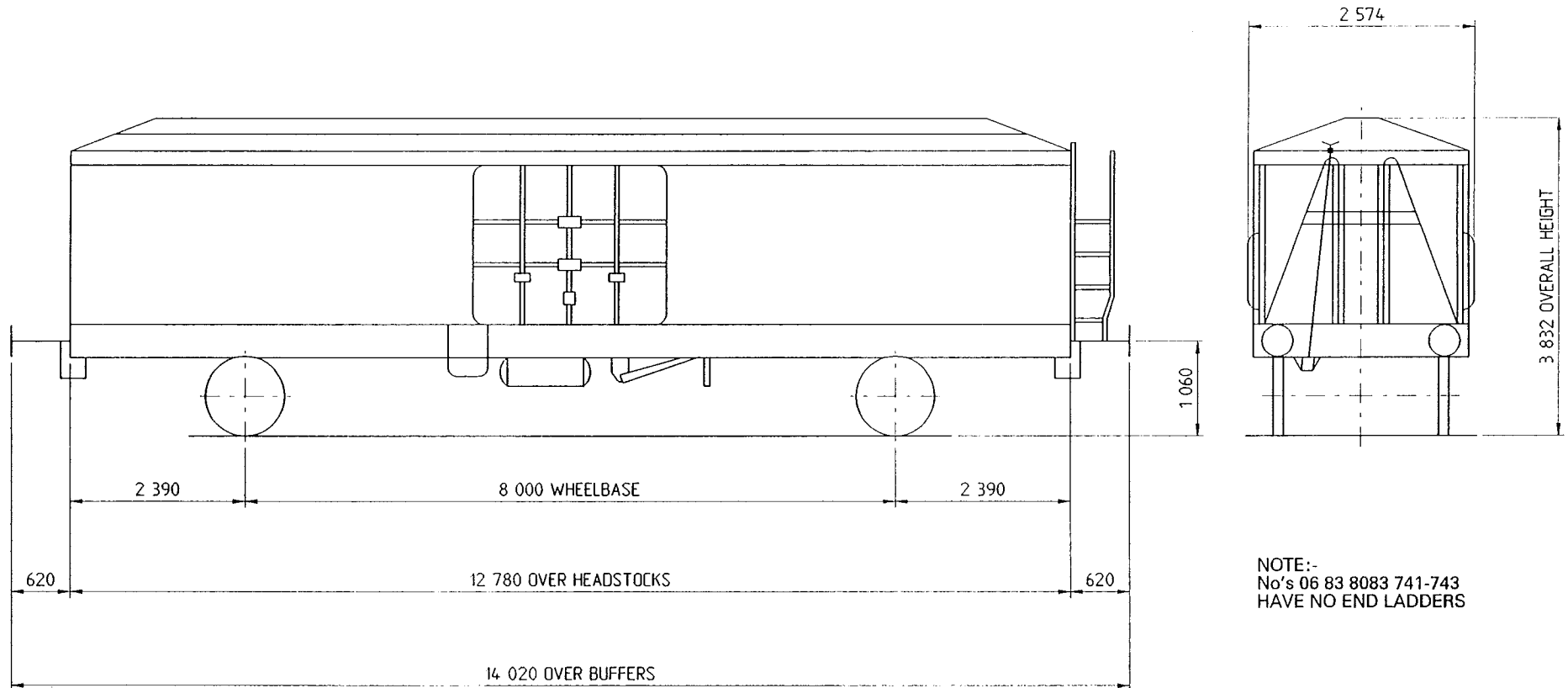
TARE-	14 t
CAPACITY, WEIGHT-	21.5 t
CAPACITY, VOLUME-	69 m ³
FLOOR AREA-	28.7 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	304379

BRAKE-	AIR; VACUUM THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Hbfkks
WAGON No.-	21 72 2390 000-064
BUILDER-	FRANCO BELGE
OWNER-	JZ



				TOPS INFORMATION								
90	A 18.5t	B 22.5t	C 26.5t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	18.5t	22.5t	22.5t		CARKND	45 mile/h UP TO	40 tonne GLW	14 t FORCE UP TO	28 t GLW	12	6	-
120					I I X L	mile/h ABOVE		24 t FORCE ABOVE				



NOTE:-
 No's 06 83 8083 741-743
 HAVE NO END LADDERS

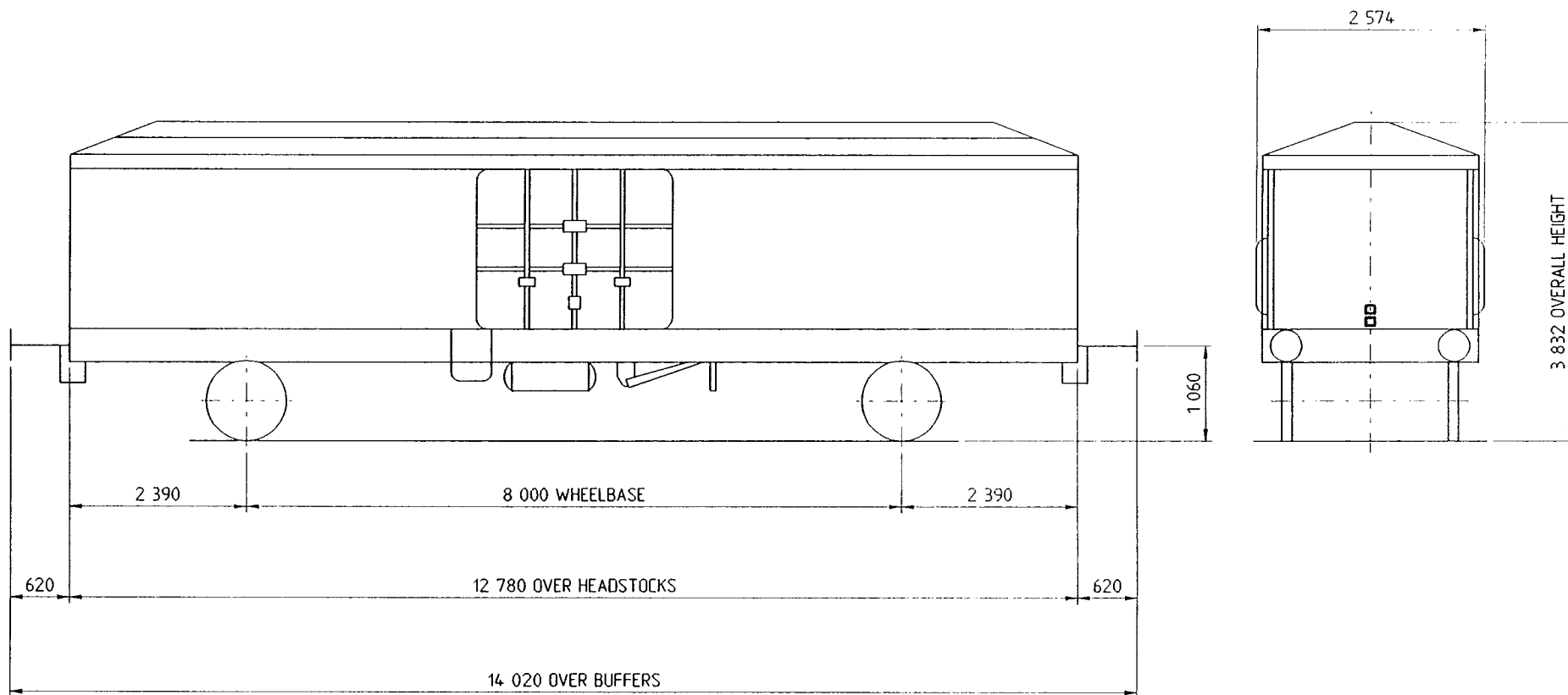
TARE-	13 t
CAPACITY, WEIGHT-	27 t
CAPACITY, VOLUME-	51 m ³
FLOOR AREA-	26.5 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	56

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ - P10 PROFILES
JOURNALS-	∅ -

TYPE-	lbfggps
WAGON No.-	06 83 8083 741-750
BUILDER-	SNIA VISCOSA
OWNER-	TRANSFESA



					TOPS INFORMATION							
90	A 19 t	B 23 t	C 27 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	19 t	23 t	23 t		CARKND	45 mile/h UP TO	40 tonne GLW	14 t FORCE UP TO	28 t GLW	12	6	-
120					I I X L	-mile/h ABOVE-		24 t FORCE ABOVE				



TARE-	13 t
CAPACITY, WEIGHT-	27 t
CAPACITY, VOLUME-	51 m ³
FLOOR AREA-	26.5 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	56

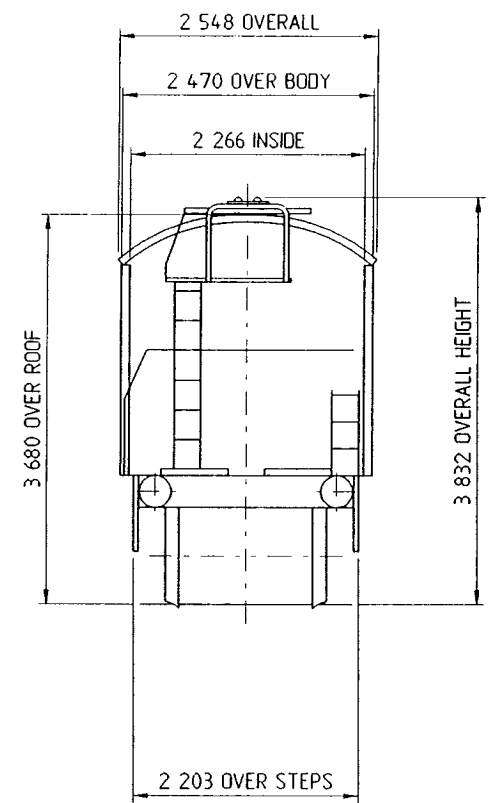
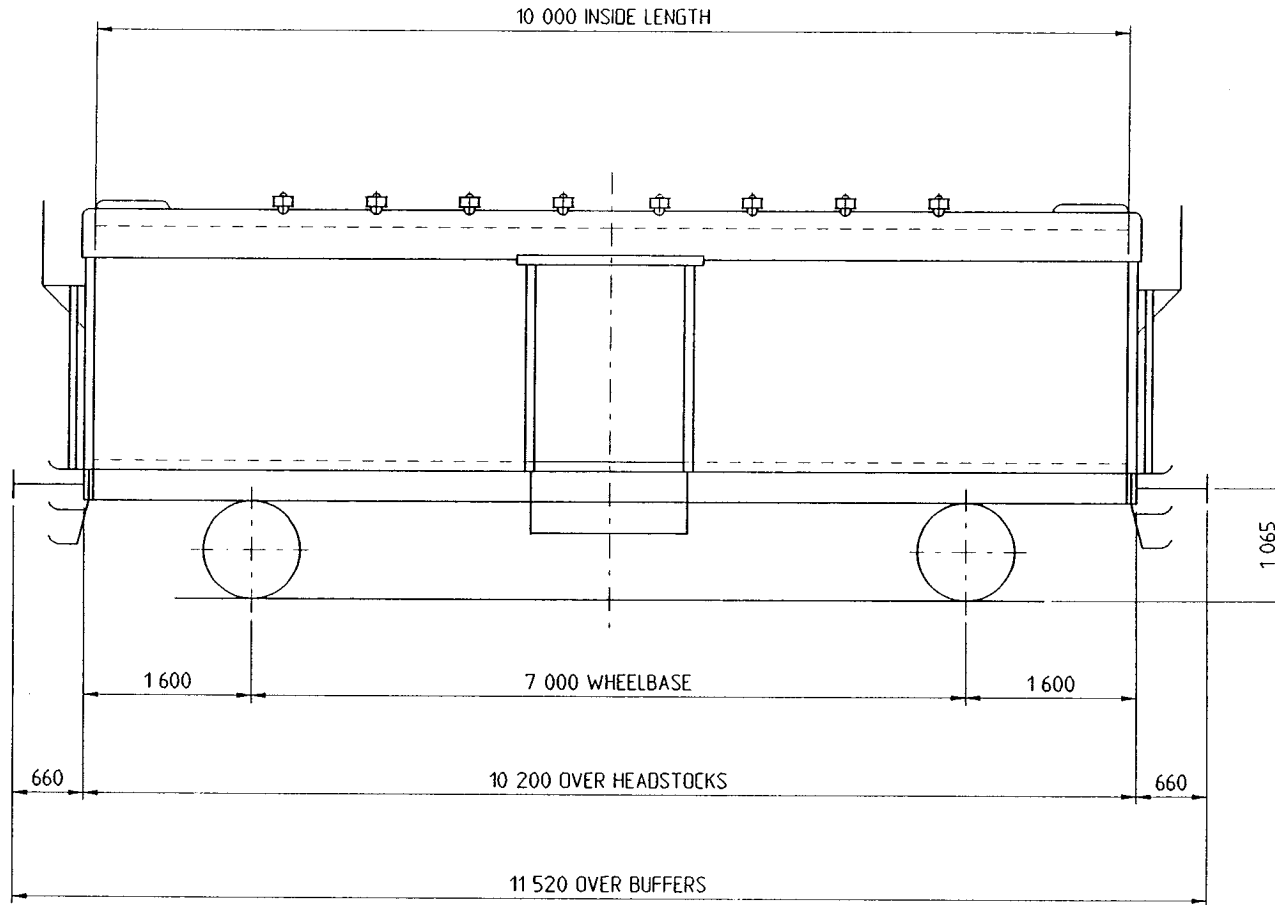
BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ - P10 PROFILES
JOURNALS-	∅ -

TYPE-	lbfggps
WAGON No.-	06 83 8083 700-740
BUILDER-	SNIA VISCOSA
OWNER-	TRANSFESA



35 t GLW INSULATED COVERED WAGON

90	A	B	C	D	TOPS INFORMATION							
	16 t	20 t	20 t		AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
	S	16 t	20 t	20 t	CARKND	60 mile/h UP TO	35 tonne GLW	12 t FORCE UP TO	24 t GLW	-	4	-
120					I M B I	mile/h ABOVE		20 t FORCE ABOVE				



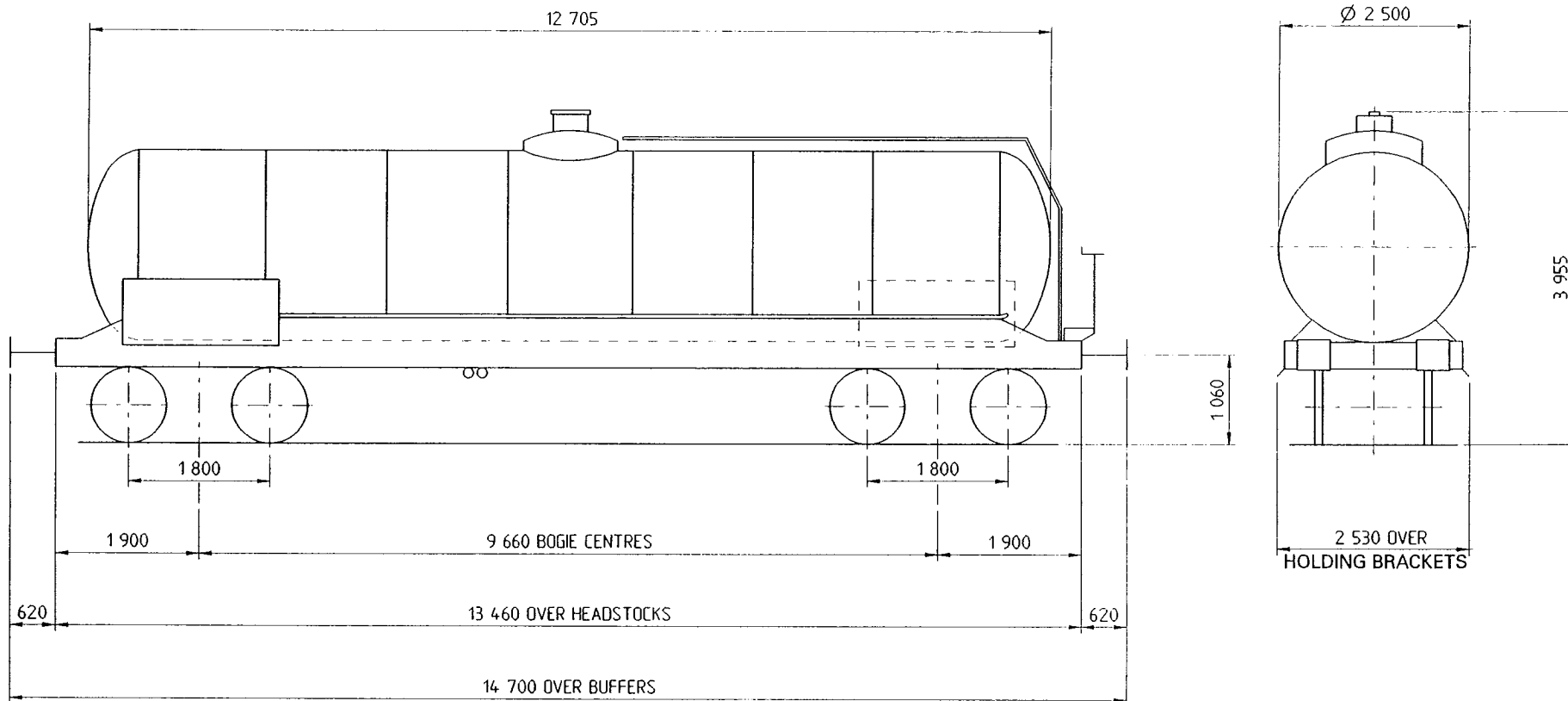
TARE-	15.2 t
CAPACITY, WEIGHT-	20 t
CAPACITY, VOLUME-	40 m ³
FLOOR AREA-	22.66 m ²
MIN.CURVE-	-
GEN.ARRGT.DRG.No.-	610-241854

BRAKE-	AIR; VAC THRO' PIPE, LEVER HAND BRAKE
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ -
JOURNALS-	∅ -

TYPE-	Hfhks
WAGON No.-	21 44 2197 001-008, 010, 011, 013-026
BUILDER-	GANZ es TARSA
OWNER-	BHEV



					TOPS INFORMATION							
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	44.5t	51.5t	60.5t			CARKND	60 mile/h UP TO	80 tonne GLW	12 t FORCE UP TO			
120					I	C	B	D	36 t FORCE ABOVE	3	6	-



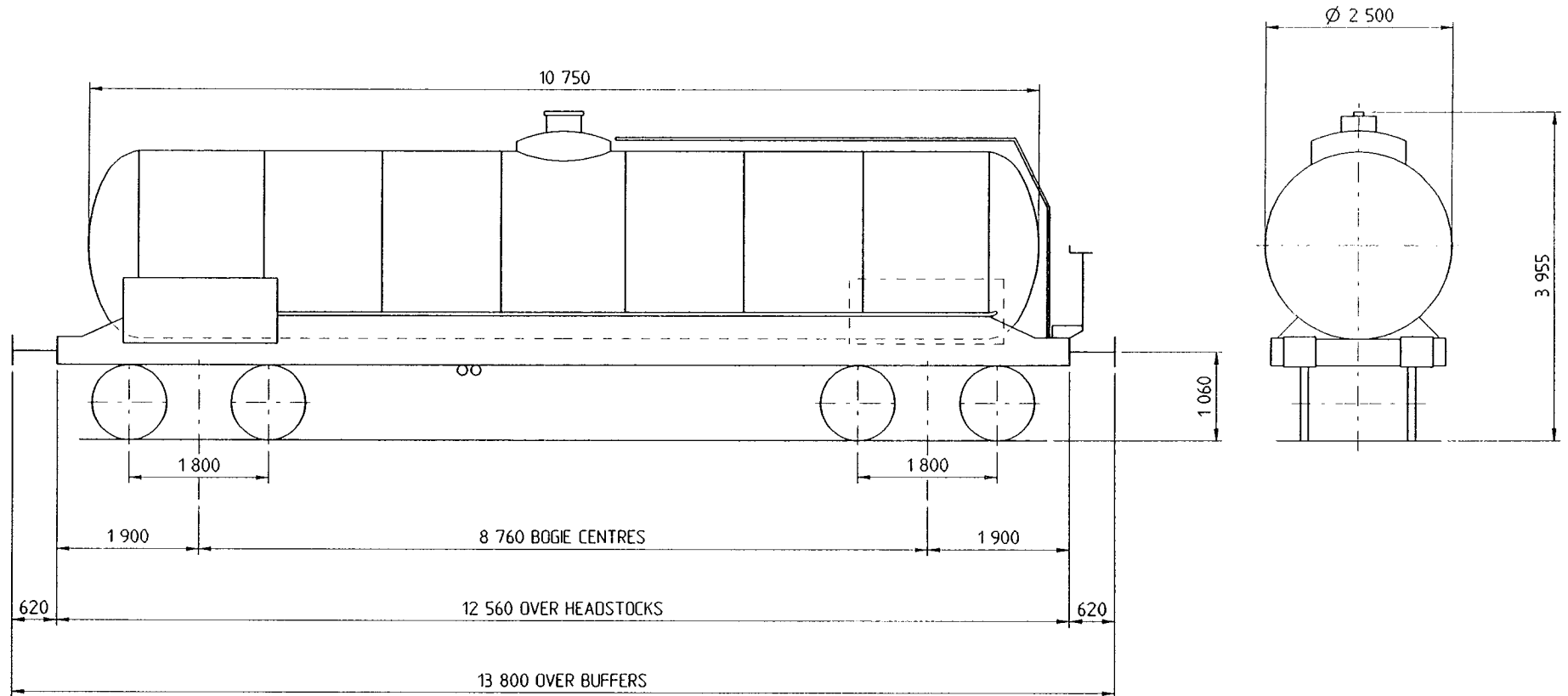
TARE-	19.7 t
CAPACITY, WEIGHT-	60.3 t
CAPACITY, VOLUME-	60 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	107467

