



NSAI

ECE TYPE-APPROVAL CERTIFICATE



Communication concerning:²

Approval granted
Approval extended
Approval refused
Approval withdrawn
Production definitively discontinued

of a vehicle type with regard to steering equipment pursuant to Regulation No. 79.

Approval No: **E24*79R02/01*0057*00**

Reason(s) for extension: *N/A*

- | | | |
|-----|---|--|
| 1. | Trade name or mark of vehicle: | <i>Iveco / System Truck</i> |
| 2. | Vehicle Type: | <i>ST MP 2B3C 79R</i> |
| | Variant(s): | <i>See information document
ST_MP_2B3C_79R_00 for details</i> |
| | Commercial description: | <i>See information document point 0.2.1.</i> |
| 3. | Manufacturer's name and address: | <i>S.T. System Truck S.p.A.
Via Paesa, 28
IT-46048 Roverbella (MN)
Italy</i> |
| 4. | If applicable, name and address of manufacturer's representative: | <i>N/A</i> |
| 5. | Brief description of the steering equipment: | |
| 5.1 | Type of steering equipment: | <i>Power assisted steering</i> |
| 5.2 | Steering Control: | <i>Steering wheel</i> |
| 5.3 | Steering Transmission: | <i>Mechanical</i> |

Approval No: E24*79R02/01*0057*00

- 5.4 Steered Wheels: **1st Axle**
- 5.5 Energy Source: **Hydraulic assistance**
6. Results of tests, vehicle characteristics:
- 6.1 Steering effort required to achieve a turning circle of 12m radius with an intact system and 20m radius with a system in the failed condition:

6.1.1 Under normal conditions:

Turning circle	Steering effort	
12 m radius	Limit [daN]	Measured [daN]
Left	20	6
Right	20	5.5

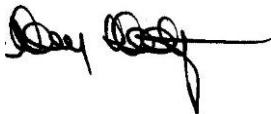
6.1.2 After failure of special equipment:

Turning circle	Steering effort	
20 m radius	Limit [daN]	Measured [daN]
Left	45	38
Right	45	35.5

- 6.2 Other tests required by this regulation (pass/fail): **Pass**
- 6.3 Adequate documentation in accordance with Annex 6 was supplied in respect of the following parts of the steering system: **N/A**
7. Applicable only to towing vehicles
- 7.1. The towing vehicle is / is not¹ equipped with an electrical connector fulfilling the relevant requirements of Annex 7: **N/A**
- 7.2. The maximum current available is: **N/A**
8. Applicable only to trailers
- 8.1. The steering system of the trailer fulfils the relevant provisions of Annex 7 to UN Regulation No. 79: **Yes/No**
- 8.2. The maximum current required for the trailer steering system is **N/A**
- 8.3. The trailer steering system is/is not² able to supply auxiliary equipment on the trailer with electrical energy: **N/A**

¹ Strike out what does not apply.

Approval No: E24*79R02/01*0057*00

9. Vehicle submitted for approval on: **12.03.2021**
10. Technical service responsible for conducting approval tests: **FAKT S.r.l.,
Via Lithos, 53
I-25086 Rezzato (BS)
Italy**
11. Date of report issued by that service: **09.03.2021**
12. Number of report issued by that service: **IT21/0228 - 00**
13. Approval granted/extended/refused/withdrawn:² **Granted**
14. Position of the approval mark on the vehicle: **Adhesive plate on the front wall behind radiator grill.**
15. Place: **Dublin**
16. Date: **7th April, 2021**
17. Signature: 
18. Annexed to this communication is a list of documents in the approval file deposited at the administration services having delivered the approval and which can be obtained on request.



² Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).