BRAKE-	AIR; VACUUM THRO' PIPE
SUSPENSION-	Y25 CS2 BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U5 HYDRAULIC 450 x 340 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zafs
WAGON No.-	33 87 7890 555-564
BUILDER-	FAUVET-GIREL
OWNER-	ERMEFA, GENEVA



					TOPS INFORMATION								
90	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	45.3t	53.3t	61.3t		CARKND		60 mile/h UP TO	80 tonne GLW	12 t FORCE UP TO	43 t GLW	2	6	-
120					I	C	B	D	36 t FORCE ABOVE				



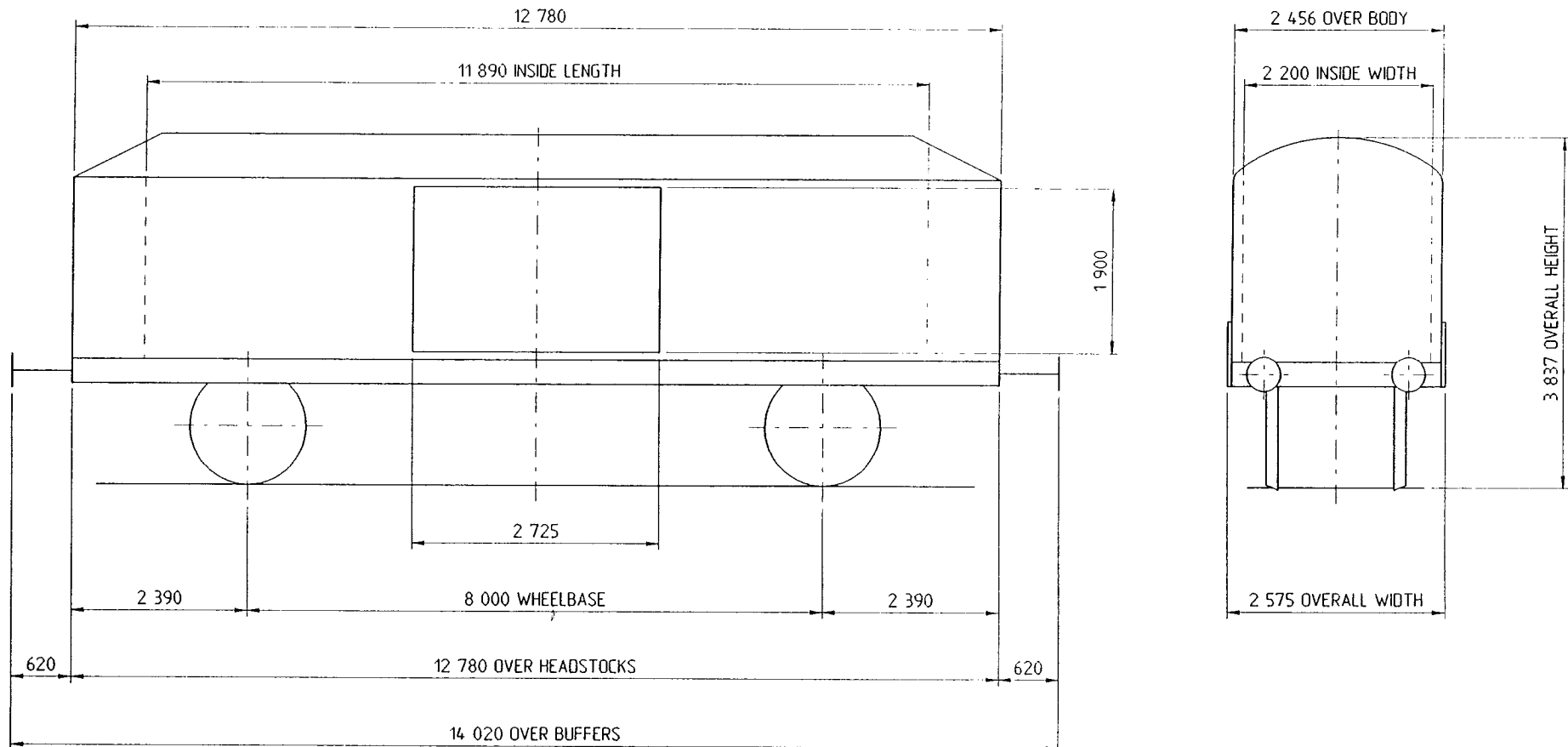
TARE-	18.8 t
CAPACITY, WEIGHT-	61.2 t
CAPACITY, VOLUME-	50.6 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	107398

BRAKE-	AIR; VACUUM THRO' PIPE
SUSPENSION-	Y25 CS2 BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U5 HYDRAULIC 450 x 340 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Tfikks
WAGON No.-	21 87 0798 999 33 87 7890 568, 570 - 574, 576, 578, 579, 581, 584
BUILDER-	FAUVET-GIREL
OWNER-	ERMEWA, GENEVA



					TOPS INFORMATION								
90	A 18.2t	B 22.2t	C 26.2t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	18.2t	22.2t	22.2t		CARKND		60 mile/h UP TO	36 tonne GLW	AIR 7t VAC 5t	FORCE UP TO	17 t GLW	6	-
120					I	I	X	L	AIR 14t VAC 5t	FORCE ABOVE			



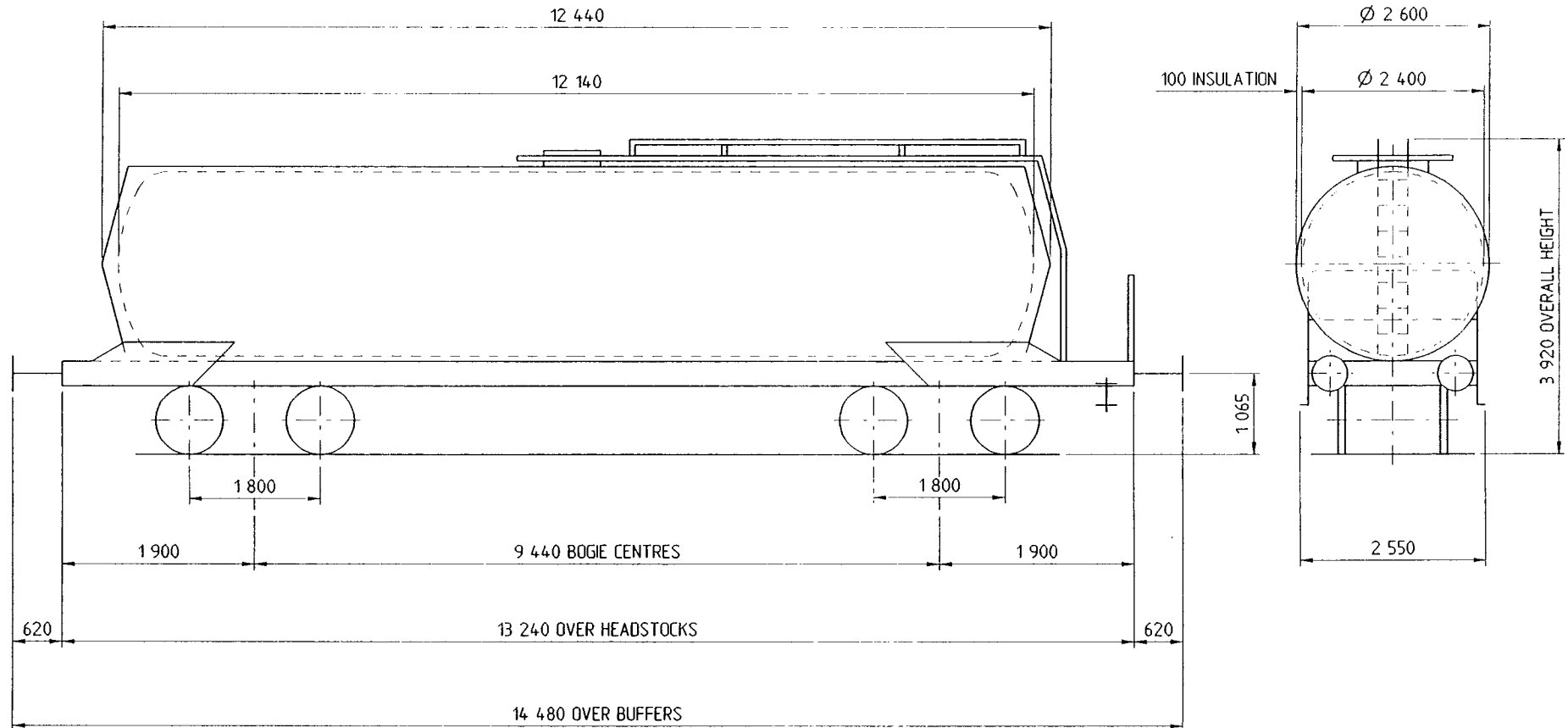
TARE-	13.8 t
CAPACITY, WEIGHT-	26.2 t
CAPACITY, VOLUME-	51.3 m ³
FLOOR AREA-	26.16 m ²
MIN.CURVE-	-
GEN.ARRGT.DRG.No.-	-

BRAKE-	AIR; VAC, LEVER & SCREW
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ -
JOURNALS-	∅ -

TYPE-	lbfggps
WAGON No.-	04 83 8083 001-004
BUILDER-	ITALIAN RAILWAYS
OWNER-	INTERFRIGO



					TOPS INFORMATION							
90	A 44 t	B 52 t	C 60 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	44 t	52 t	60 t		CARKND	60 mile/h UP TO	72 tonne GLW	10 t FORCE UP TO	40 t GLW	3	6	-
120					I C B D	50 mile/h ABOVE		36 t FORCE ABOVE				



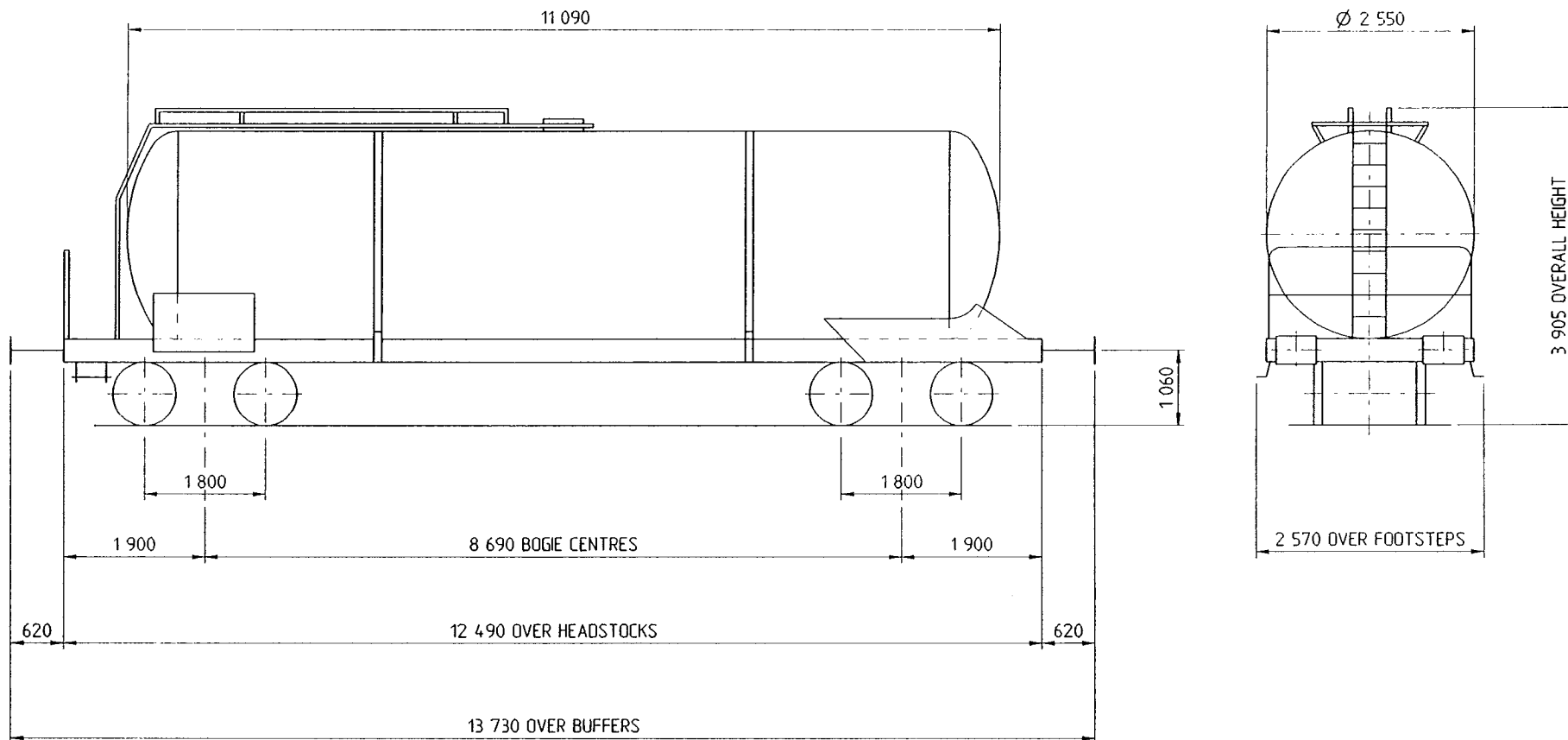
TARE-	19.68 t
CAPACITY, WEIGHT-	60.3 t
CAPACITY, VOLUME-	52 m ³
FLOOR AREA-	-
MIN.CURVE-	30 m
GEN.ARRGT.DRG.No.-	10242

BRAKE-	AIR; VAC THRO' PIPE
SUSPENSION-	Y 25 C BOGIES
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U5, 450 x 340 HD
WHEELS-	∅ 920
JOURNALS-	∅ 130

TYPE-	Zafs
WAGON No.-	33 87 7890 613-616
BUILDER-	C.F.M.F.
OWNER-	TRANSCITERNE, GENEVA



					TOPS INFORMATION								
	A	B ₁	ΦB ₂	ΦC	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	46.5t	51.2t	45.5t	62.5t	S		60 mile/h UP TO 80 tonne GLW		11 t FORCE UP TO 35 t FORCE ABOVE		2	6	-
S	46.5t	51.2t	45.5t	62.5t	CARKND								
120					I	C	B	D					



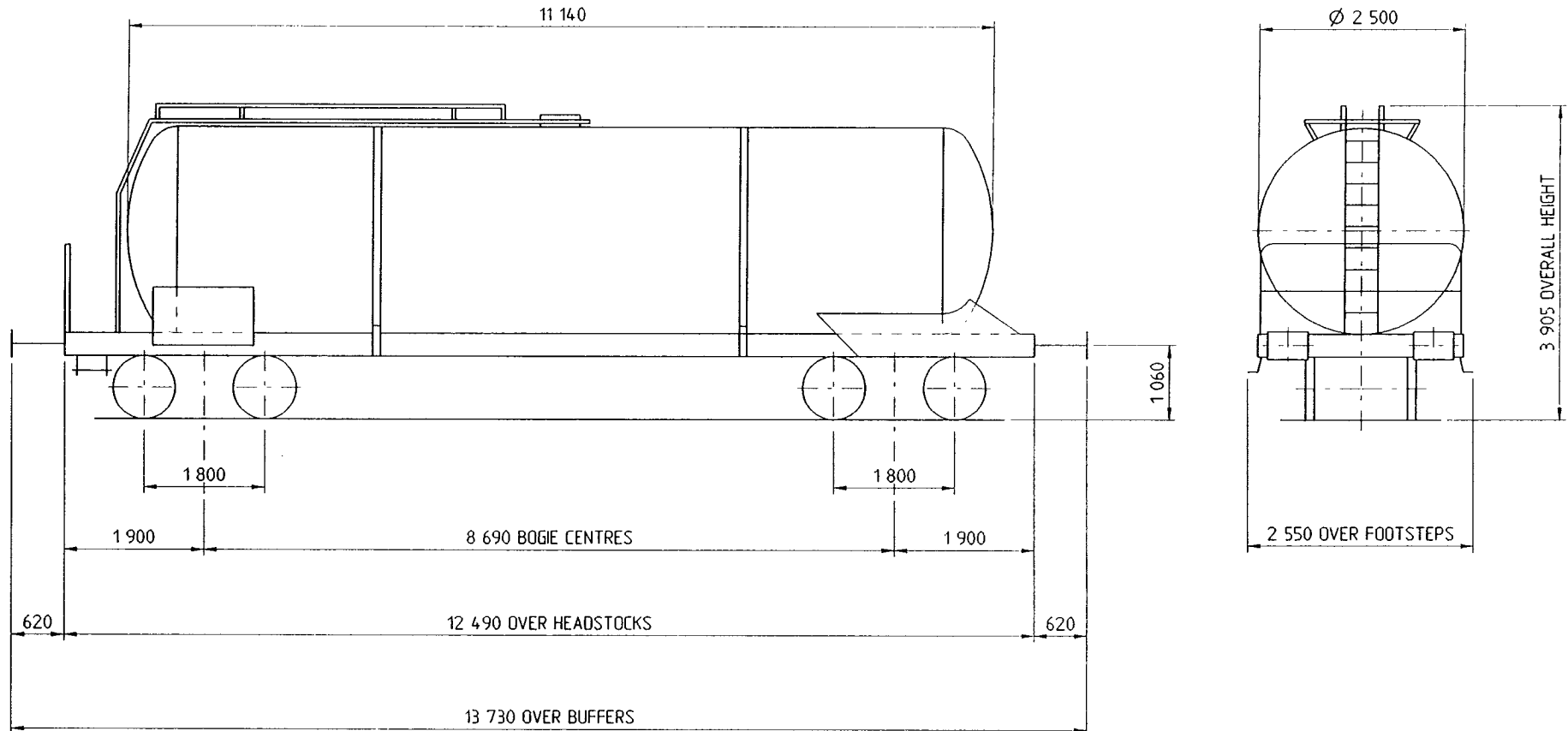
TARE-	17.5 t
CAPACITY, WEIGHT-	62.5 t
CAPACITY, VOLUME-	54.5 m ³
FLOOR AREA-	-
MIN.CURVE-	35 m
GEN.ARRGT.DRG.No.-	1.4.0.660

BRAKE-	AIR; VAC THRO' PIPE
SUSPENSION-	Y 25 CS2 BOGIES
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U5; 450 x 340 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Uafhs
WAGON No.-	33 87 7890 599-610
BUILDER-	C.F.M.F.
OWNER-	FERT & Co



					TOPS INFORMATION								
90	A 45.3t	B ₁ 50 t	ΦB ₂ 53.3t	ΦC 61.3t	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	45.3t	50 t	53.3t	61.3t	CARKND		60 mile/h UP TO	80 tonne GLW	11 t FORCE UP TO	38 t GLW	2	6	-
120					I	C	B	D	35 t FORCE ABOVE				



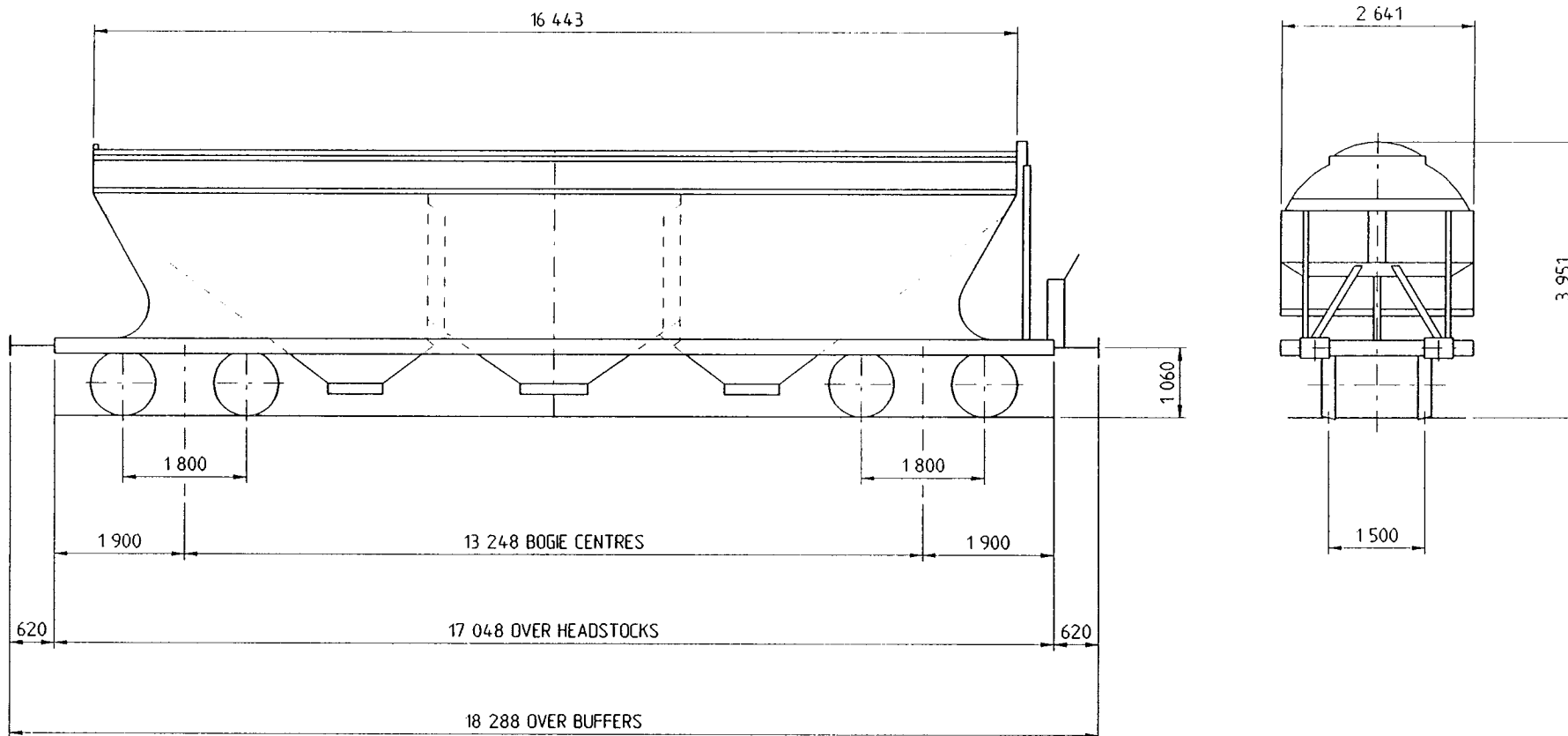
TARE-	18.7 t
CAPACITY, WEIGHT-	61.3 t
CAPACITY, VOLUME-	52.5 m ³
FLOOR AREA-	-
MIN.CURVE-	35 m
GEN.ARRGT.DRG.No.-	1.4.0648

BRAKE-	AIR; VAC THRO' PIPE
SUSPENSION-	Y 25 CS2 BOGIES
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U5; 450 x 340 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Uafhs
WAGON No.-	33 87 7890 611, 612
BUILDER-	C.F.M.F.
OWNER-	FERT & Co



					TOPS INFORMATION							
90	A 43.0t	B 51.0t	C 59.0t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	43.0t	51.0t	59.0t		CARKND	60 mile/h UP TO mile/h ABOVE 80 tonne GLW		14 t FORCE UP TO 36 t FORCE ABOVE 42 t GLW		-	6	W 2730
120					I R B H							



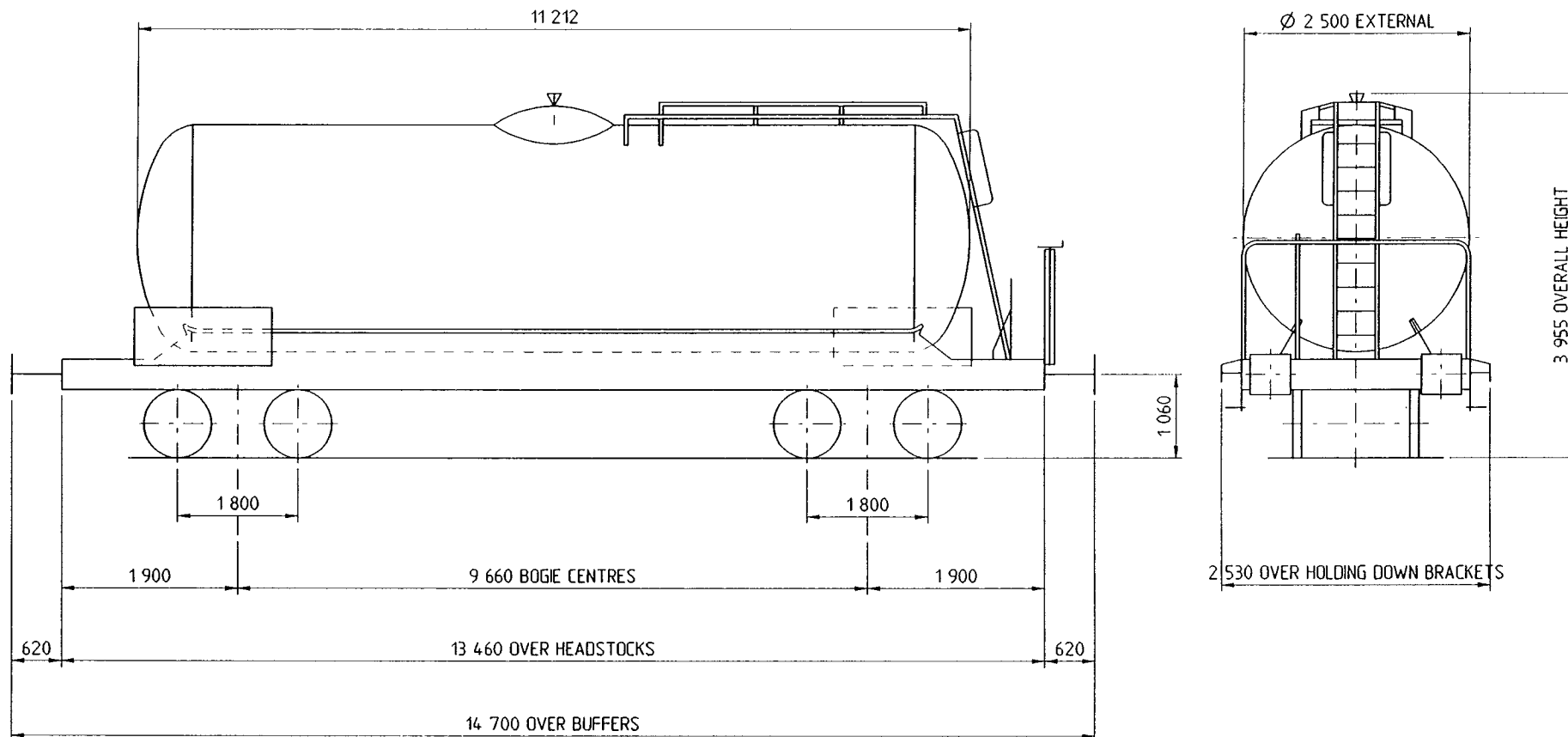
TARE-	21 t
CAPACITY, WEIGHT-	59 t
CAPACITY, VOLUME-	95 m ³
FLOOR AREA-	-
MIN. CURVE-	-
GEN. ARRGT. DRG. No. -	107280

BRAKE-	AIR, VAC THRO' PIPE; SCREW
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ -
JOURNALS-	∅ -

TYPE-	Uafs Uafgpps(4) Uafpps
WAGON No. -	33 87 9283 000-021, 33 87 9384 000-002, 33 88 9282 000-009, 33 88 9380 000, 004-006, 009-013, 015, 016, 019, 020, 032-034, 036, 037, 039, 040, 044-047, 100-104, 108, 110
BUILDER-	FAUVET - GIREL
OWNER-	S.N.C.F.



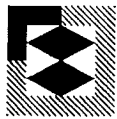
					TOPS INFORMATION							
90	A 45.6t	B 53.6t	C 61.6t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	45.6t	53.6t	61.6t		CARKND	60 mile/h UP TO	80 tonne GLW	12 t FORCE UP TO	43 t GLW	3	5	-
120					I C B D	mile/h ABOVE		36 t FORCE ABOVE				



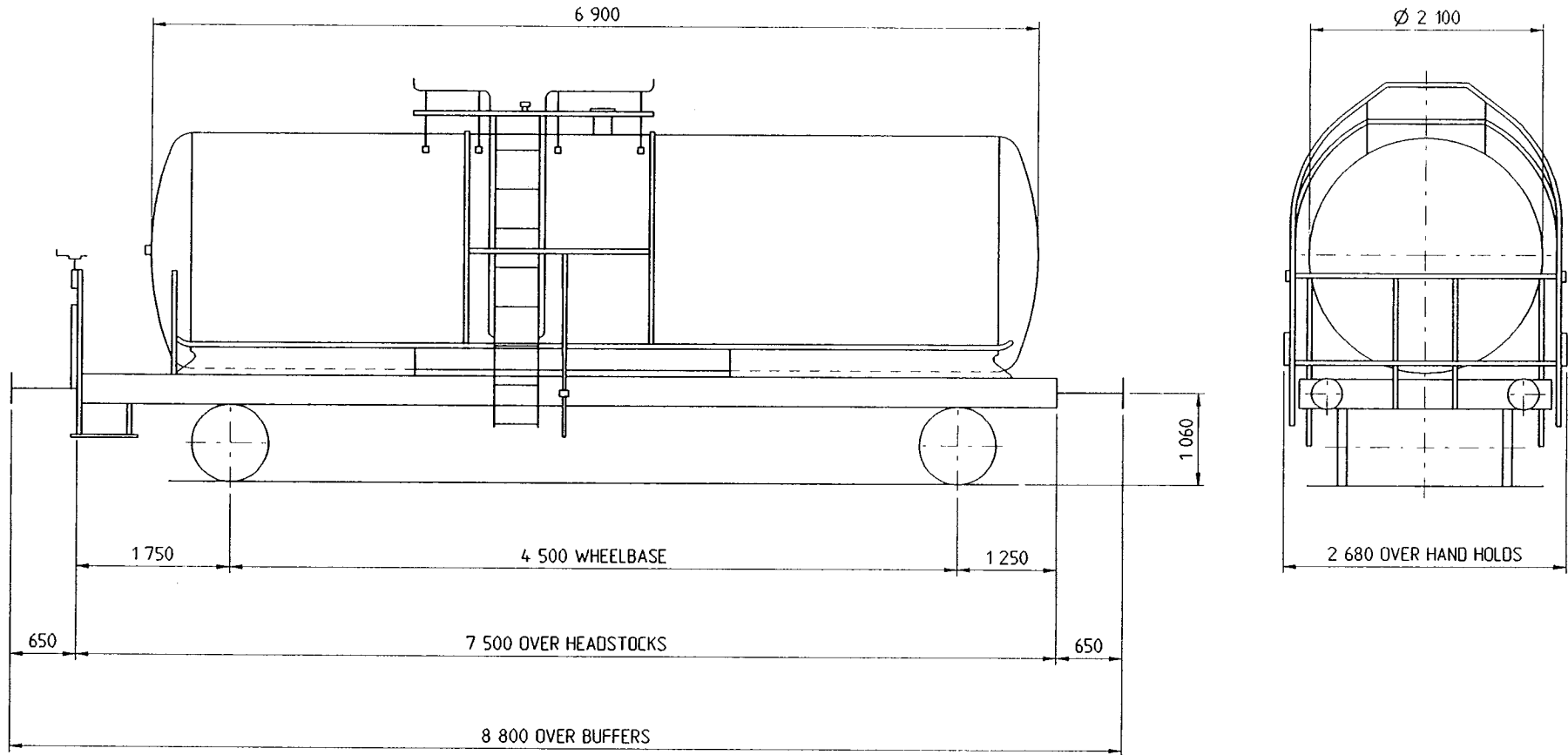
TARE-	18.6 t
CAPACITY, WEIGHT-	61.5 t
CAPACITY, VOLUME-	53 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	107699

BRAKE-	AIR, VACUUM THRO' PIPE
SUSPENSION-	Y 25 CS2 BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U5 HYDRAULIC 450 x 340 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zafs
WAGON No.-	33 87 7890 520-554 - ERMEWA 33 87 7890 589-598 - FERT
BUILDER-	FAUVET - GIREL
OWNER-	SEE NUMBER



					TOPS INFORMATION							
90	A 20.9t	B 24.9t	C 28.9t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20.9t	24.9t	24.9t		CARKND	60 mile/h UP TO	36 tonne GLW	8 t FORCE UP TO	25 t GLW	4	6	-
120					I B B B	50 mile/h ABOVE		21 t FORCE ABOVE				



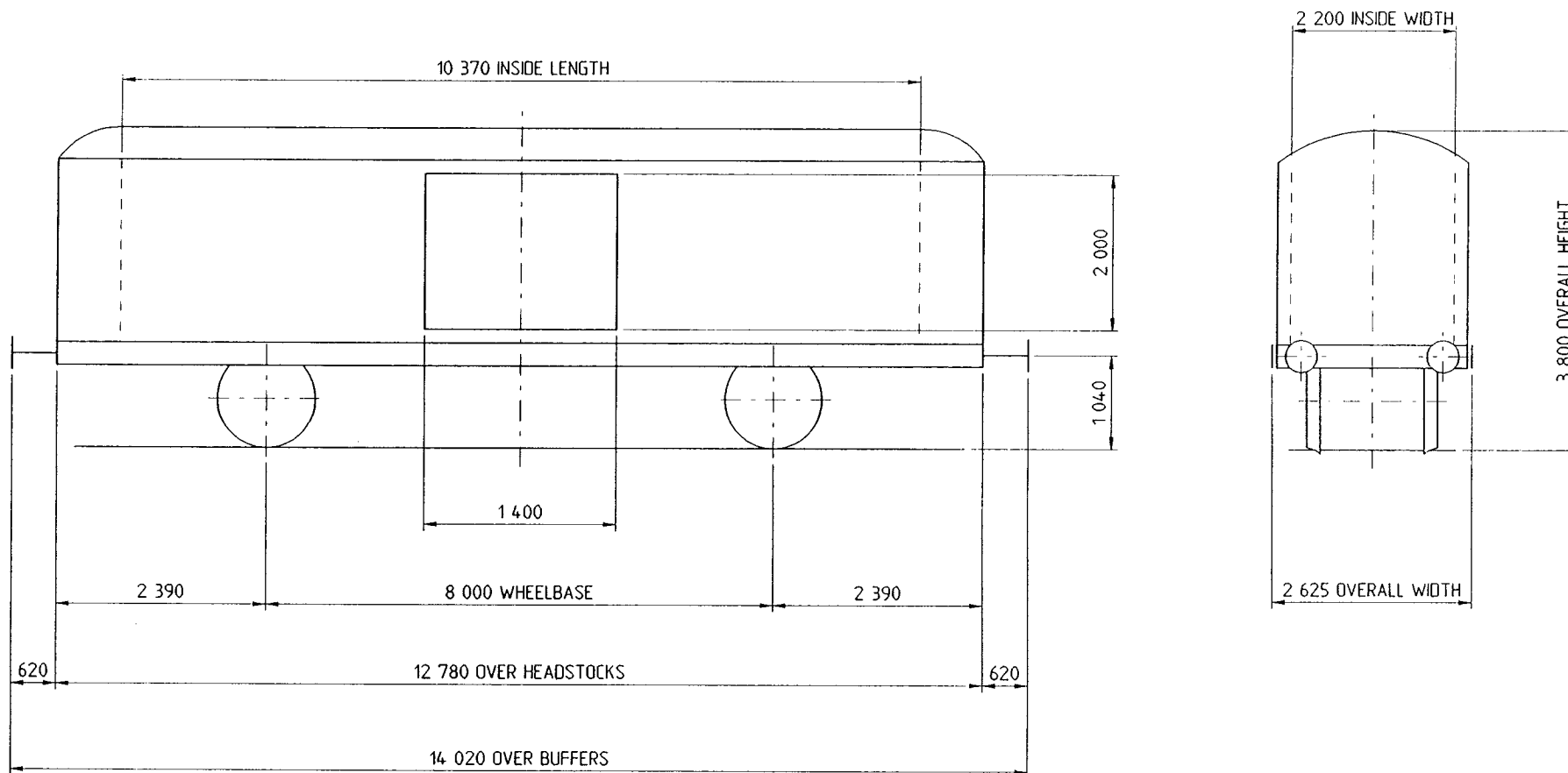
TARE-	11.1 t
CAPACITY, WEIGHT-	28.9 t
CAPACITY, VOLUME-	22 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	W1882

BRAKE-	AIR; VACUUM THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 370 HD
WHEELS-	Ø 940
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 047, 048
BUILDER-	KAMINSKI HAMELN
OWNER-	V T G



					TOPS INFORMATION							
90	A 14.5t	B 18.5t	C 22.5t	∅	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	14.5t	18.5t	18.5t		CARKND	60 mile/h UP TO	36 tonne GLW	FORCE UP TO	a + (b x tonnes)		6	-
120	14.5t		SS	I I B L	50 mile/h ABOVE	FORCE ABOVE		1.00 + (0.50 x t)				



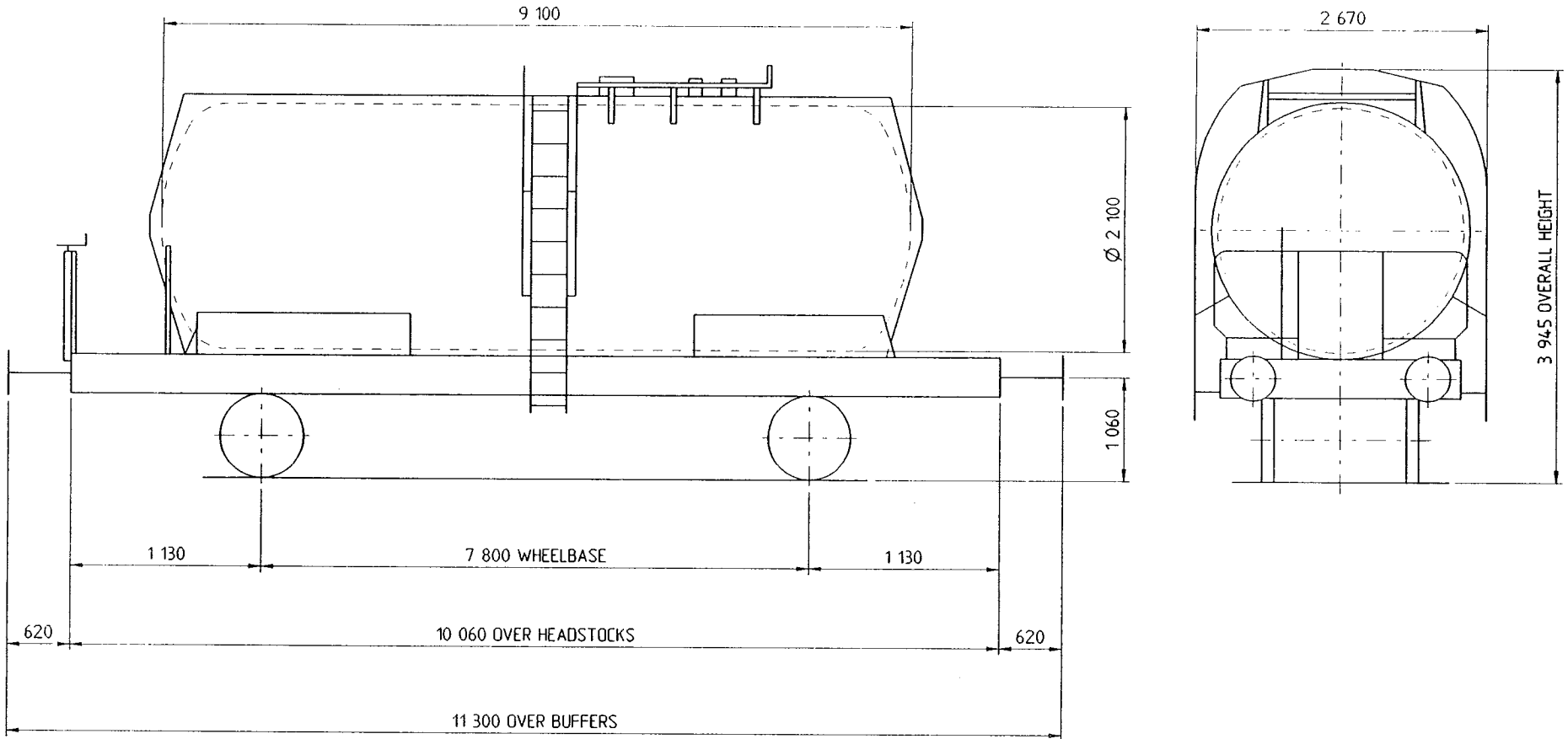
TARE-	17.5 t
CAPACITY, WEIGHT-	22.5 t
CAPACITY, VOLUME-	42.3 m ³
FLOOR AREA-	22.8 m ²
MIN.CURVE-	-
GEN.ARRGT.DRG.No.-	3651

BRAKE-	AIR; VAC THRO' PIPE, HAND SCREW
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ 1 000
JOURNALS-	∅ -

TYPE-	lbefps
WAGON No.-	03 83 8088 997
BUILDER-	A.GALLINARI
OWNER-	INTERFRIGO



					TOPS INFORMATION										
	A	B	C	D	AARKND				OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	18.6t	22.6t	26.6t						60 mile/h UP TO		9 t FORCE UP TO		8	6	-
S	18.6t	22.6t	26.6t		CARKND				40 tonne GLW		21 t FORCE ABOVE				
120					I	B	B	B	60 mile/h ABOVE		25 t GLW				



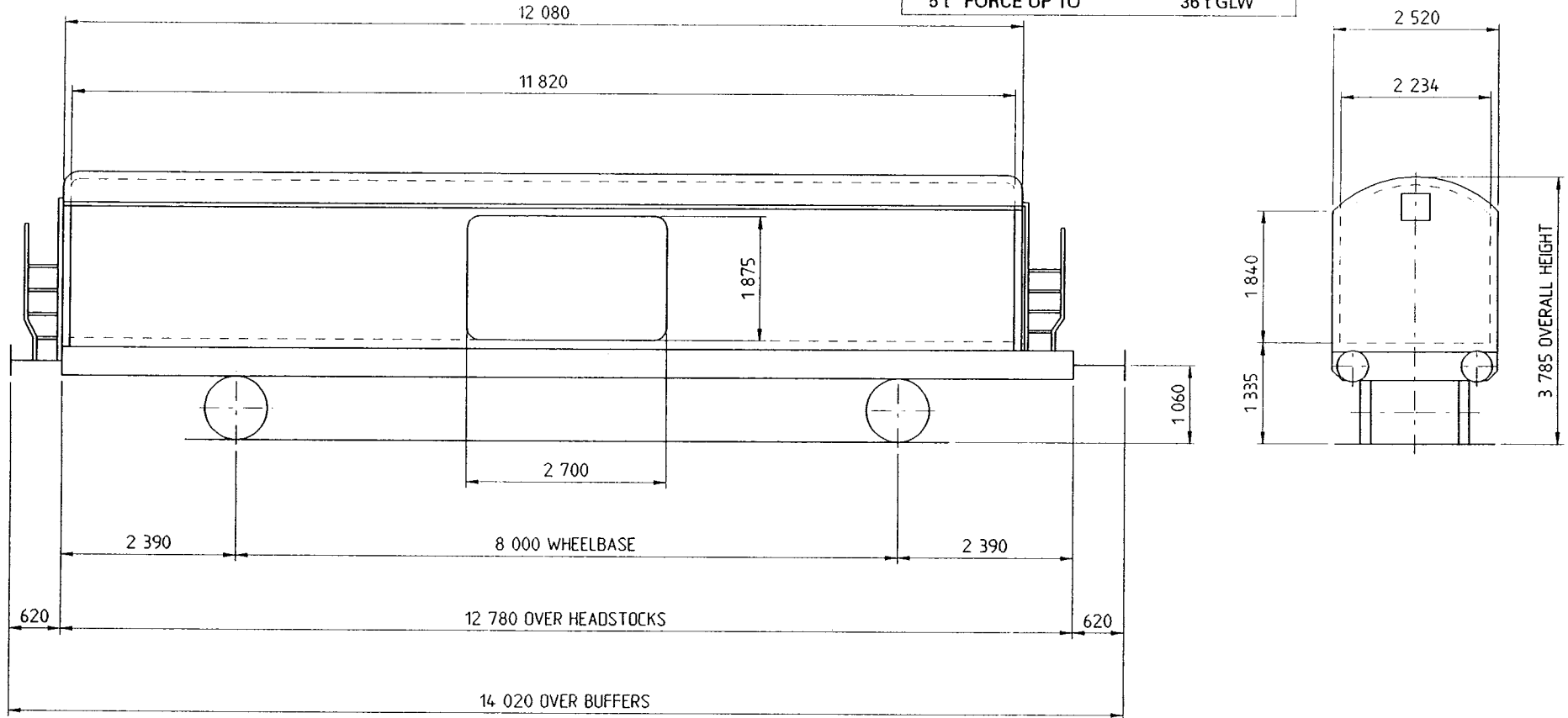
TARE-	13.4 t
CAPACITY, WEIGHT-	26.6 t
CAPACITY, VOLUME-	30 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No. -	1.13494.0.01

BRAKE-	AIR, VACUUM THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER Ø 370
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zcefs
WAGON No.-	23 80 7398 027-036
BUILDER-	LINKE-HOFMANN-BUSCH
OWNER-	V.T.G.



					TOPS INFORMATION						
90	A 16 t	B 20 t	C 20 t	D	AARKND	OPERATING SPEED 60 mile/h UP TO mile/h ABOVE	AIR BRAKE FORCE DATA		EXCESS LENGTH 12	RA (GLW) 5	DESIGN SHEET -
S	16 t	20 t	20 t		CARKND		8 t FORCE UP TO	18 t GLW			
120					I I X L	36 tonne GLW	15 t FORCE ABOVE		VAC BRAKE FORCE DATA		
							5 t FORCE UP TO	36 t GLW			



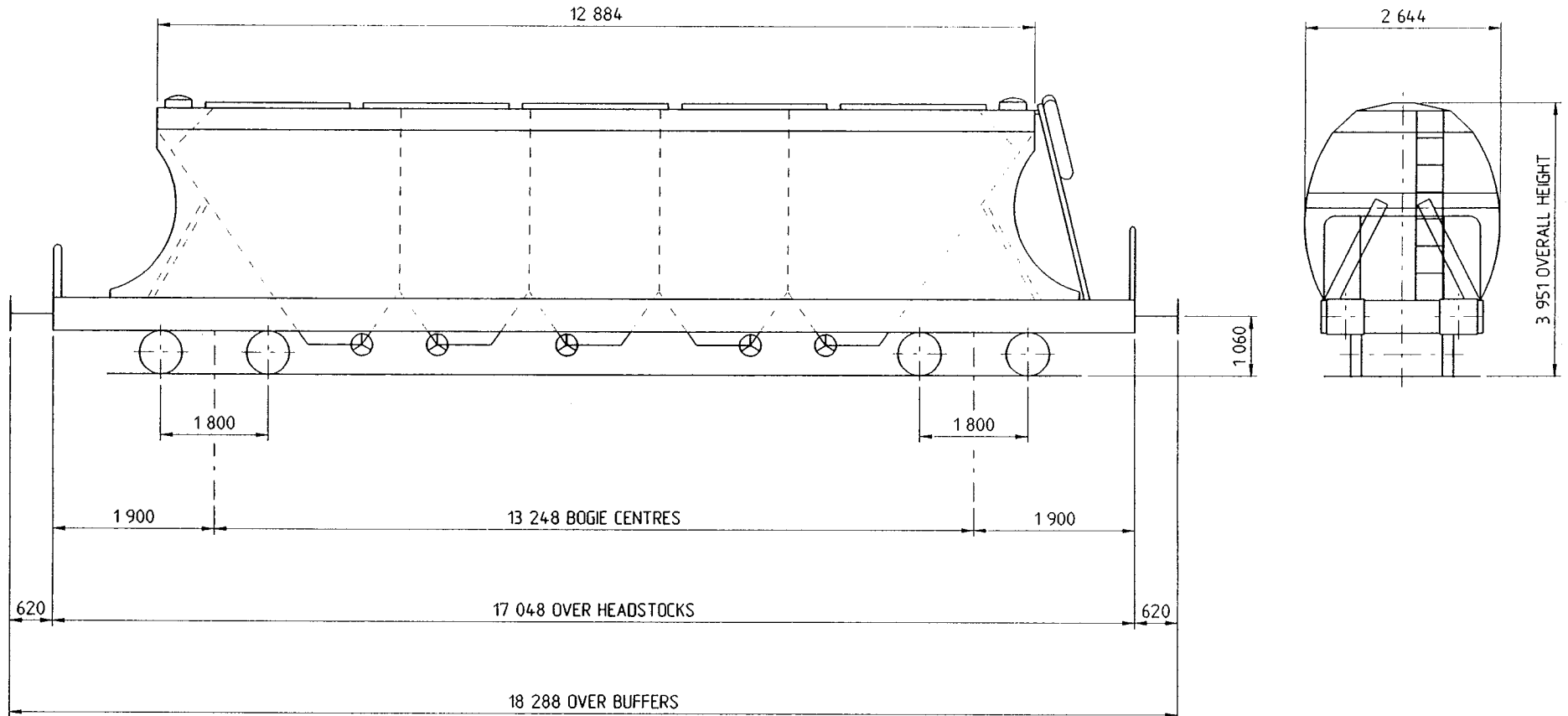
TARE-	15.95 t
CAPACITY, WEIGHT-	20 t
CAPACITY, VOLUME-	46 m ³
FLOOR AREA-	25 m ²
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2485

BRAKE-	DUAL
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	∅ 470 HD
WHEELS-	∅ 1 000
JOURNALS-	∅ 130

TYPE-	lbfps
WAGON No.-	04 83 8091 000
BUILDER-	SNIA VISCOSA
OWNER-	INTERFRIGO



				TOPS INFORMATION									
90	A 40.5t	B 48.5t	C 56.5t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	40.5t	48.5t	48.5t		CARKND		60 mile/h UP TO	72 tonne GLW	15 t FORCE UP TO	44 t GLW	9	6	-
120					I	R	B	H	50 mile/h ABOVE	37 t FORCE ABOVE			



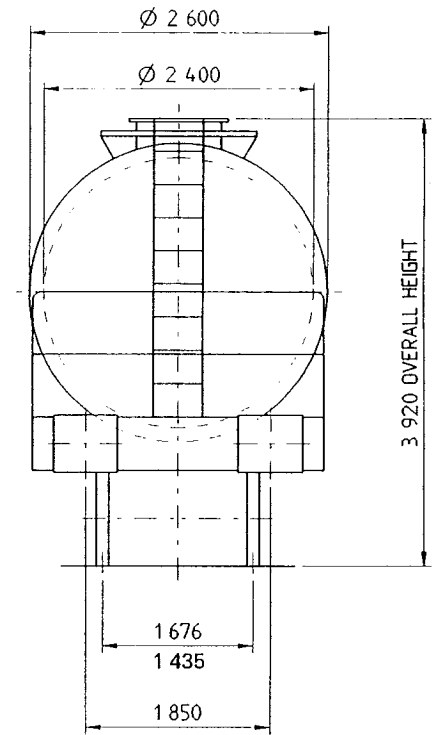
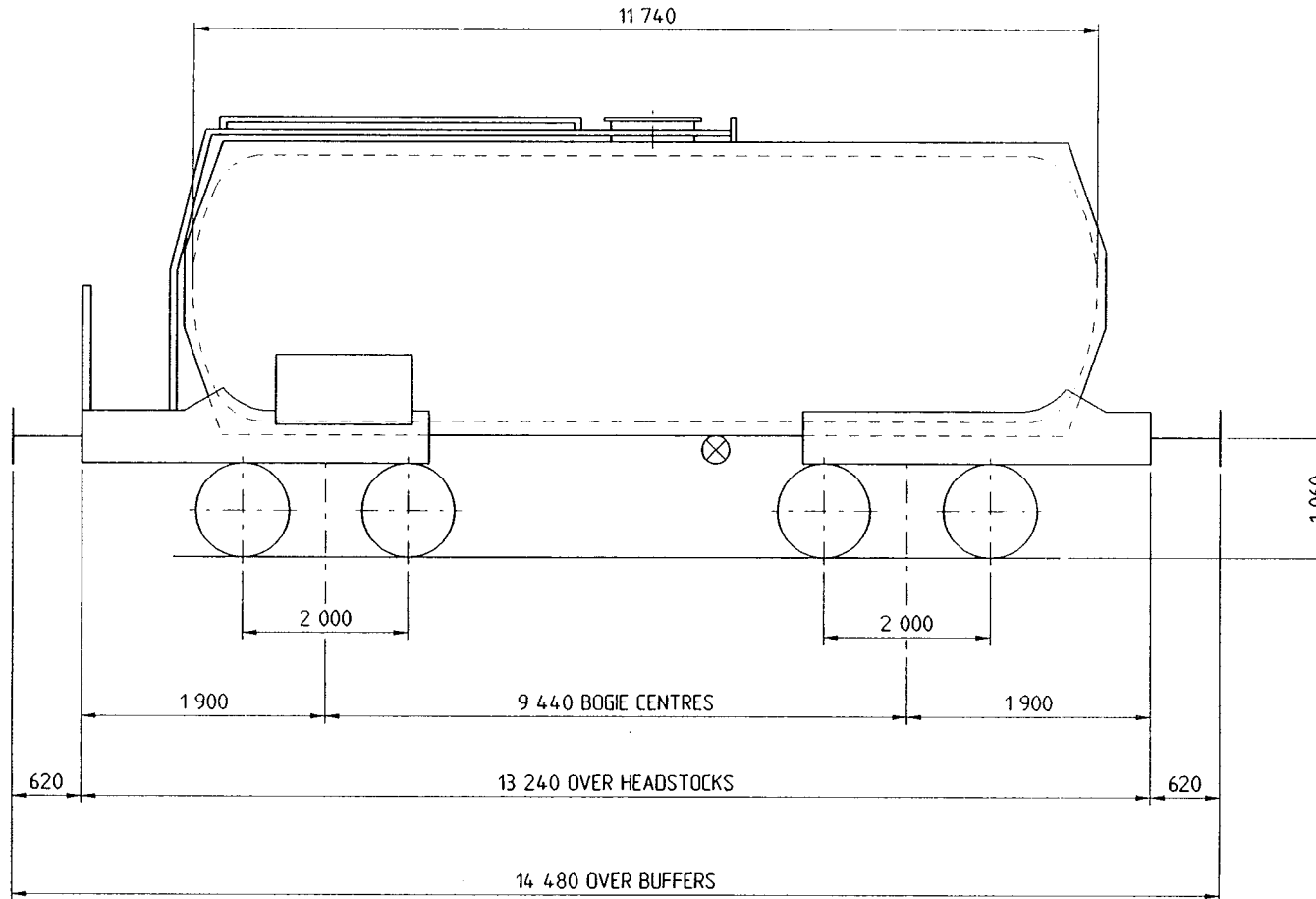
TARE-	23.5 t
CAPACITY, WEIGHT-	56.5 t
CAPACITY, VOLUME-	80 m ³
FLOOR AREA-	-
MIN.CURVE-	35 m
GEN.ARRGT.DRG.No.-	108420

BRAKE-	AIR; VACUUM THRO' PIPE
SUSPENSION-	Y25 CS2
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U5 HYDRAULIC 450 x 340 HD
WHEELS-	∅ 920
JOURNALS-	∅ 130

TYPE-	Uafoos
WAGON No.-	33 87 9382 000-021
BUILDER-	FAUVET-GIREL
OWNER-	SOCIETE HAVRAISE DE GESTION



				TOPS INFORMATION								
	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	42.2t	50.2t	58.2t			60 mile/h UP TO	80 tonne GLW	AIR 14t	FORCE UP TO	3	6	-
S	42.2t	50.2t	58.2t		CARKND	60 mile/h ABOVE		VAC 15t	FORCE ABOVE			
120					I C X D			AIR 40t				
								VAC 32t				



NOTE :- VARIABLE GAUGE

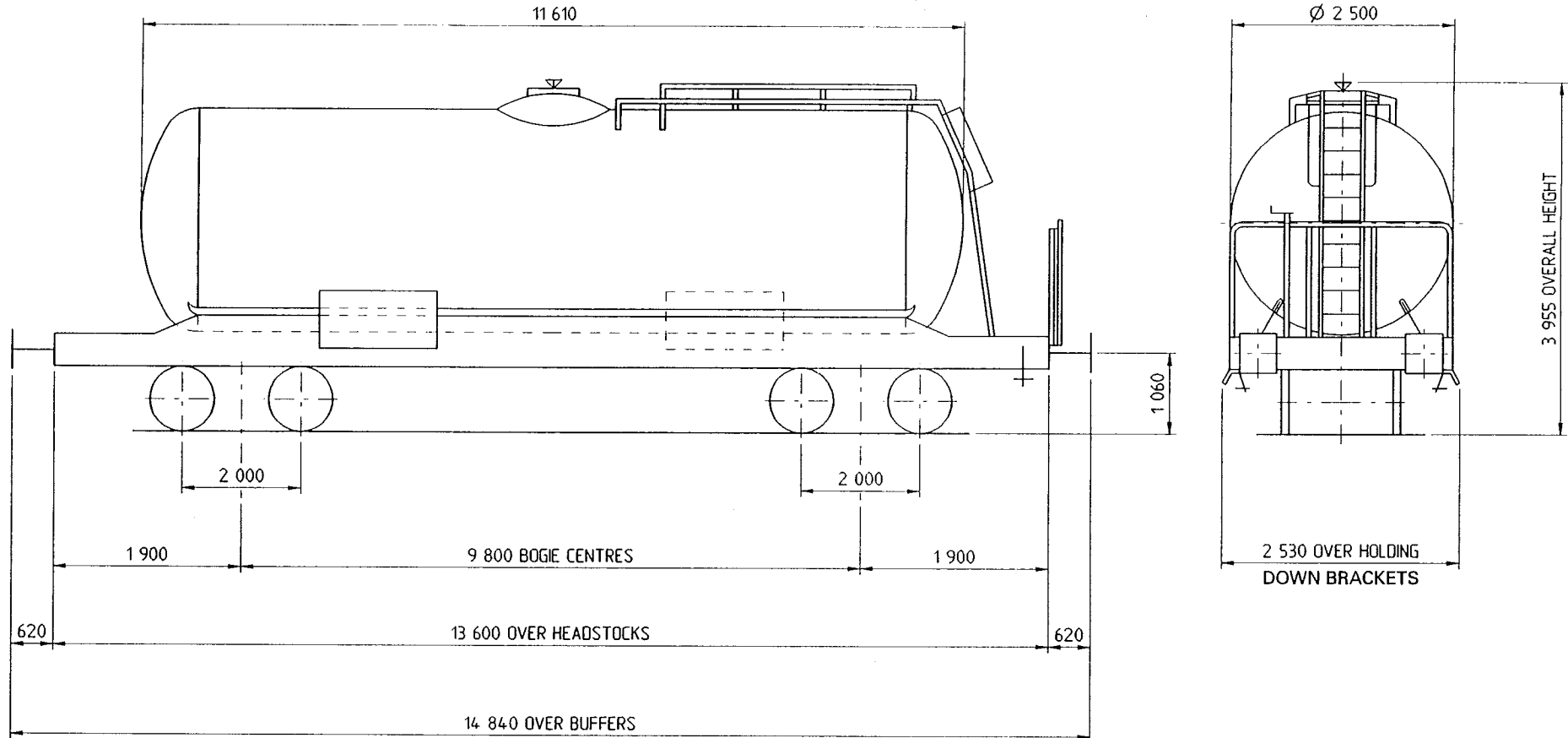
TARE-	21.8 t
CAPACITY, WEIGHT-	58.2 t
CAPACITY, VOLUME-	51 m ³
FLOOR AREA-	-
MIN.CURVE-	35 m
GEN.ARRGT.DRG.No.-	1.4.0.666

BRAKE-	DUAL
SUSPENSION-	Y 21 Cse BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	U4 HYDRAULIC 580 x 400 HD
WHEELS-	\varnothing 920
JOURNALS-	\varnothing 130

TYPE-	Zafs
WAGON No.-	34 87 7890 585-588
BUILDER-	C.F.M.F.
OWNER-	TRAINS-TIRAT-SETE / J.IMBERT-MONTPELIER



					TOPS INFORMATION							
90	A 41.7t	B 49.7t	C 57.2t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	41.7t	49.7t	57.2t		CARKND	60 mile/h UP TO	80 tonne GLW	AIR 14t FORCE UP TO	40 t GLW	4	6	-
120					I C X D	mile/h ABOVE		AIR 11t FORCE ABOVE				
								AIR 36t FORCE ABOVE				
								VAC 32t FORCE ABOVE				



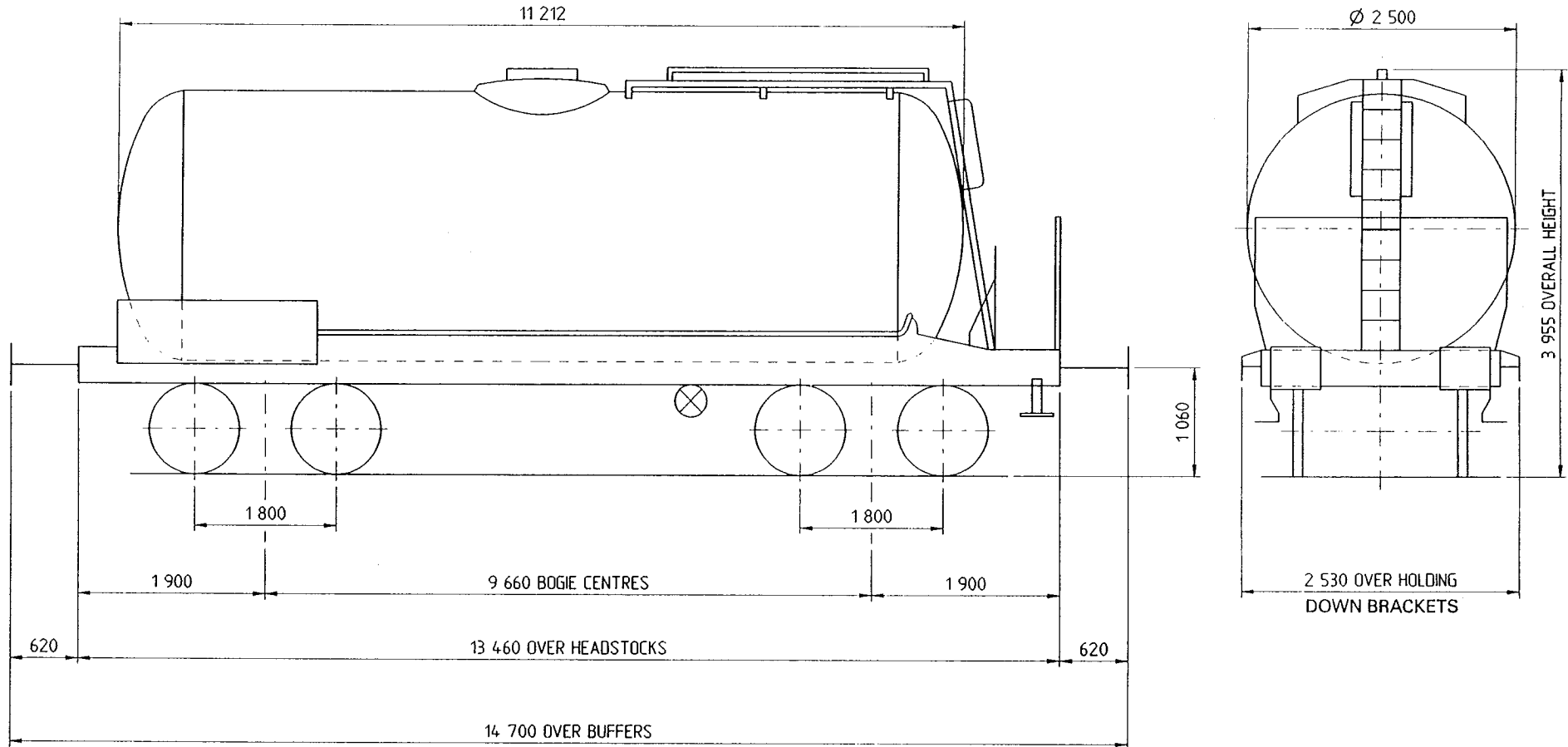
TARE-	22.8 t
CAPACITY, WEIGHT-	57.2 t
CAPACITY, VOLUME-	54.5 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	108460

BRAKE-	DUAL
SUSPENSION-	Y 21 CSe
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	TYPE U4A. 580 x 400 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zafs
WAGON No.-	34 87 7890 515, 516, 518, 519
BUILDER-	FAUVET-GIREL
OWNER-	ERMEWA



					TOPS INFORMATION							
90	A 45.4t	B 53.4t	C 61.4t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	45.4t	53.4t	61.4t		CARKND	60 mile/h UP TO	80 tonne GLW	12 t FORCE UP TO	40 t GLW	3	6	-
120					I C B D	mile/h ABOVE		36 t FORCE ABOVE				



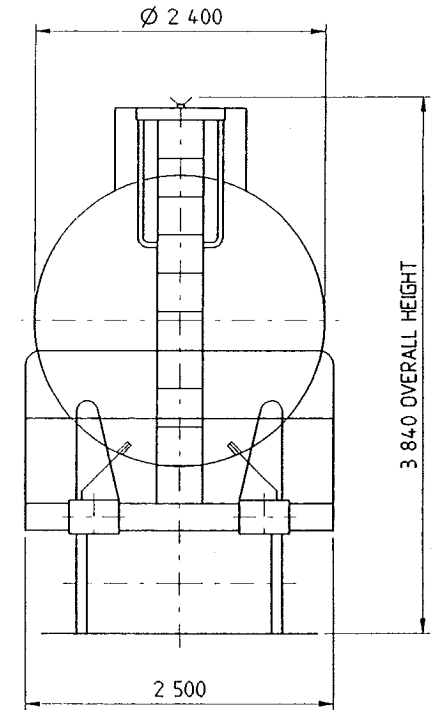
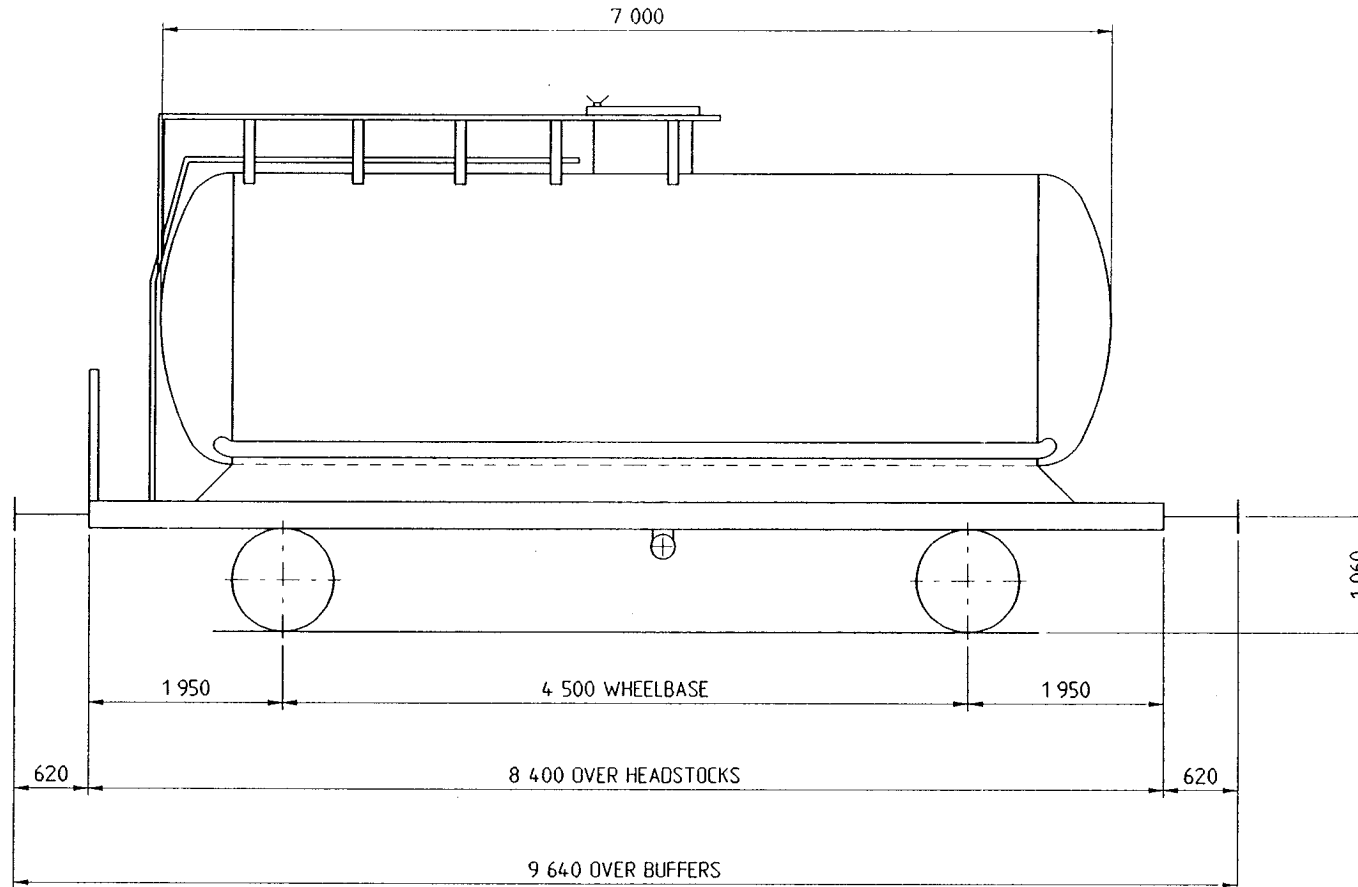
TARE-	18.6 t
CAPACITY, WEIGHT-	61.4 t
CAPACITY, VOLUME-	53 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	108633

BRAKE-	AIR, VAC THRO' PIPE
SUSPENSION-	Y 25 CS 2 BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC 450 x 340 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zafs
WAGON No.-	33 87 7890 500-514
BUILDER-	FAUVET-GIREL
OWNER-	ERMEWA



					TOPS INFORMATION							
90	A 20.5t	B 24.5t	C 28.5t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20.5t	24.5t	24.5t		CARKND	60 mile/h UP TO	36 tonne GLW	6 t FORCE UP TO	22 t GLW	6	6	-
120					I B B B	50 mile/h ABOVE		18 t FORCE ABOVE				



TOTAL LOAD IN U.K. 35 ton
 CAPACITY = 24 ton (U.K.)
 TARE = 11.5 ton

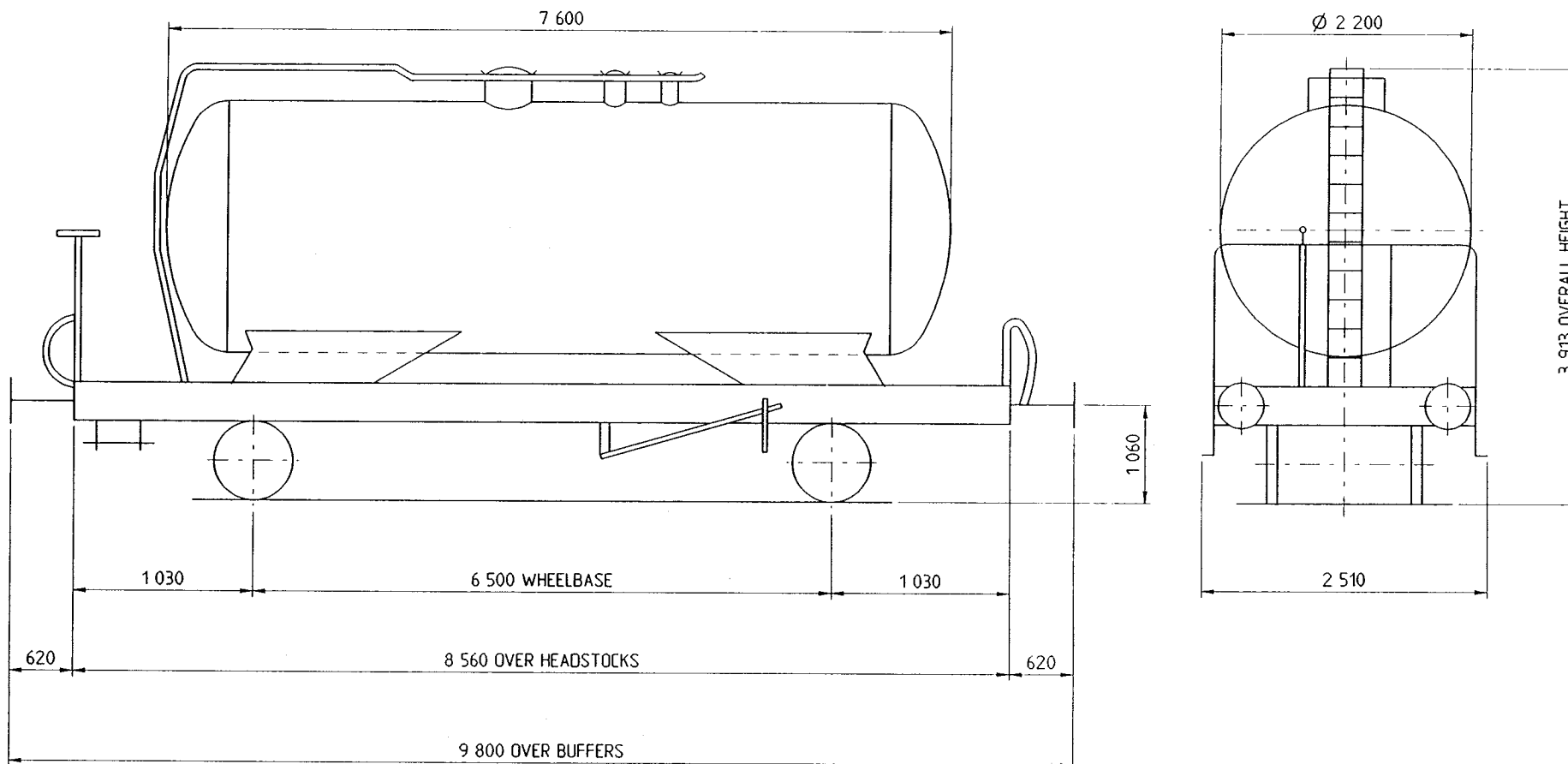
TARE-	11.5 t
CAPACITY, WEIGHT-	28.5 t
CAPACITY, VOLUME-	30 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	10187C

BRAKE-	AIR & VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 960
JOURNALS-	Ø -

TYPE-	Zfs
WAGON No.-	23 87 7390 515, 516
BUILDER-	ATELIERS d'OCCITANIE
OWNER-	TRANSCITERNE



				TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
	20 t	24 t	28 t			60 mile/h UP TO 40 tonne GLW mile/hr ABOVE		8 t FORCE UP TO 25 t GLW 21 t FORCE ABOVE				
S	20 t	24 t	28 t		CARKND							
120					I B B C							



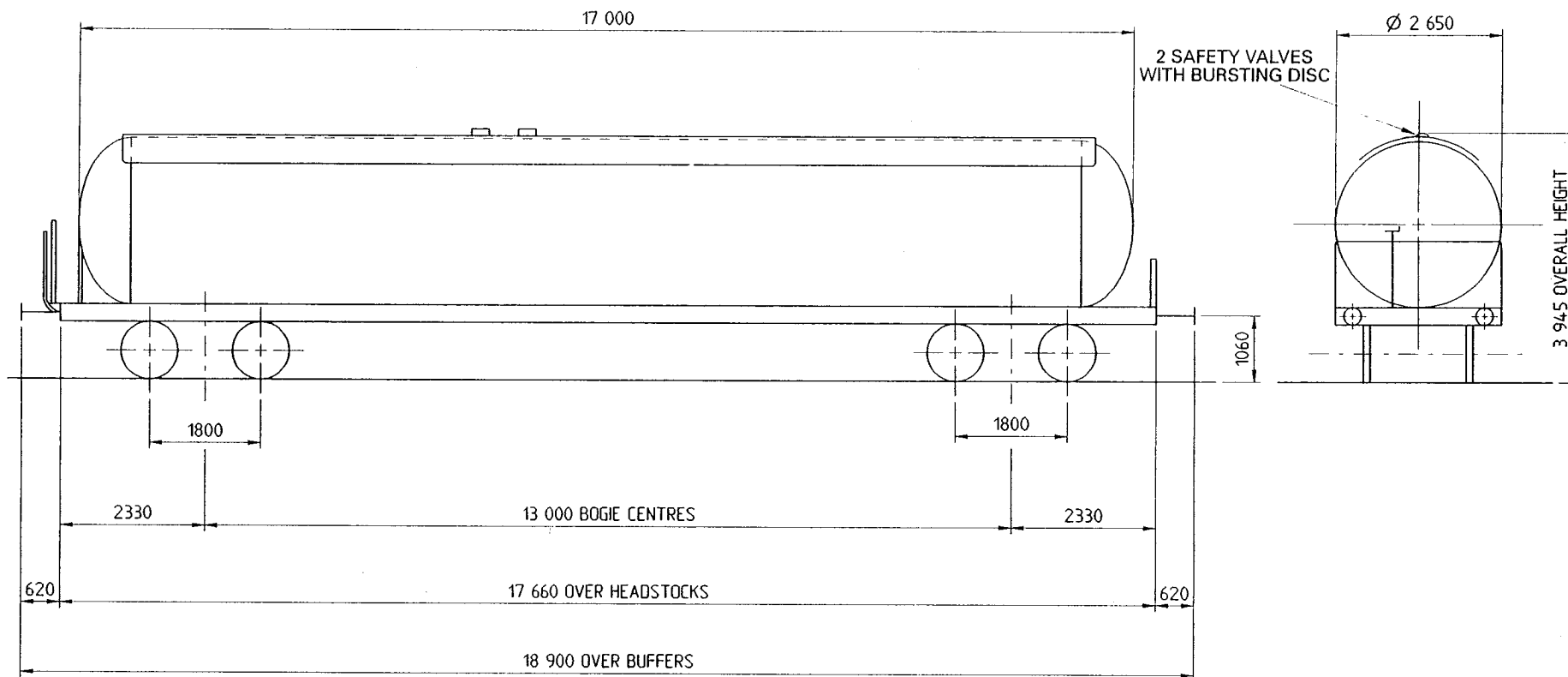
TARE-	12 t
CAPACITY, WEIGHT-	28 t
CAPACITY, VOLUME-	27.7 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K 421.01.00

BRAKE-	AIR; VAC THRO' PIPE
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RING FEDER Ø370 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zcefs
WAGON No.-	23 80 7398 037-046
BUILDER-	GRAFF
OWNER-	V.T.G.



					TOPS INFORMATION							
90	A 33.9t	B 41.9t	C 49.9t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	33.9t	41.9t	49.9t		CARKND	60 mile/h UP TO	80 tonne GLW	22 t FORCE UP TO	51 t GLW	10	6	W 2886
120					I C B D	mile/h ABOVE		43 t FORCE ABOVE				



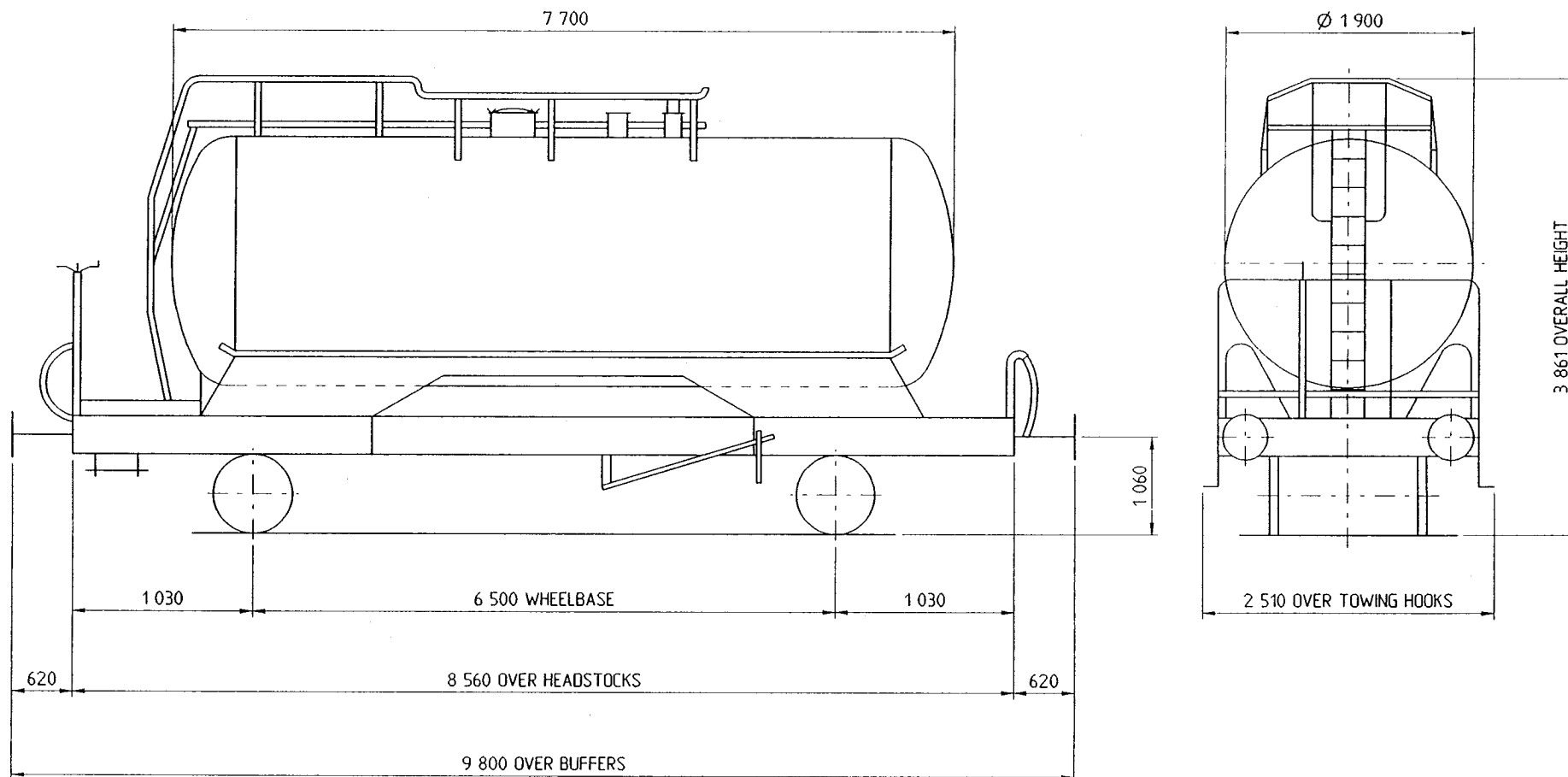
TARE-	30.1 t
CAPACITY, WEIGHT-	49.9 t
CAPACITY, VOLUME-	90 m ³
FLOOR AREA-	36 m ²
MIN. CURVE-	-
GEN. ARRGT. DRG. No.-	0-335.010034

BRAKE-	AIR; VAC THRO' PIPE
SUSPENSION-	TALBOT BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RINGFEDER
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zafgkks ; Zacfs
WAGON No.-	33 80 7892 000-010, 013, 036 33 80 7894 011, 019
BUILDER-	WAGGON UNION
OWNER-	V.T.G.



				TOPS INFORMATION								
90	A 20.5t	B 24.5t	C 28.5t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20.5t	24.5t	28.5t		CARKND	60 mile/h UP TO mile/h ABOVE 40 tonne GLW		8 t FORCE UP TO 21 t FORCE ABOVE 25 t GLW		6	6	-
120					I B B B							



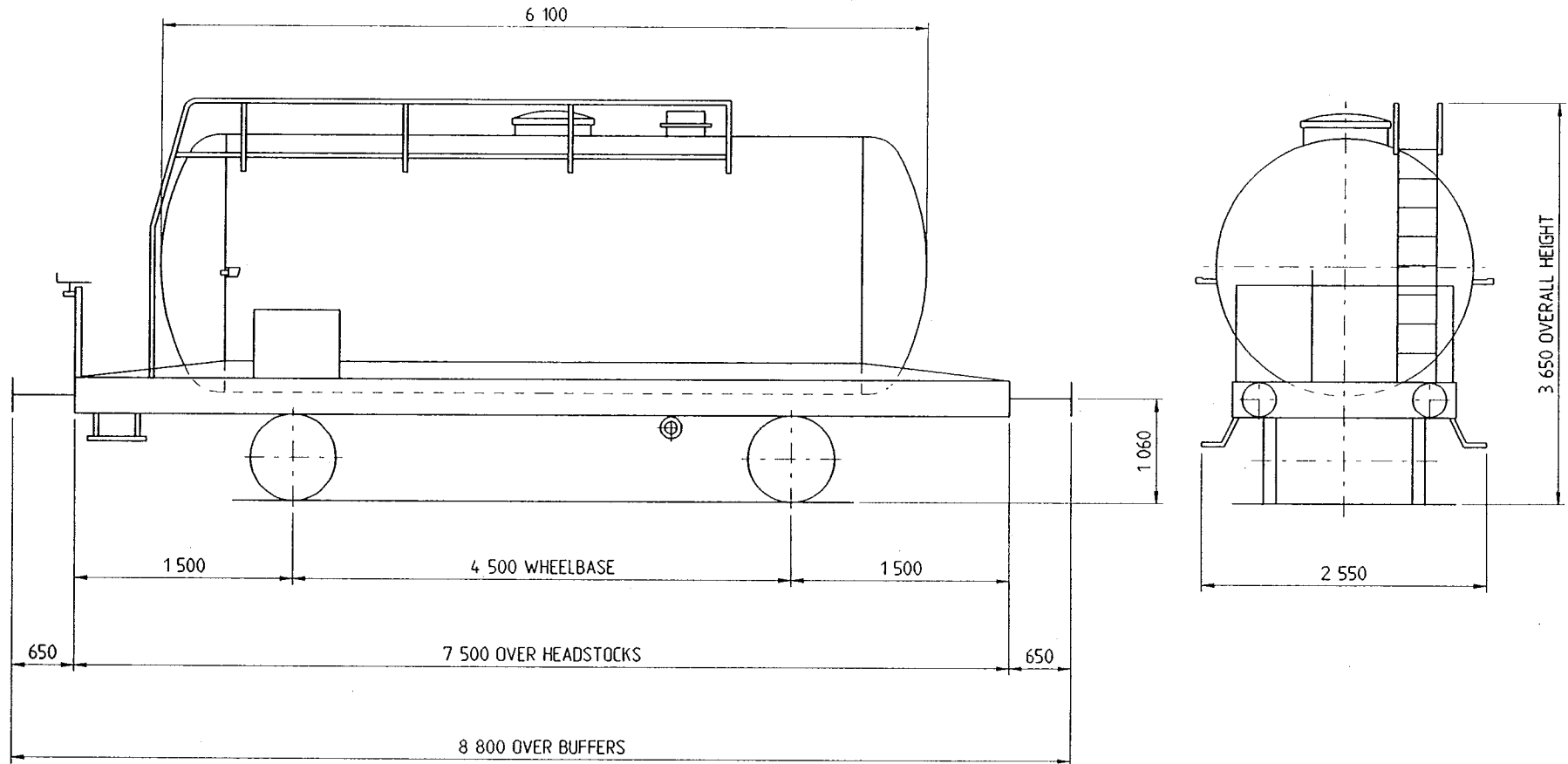
TARE-	11.5 t
CAPACITY, WEIGHT-	28.5 t
CAPACITY, VOLUME-	20 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	K.426.01-00

BRAKE-	AIR & VAC THRO' PIPE; PLATFORM SCREW & HAND LEVER
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	RING FEDER Ø 370 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zcfs
WAGON No.-	23 80 7391 053-056
BUILDER-	GRAFF
OWNER-	V.T.G.



					TOPS INFORMATION							
90	A 21.9t	B 25.9t	C 29.9t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S					CARKND	45 mile/h UP TO	40 tonne GLW	7 t FORCE UP TO	20 t GLW	4	6	-
120					I B B C	mile/h ABOVE		17 t FORCE ABOVE				



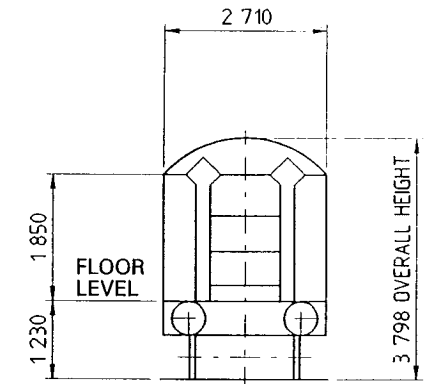
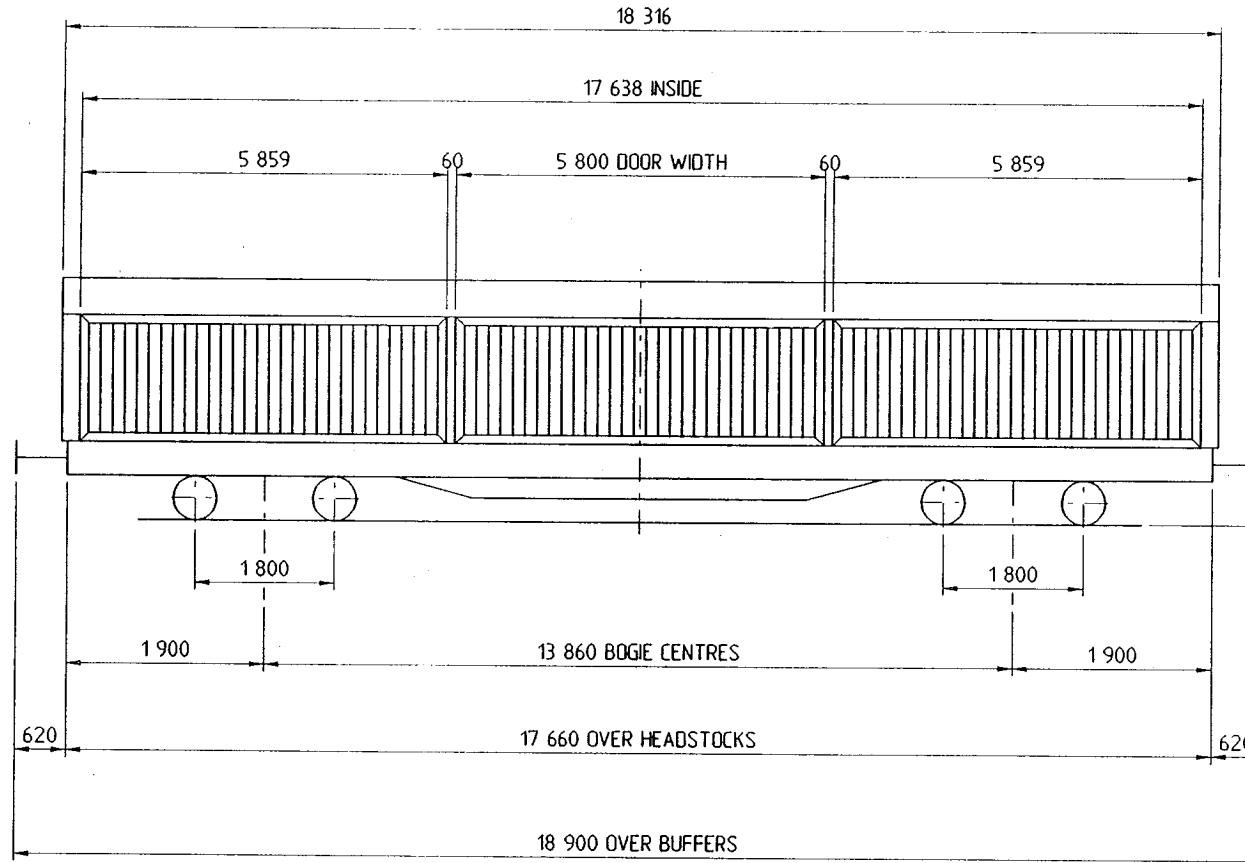
TARE-	10.1 t
CAPACITY, WEIGHT-	29.9 t
CAPACITY, VOLUME-	24 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	677

BRAKE-	AIR & VAC THRO' PIPE; PLATFORM SCREW & SIDE LEVER
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zf
WAGON No.-	23 83 7190 008-031
BUILDER-	JOIGNY
OWNER-	ETRA



				TOPS INFORMATION								
90	A 38 t	B 46 t	C 54 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	38 t	46 t	54 t		CARKND	60 mile/h UP TO mile/h ABOVE		18 t FORCE UP TO 43 t FORCE ABOVE		10	6	-
120					I W B B	80 tonne GLW		48 t GLW				



NOTE.
 MIN CURVE:- 33 80 2796 000-009 - 60 m
 33 80 2796 010-013, 015-139 - 35 m

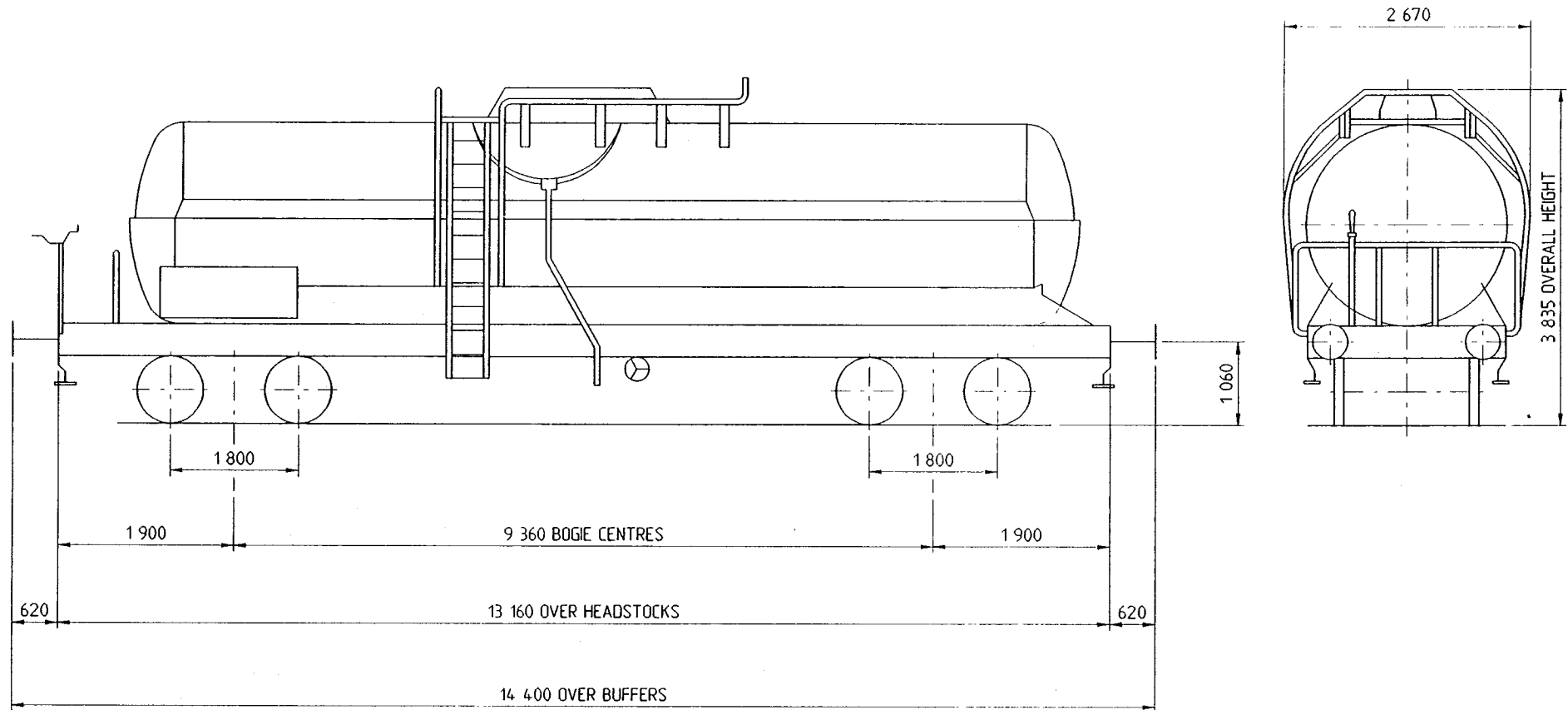
TARE-	24.4 t
CAPACITY, WEIGHT-	55.6 t
CAPACITY, VOLUME-	90 m ³
FLOOR AREA-	44 m ²
MIN.CURVE-	SEE NOTE
GEN.ARRGT.DRG.No.-	913 535.0.01

BRAKE-	AIR & VAC THRO' PIPE; SIDE SCREW
SUSPENSION-	LHB 74
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC \varnothing 480
WHEELS-	\varnothing 920
JOURNALS-	\varnothing 130

TYPE-	Hafis
WAGON No.-	33 80 2796 000 - 013, 015 - 090, 092 - 139,
BUILDER-	LINKE-HOFMANN-BUSCH
OWNER-	V.T.G.



				TOPS INFORMATION							
90	A 39.4t	B 47.4t	C 55.4t	D	AARKND	OPERATING SPEED	BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	39.4t	47.4t	55.4t		CARKND	60 mile/h UP TO mile/h ABOVE	80 tonne GLW	17 t FORCE UP TO 43 t FORCE ABOVE	3	6	-
120					I C B D						



TARE-	24.6 t
CAPACITY, WEIGHT-	55.4 t
CAPACITY, VOLUME-	34 m ³
FLOOR AREA-	-
MIN. CURVE-	35 m
GEN. ARRGT. DRG. No.-	0.52287.0.01

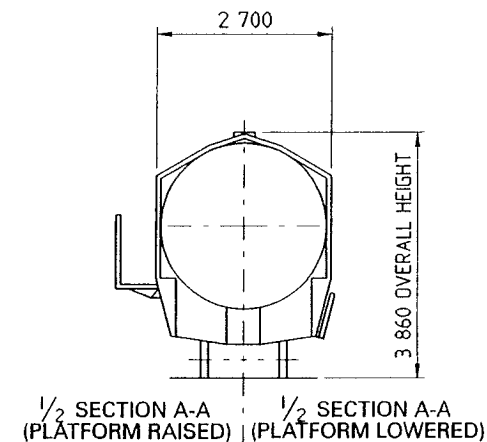
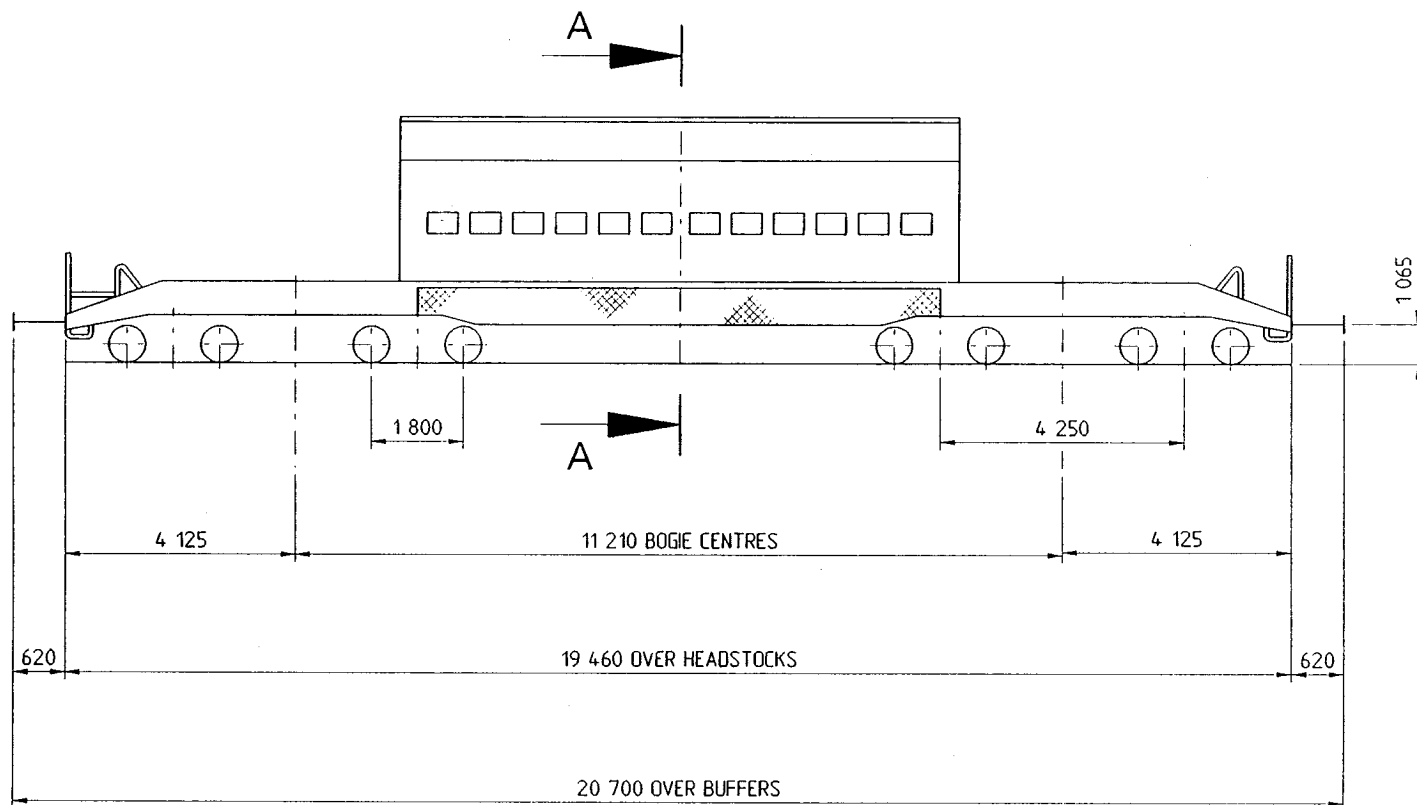
BRAKE-	AIR & VAC THRO' PIPE; PLATFORM & SIDE SCREW
SUSPENSION-	D B BOGIE
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	∅ 920
JOURNALS-	∅ 130

TYPE-	Zacefs
WAGON No.-	33 80 7995 000-002
BUILDER-	LINKE-HOFMANN-BUSCH
OWNER-	VTG



										TOPS INFORMATION											
	A	B1	ΦB2	ΦC2	C3	C4					AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET			
90	52.8t	57 t	81.5t	85.9t	97.5 t							60 mile/h UP TO mile/h ABOVE		152.5 tonne GLW		30 t FORCE UP TO 72 t FORCE ABOVE		80 t GLW	13	9	-
S	52.8t	57 t	81.5t	85.9t	97.5 t						CARKND										
120											I	Q	B	C							

FLASKS OF 80t, 97t & 105t MAY BE CARRIED



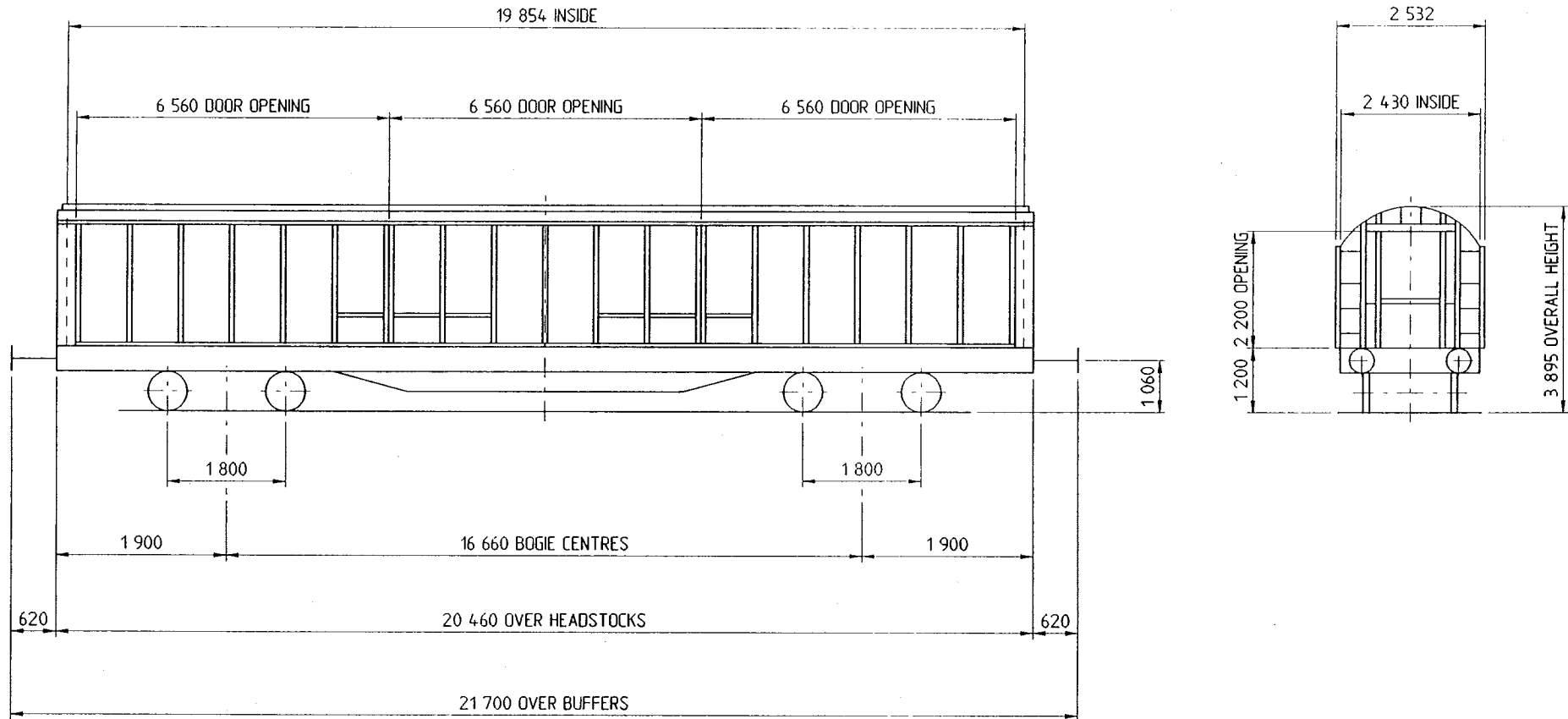
TARE-	47.5 t
CAPACITY, WEIGHT-	105 t
CAPACITY, VOLUME-	-
FLOOR AREA-	-
MIN. CURVE-	50 m UNCOUPLED
GEN. ARRGT. DRG. No.-	101714

BRAKE-AIR, VAC THRO' PIPE; PLATFORM & SIDE SCREW	
SUSPENSION-	Y11M
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Uaafis
WAGON No.-	33 87 9985 000-007
BUILDER-	FAUVET GIREL
OWNER-	NUCLEAR TRANSPORT LTD



				TOPS INFORMATION								
90	A 37.7t	B 45.7t	C 53.7t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	37.7t	45.7t	53.7t		CARKND	60 mile/h UP TO	80 tonne GLW	19 t FORCE UP TO	52 t GLW	14	6	-
120					I W B B	mile/h ABOVE		44 t FORCE ABOVE				



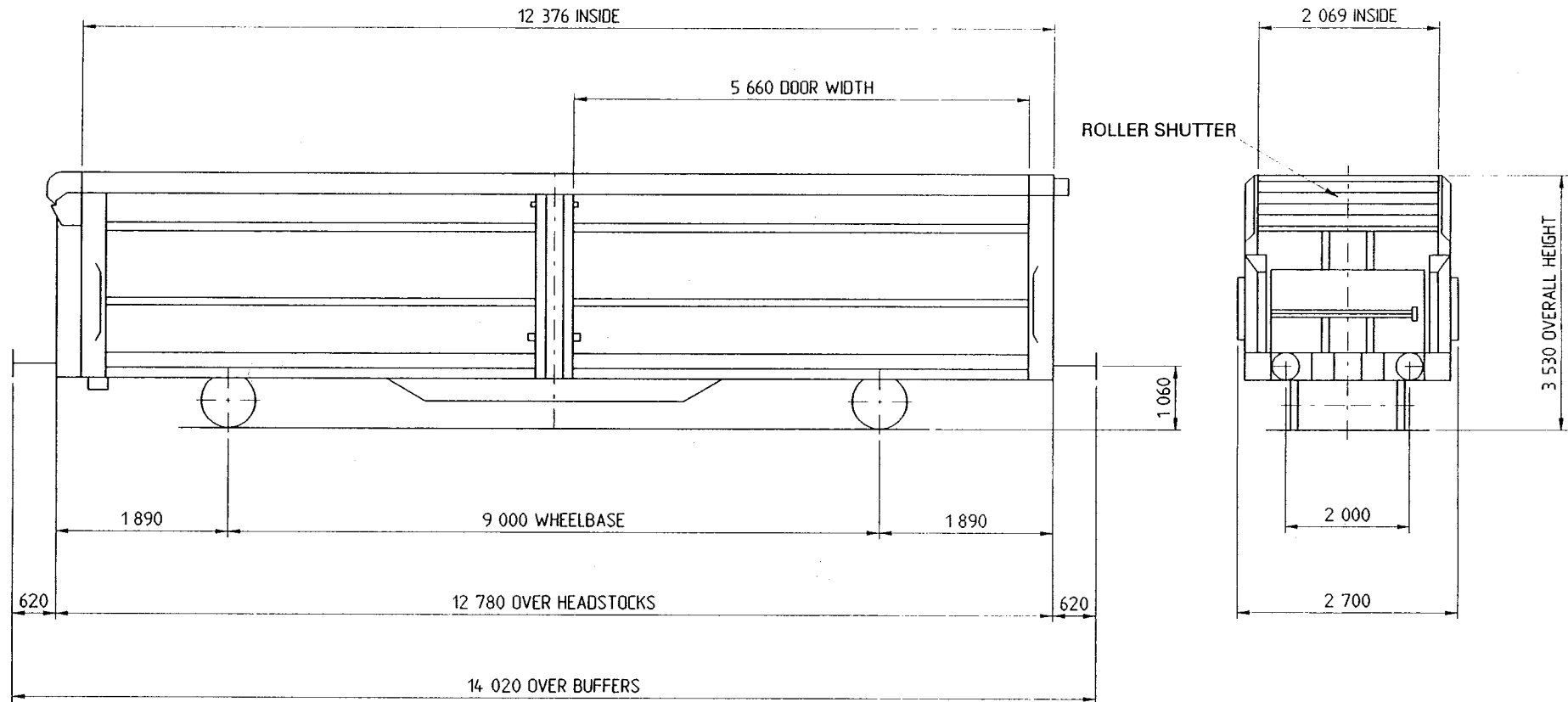
TARE-	26.3 t
CAPACITY, WEIGHT-	53.7 t
CAPACITY, VOLUME-	114 m ³
FLOOR AREA-	48 m ²
MIN. CURVE-	35 m
GEN. ARRGT. DRG. No.-	A2089 011

BRAKE-	AIR & VAC THRO' PIPE; SIDE SCREW
SUSPENSION-	DB BOGIE (TALBOT)
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 450 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Habfis
WAGON No.-	33 80 2797 500-579
BUILDER-	WAGGONFABRIK UERDINGEN
OWNER-	EVA



					TOPS INFORMATION						
90	A 17.5t	B 21.5t	C 25.5t	D	AARKND	OPERATING SPEED	BRAKE FORCE DATA	EXCESS LENGTH	RA (GLW)	DESIGN SHEET	
S	17.5t	21.5t	25.5t		CARKND	60 mile/h UP TO mile/h ABOVE	FORCE UP TO FORCE ABOVE	a+(b x tonnes) GLW -1.34 +(0.48 x t)	12	6	-
120					I L B L						



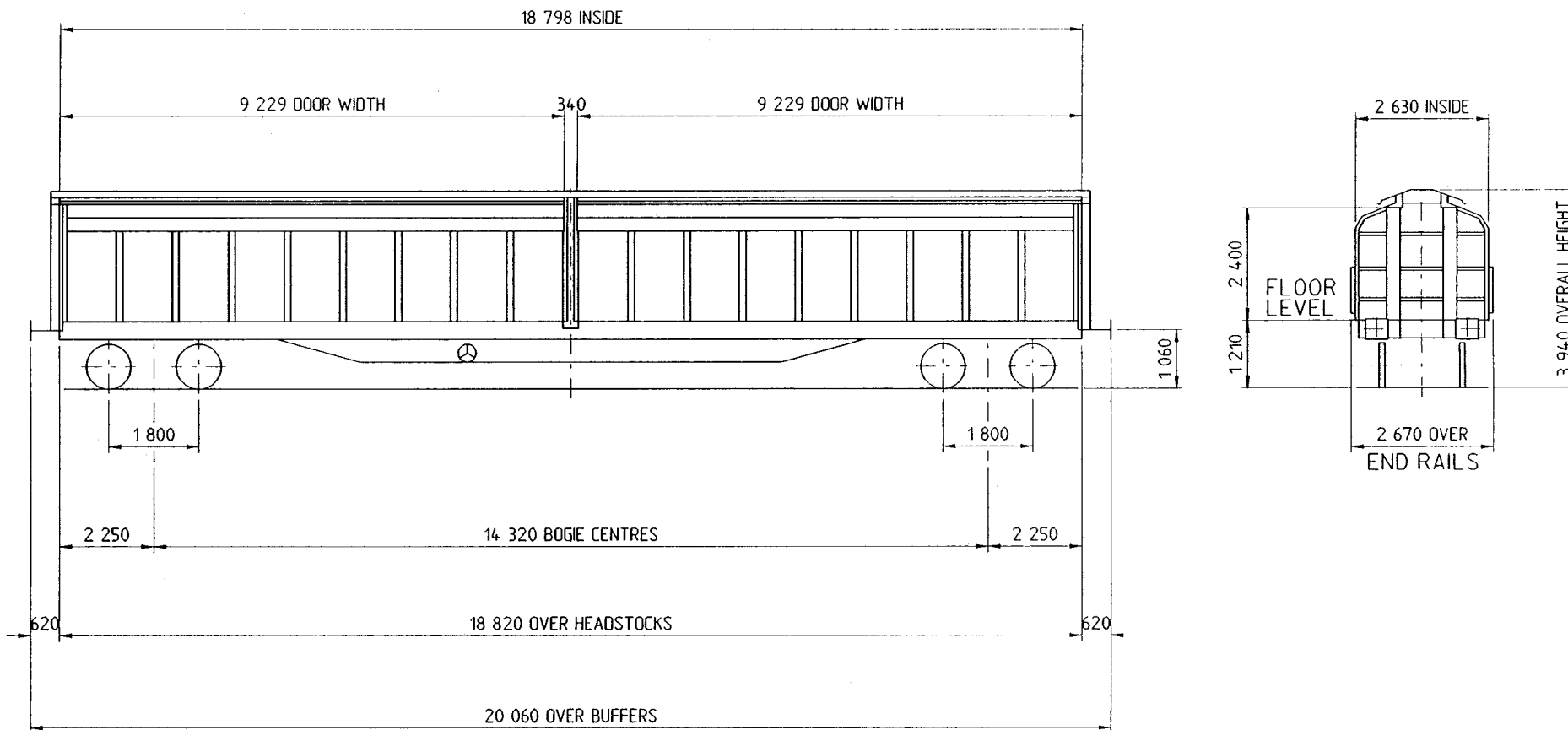
TARE-	14.5 t
CAPACITY, WEIGHT-	25.5 t
CAPACITY, VOLUME-	61 m ³
FLOOR AREA-	27 m ²
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No. -	895-0-002M

BRAKE-	AIR & VAC THRO' PIPE; SIDE SCREW
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Tbfis
WAGON No. -	21 88 5799 000, 001, 003-010, 012-030, 032-045, 047-049 21 88 0799 000, 001, 032, 042
BUILDER-	-
OWNER-	SNCB



					TOPS INFORMATION							
90	A 38 t	B 46 t	C 54 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	38 t	46 t	54 t		CARKND	60 mile/h UP TO 80 tonne GLW mile/h ABOVE		19 t FORCE UP TO 43 t FORCE ABOVE 52 t GLW		10	6	-
120					I W B B							



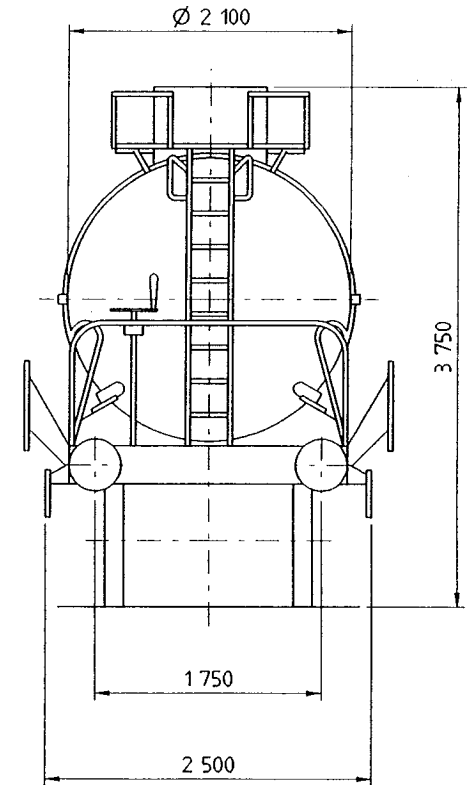
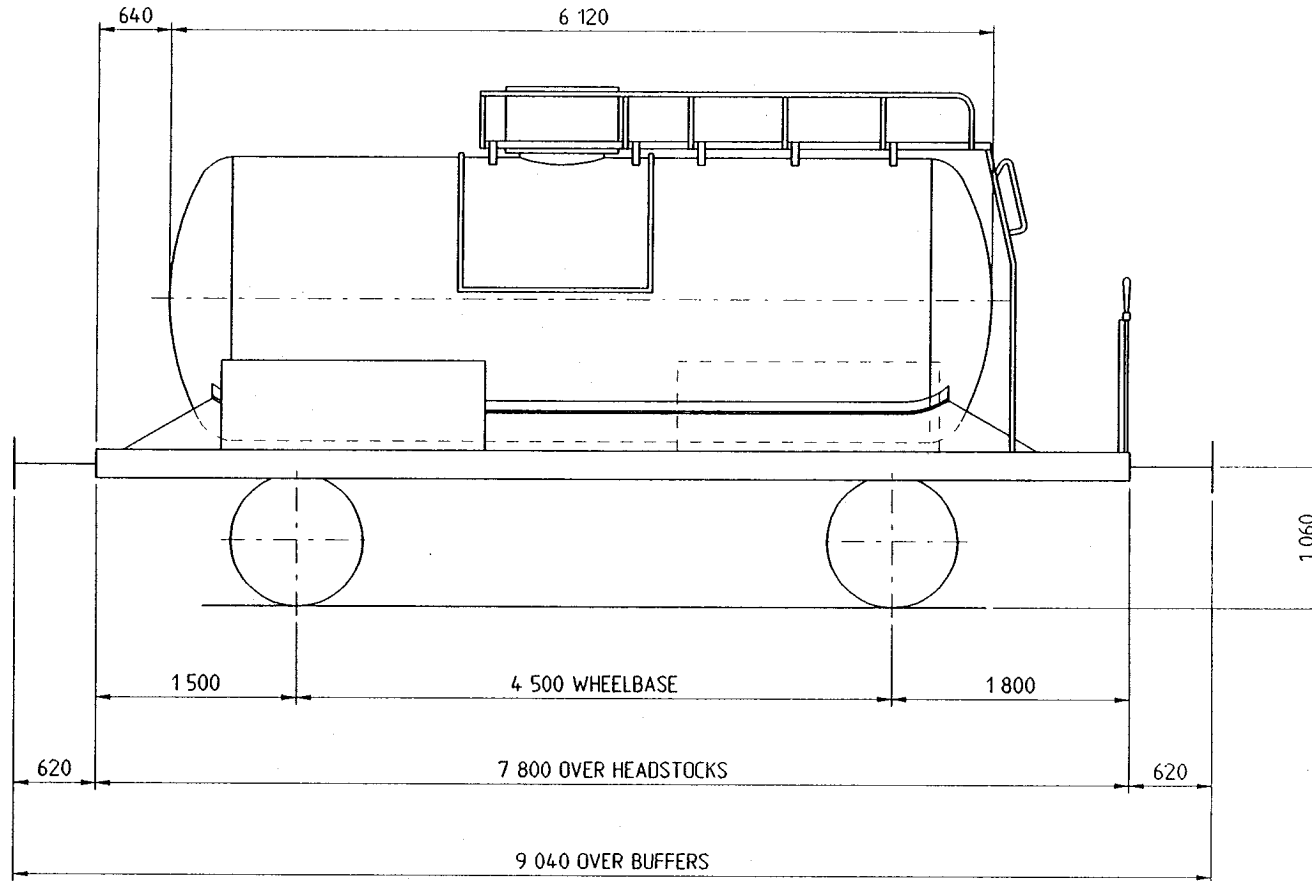
TARE-	26 t
CAPACITY, WEIGHT-	54 t
CAPACITY, VOLUME-	118 m ³
FLOOR AREA-	47 m ²
MIN. CURVE-	35 m
GEN. ARRGT. DRG. No.-	9 13543 0 01

BRAKE-	AIR & VAC THRO' PIPE; SIDE SCREW
SUSPENSION-	DB BOGIE (TALBOT)
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Habfis
WAGON No.-	33 80 2797 000-031,033-138, 140-170, 172-211
BUILDER-	LINKE-HOFMANN-BUSCH
OWNER-	V T G



				TOPS INFORMATION								
90	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	22.5t	26.5t	30.5t			CARKND	60 mile/h UP TO	40 tonne GLW	5 t FORCE UP TO			
120	22.5t	26.5t	26.5t		I	B	B	C	18 t FORCE ABOVE	-	6	-



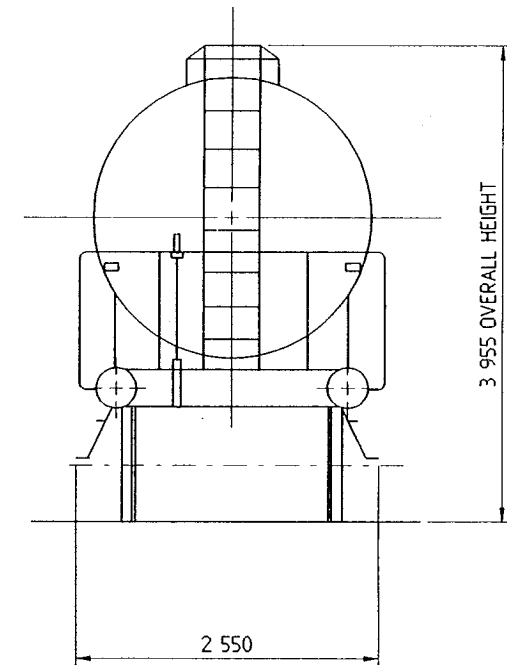
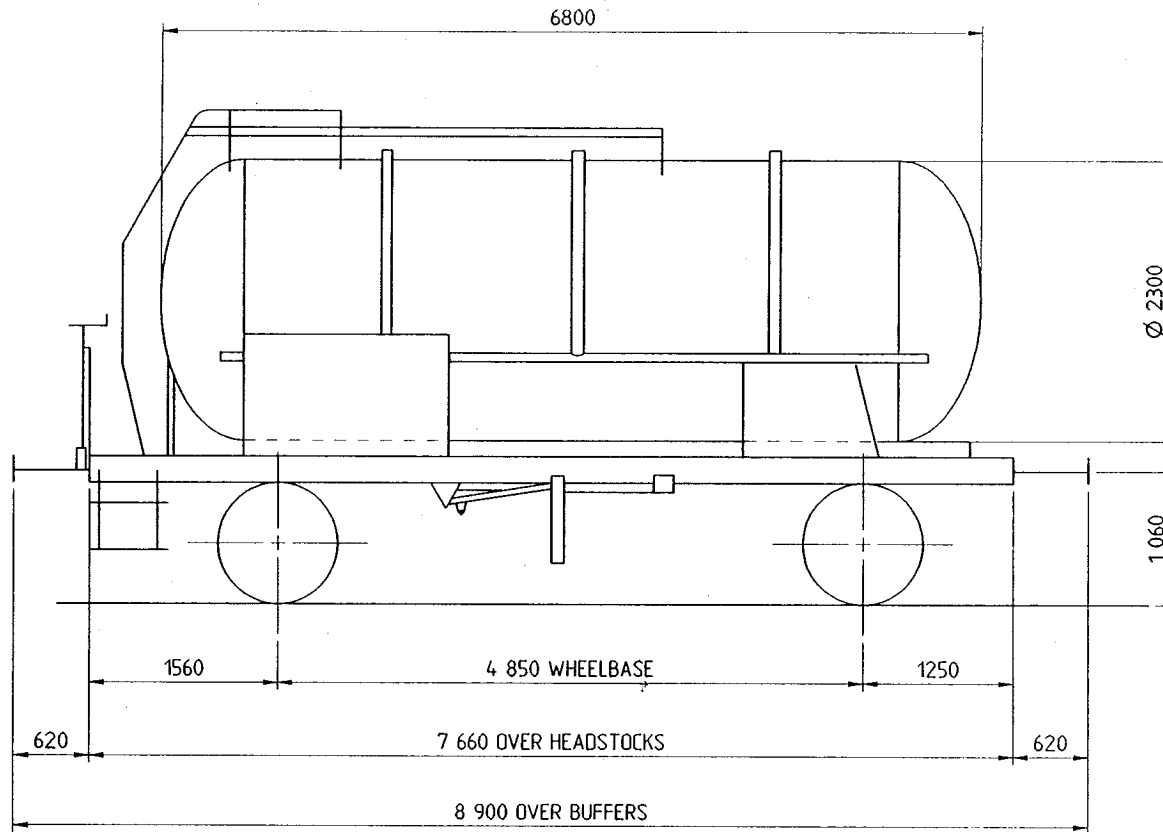
TARE-	9.5 t
CAPACITY, WEIGHT-	30.5 t
CAPACITY, VOLUME-	20 m ³
FLOOR AREA-	-
MIN.CURVE-	-
GEN.ARRGT.DRG.No.-	2.2.0.825

BRAKE-	AIR; VAC THRO' PIPE, SCREW
SUSPENSION-	-
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	-
WHEELS-	Ø 1 000
JOURNALS-	Ø -

TYPE-	Ufhs
WAGON No.-	23 87 7391 000
BUILDER-	C.F.M.F.
OWNER-	S.N.C.F.



				TOPS INFORMATION								
90	A 20 t	B 24 t	C 28 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20 t	24 t	28 t		CARKND	60 mile/h UP TO	30 tonne GLW	14 t FORCE UP TO	28 t GLW	4	6	W 1042
120					i B B C	50 mile/h ABOVE		27 t FORCE ABOVE				



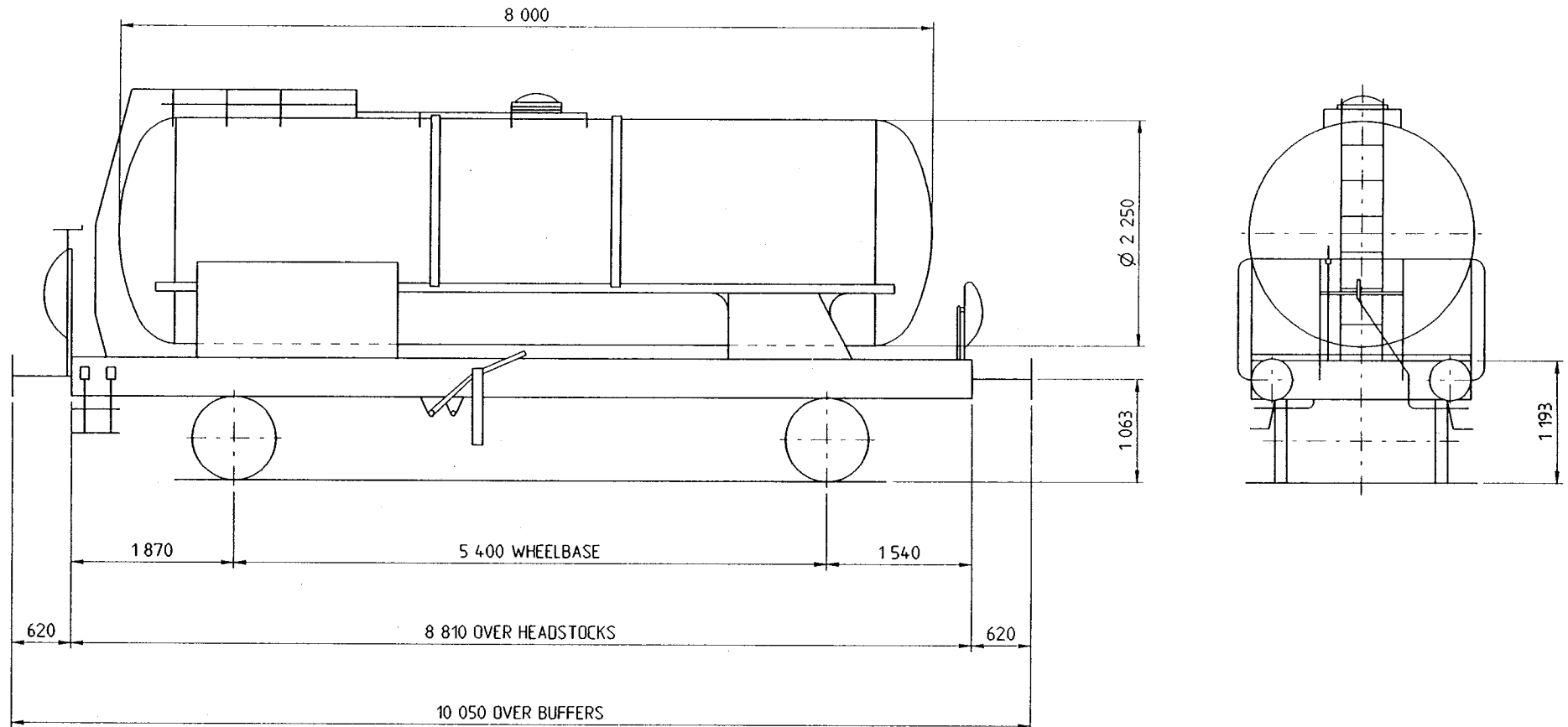
TARE-	12 t
CAPACITY, WEIGHT-	28 t
CAPACITY, VOLUME-	27 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	7-115443

BRAKE-	AIR & VAC THRO' PIPE; PLATFORM SCREW & SIDE LEVER
SUSPENSION-	SINGLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 390
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zefs
WAGON No.-	23 85 7397 750 & 751
BUILDER-	JOSEF MEYER
OWNER-	SBB/CFF



				TOPS INFORMATION								
	A	B	C	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	20 t	24 t	28 t			60 mile/h UP TO mile/h ABOVE	40 tonne GLW	12 t FORCE UP TO 28 t FORCE ABOVE	27 t GLW	6	6	-
S	20 t	24 t	28 t		CARKND							
120					I B B C							



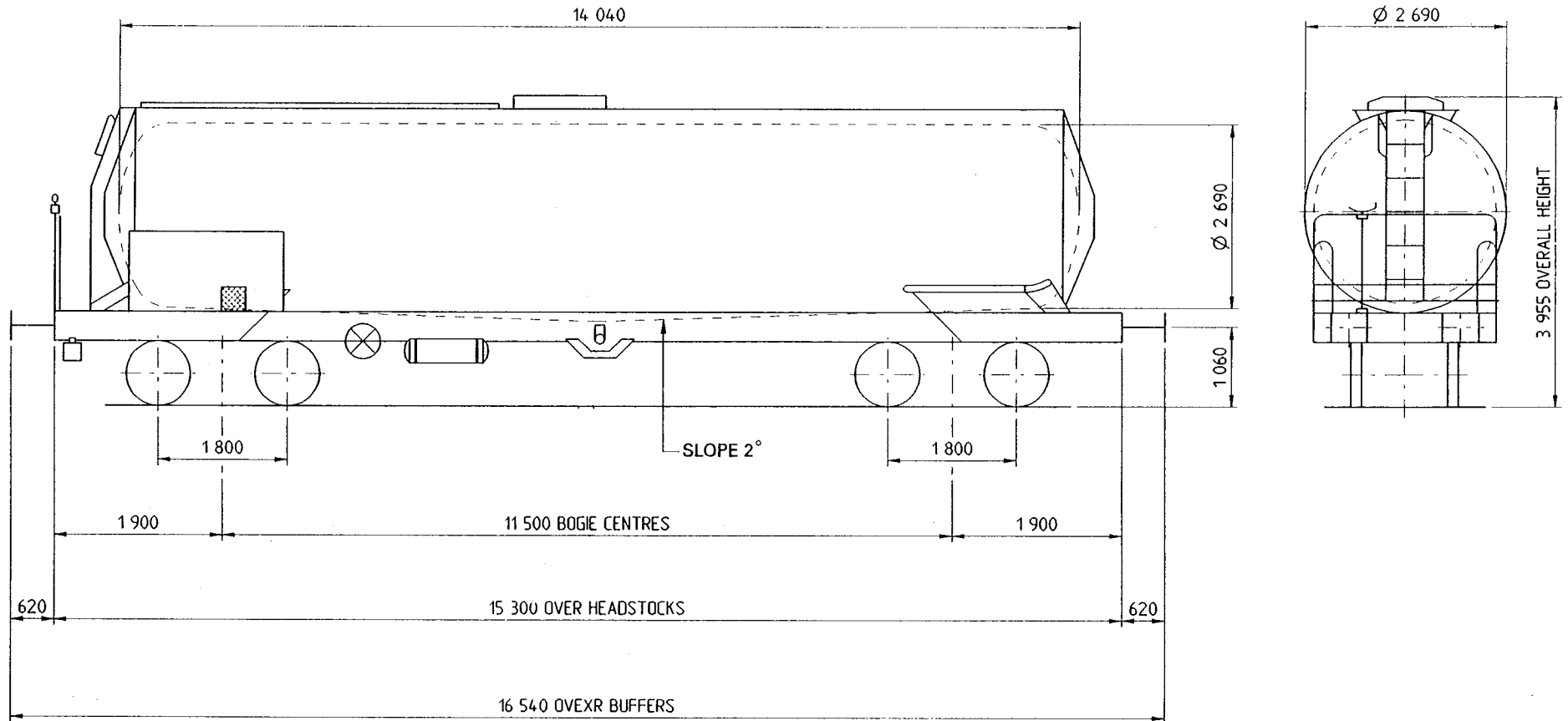
TARE-	12 t
CAPACITY, WEIGHT-	28 t
CAPACITY, VOLUME-	30 m ³
FLOOR AREA-	-
MIN. CURVE-	60 m
GEN. ARRGT. DRG. No.-	3-115967

BRAKE-	AIR & VAC THRO' PIPE; PLATFORM SCREW & SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC Ø 400 HD
WHEELS-	Ø 1 000
JOURNALS-	Ø 130

TYPE-	Zcefs
WAGON No.-	23 85 7398 500-521
BUILDER-	JOSEF MEYER
OWNER-	ETRA



					TOPS INFORMATION								
90	A 42.3t	B 50.3t	C 58.3t	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	42.3t	50.3t	58.3t		CARKND		60 mile/h UP TO 80 tonne GLW		14 t FORCE UP TO 36 t FORCE ABOVE		6	6	-
120	00.0t				I	C	A	D	40 t GLW				



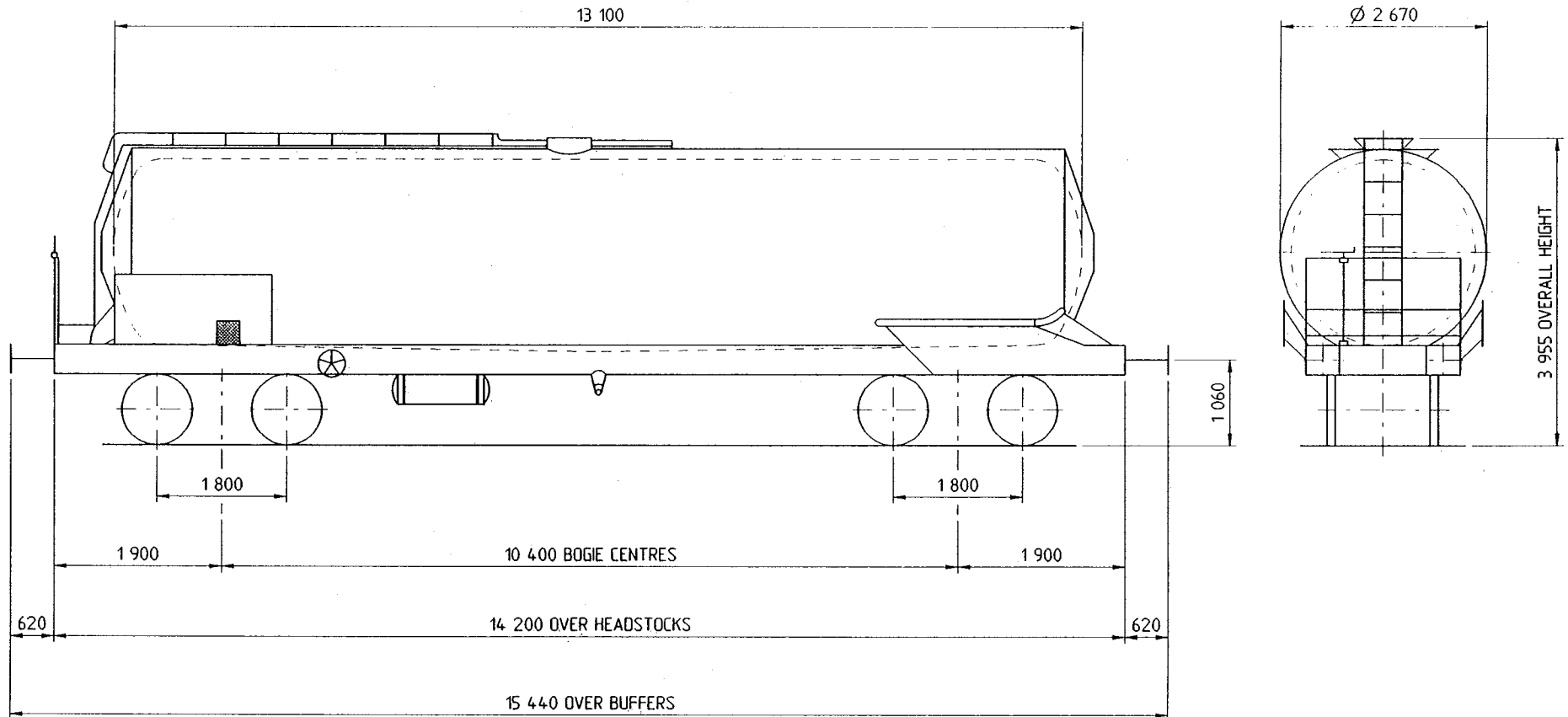
TARE-	21.7 t
CAPACITY, WEIGHT-	58.3 t
CAPACITY, VOLUME-	61 m ³
FLOOR AREA-	-
MIN. CURVE-	35 m
GEN. ARRGT. DRG. No.-	1.4.0.854

BRAKE-	AIR; PLATFORM & SIDE SCREW
SUSPENSION-	Y 25 CS2
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC 450 x 340
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zaefs
WAGON No.-	33 87 7992 000-010, 013-015
BUILDER-	C.F.M.F.
OWNER-	NACCO, PARIS



				TOPS INFORMATION									
	A	B	C	D	AARKND		OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
90	43.7t	51.7t	59.7t				60 mile/h UP TO		13 t FORCE UP TO		5	7	-
S	43.7t	51.7t	59.7t		CARKND		80 tonne GLW		40 t FORCE ABOVE				
120	00.0t				I	C	A	D					



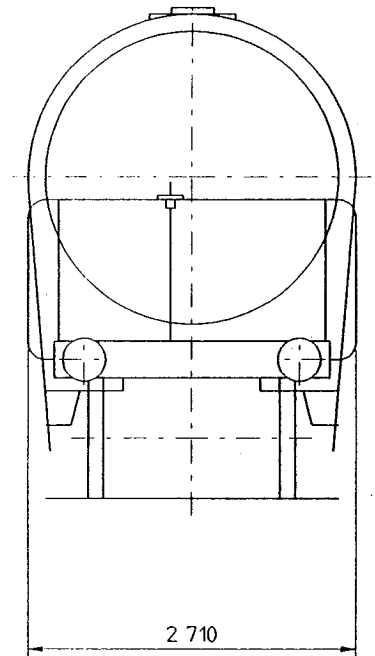
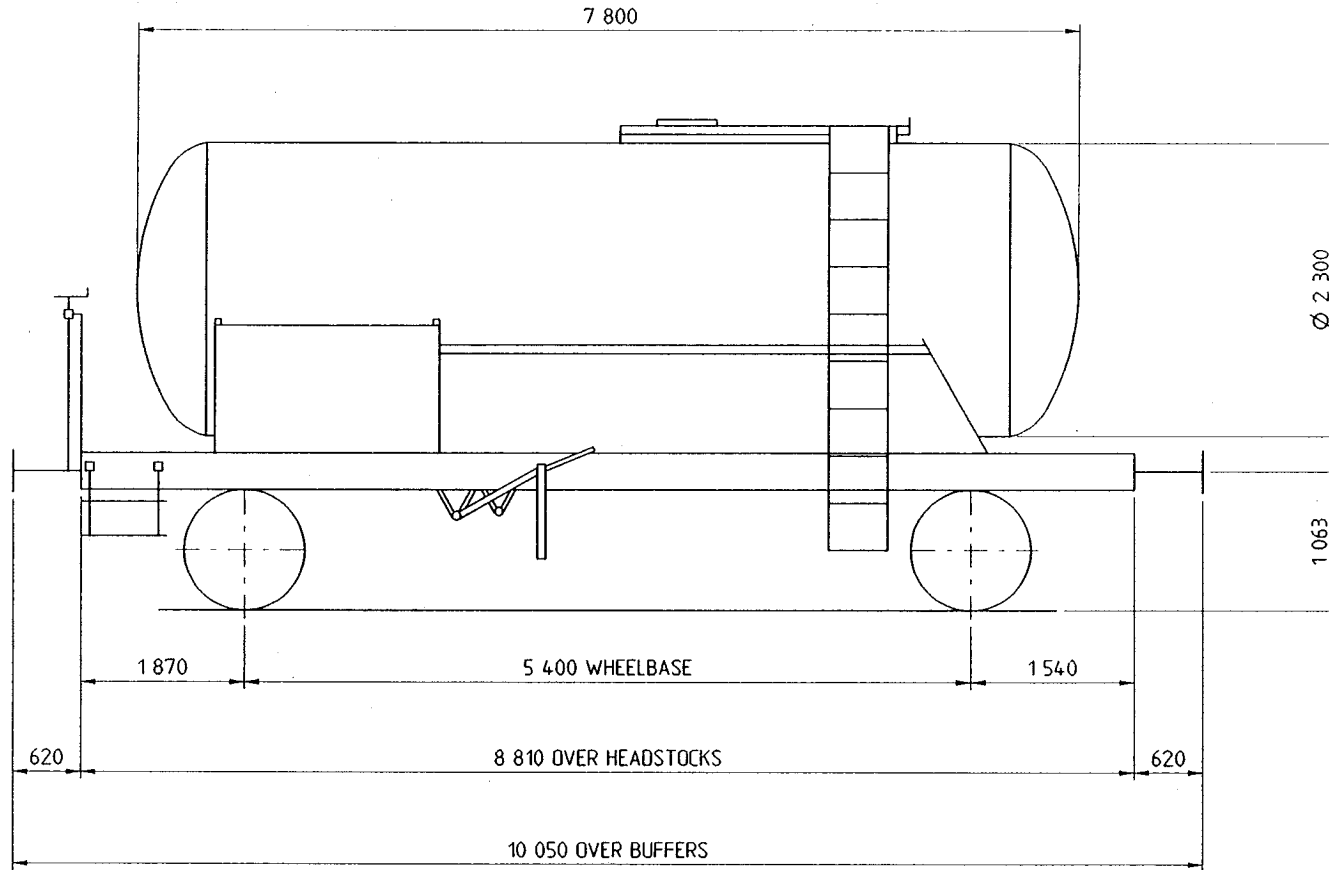
TARE-	20.3 t
CAPACITY, WEIGHT-	59.7 t
CAPACITY, VOLUME-	60 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	2-4-0-639

BRAKE-	AIR; PLATFORM & SIDE SCREW
SUSPENSION-	Y25Cs2
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC 450 x 340 HD
WHEELS-	Ø 920
JOURNALS-	Ø 130

TYPE-	Zacefs
WAGON No.-	33 87 7995 000-002
BUILDER-	C.F.M.F.
OWNER-	C.F.P.M. PARIS



				TOPS INFORMATION								
90	A 20 t	B 24 t	C 28 t	D	AARKND	OPERATING SPEED		BRAKE FORCE DATA		EXCESS LENGTH	RA (GLW)	DESIGN SHEET
S	20 t	24 t	28 t		CARKND	60 mile/h UP TO 40 tonne GLW		12 t FORCE UP TO 28 t FORCE ABOVE		6	6	-
120					I B B C	mile/h ABOVE		33 t GLW				



TARE-	12.6 t
CAPACITY, WEIGHT-	27.4 t
CAPACITY, VOLUME-	30 m ³
FLOOR AREA-	-
MIN.CURVE-	60 m
GEN.ARRGT.DRG.No.-	3-116267

BRAKE-	AIR & VAC THRO' PIPE; PLATFORM SCREW, SIDE LEVER
SUSPENSION-	DOUBLE LINK
COUPLINGS-	INTERNATIONAL SCREW
BUFFERS-	HYDRAULIC
WHEELS-	∅ -
JOURNALS-	∅ -

TYPE-	Zfs
WAGON No.-	23 85 7390 500-541, 543-547, 549-560
BUILDER-	J. MEYER, RHEINFELDEN
OWNER-	ETRA AG ZURICH