Approval No: E24*79R02/01*0057*00

Index to the Information Package

Date of issue:	<i>7th April, 2021</i>
Date of latest amendment:	<i>N/A</i>
Reason for extension/revision:	<i>N/A</i>
1. Additional conditions, and advisory notes on legal alternatives.	
2. Test report(s)	
- numbers(s):	<i>IT21/0228 - 00</i>
- date of issue:	<i>09.03.2021</i>
- date of latest amendment:	<i>N/A</i>
3. Information document	
- number(s):	<i>ST_MP_2B3C_79R_00</i>
- date of issue:	<i>01.02.2021</i>
- date of latest amendment:	<i>N/A</i>
Documentation:	<i>23 pages</i>



Approval No: E24*79R02/01*0057*00

Appendix: **Additional conditions, and advisory notes on legal alternatives**

A: Additional conditions:

1. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
2. Each type from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
3. Changes in the type are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
4. At regular intervals, any tests or associated checks prescribed by the applicable legislation to verify continued conformity with the approved type shall be carried out. The manufacturer shall demonstrate compliance with this by submitting to NSAI evidence of adequate arrangements and documented control plans for each type approved.
5. Any set of samples or test pieces showing evidence of non-conformity shall give rise to further sampling and testing and all steps shall be taken to restore conformity of production.
6. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
7. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to NSAI.
8. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
9. When the manufacture or sale of the system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

B: Legal Options:

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin.

Test Report No.: IT21/0228 - 00
UN-R79-02

Type: ST MP 2B3C 79R

Manufacturer: S.T. System Truck S.p.A.
IT-46048 Roverbella (MN)



Test Report

No. IT21/0228 Vers. 00

Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations (Revision 3)

Uniform provisions concerning the approval of vehicles with regard to steering equipment

UN-R79

of **01.06.1970**

as last amended by

series of amendments 02 – Supplement 01

of **16.10.2018**

Approval status

☒	Granting of a type approval No. E24*79R02/01*0057*00 (Allocated in advance)
☐	Extension to type approval no. ...
☐	Correction to type approval no. ...
☐	Documentation of test results

Structure of the Test Report:

- 0 : General
- 1 : Test vehicle(s)/-object(s)
- 2 : Test record
- 3 : Enclosures
- 4 : Statement of conformity

Duplication and publishing in extracts of the Test Report is allowed only by written permission of the Test Laboratory.

Test Report No.: IT21/0228 - 00
UN-R79-02

Type: ST MP 2B3C 79R

Manufacturer: S.T. System Truck S.p.A.
IT-46048 Roverbella (MN)



0 General

- 0.1 Make : Iveco / System Truck
- 0.2 Type : ST MP 2B3C 79R
- 0.2.1 Variant(s)/version(s) : See information document
- 0.2.2 Commercial name(s) : See information document point 0.2.1.
- 0.3 Category of vehicle : N3
- 0.4 Name and address of the manufacturer : S.T. System Truck S.p.A.
Via Paesa, 28
IT-46048 Roverbella (MN)
- 0.4.1 For multi-stage approved vehicles, company name and address of the manufacturer of the base/previous stage(s) vehicle: : Iveco Magirus AG
DE-89070 Ulm
- 0.5 Information folder :
Information document
- No : ST_MP_2B3C_79R_00
- Date of issue : 01.02.2021
- Date of last change : not applicable
- 0.6 List of modifications : not applicable (basic test report)

Test Report No.: IT21/0228 - 00
UN-R79-02

Type: ST MP 2B3C 79R

Manufacturer: S.T. System Truck S.p.A.
IT-46048 Roverbella (MN)



1 Test vehicle(s)/ - object(s):

- 1.1 Description: : representative vehicle
- 1.1.1 Type: : ST MP 2B3C 79R
Variant: : 4AS
Version: : 12FBDSSN9010Z10SMPNF
VIN (Stage 1): : WJME62RVZMC441468
- 1.1.2 Gear box type: : 12TX 2420 TD
No. of gears: : 12
- 1.1.3 Number and arrangement of axles: : 3; 1st steering / non powered axle
2nd fixed / powered axle
3rd fixed / powered axle
- 1.1.4 Wheelbase(s): : 1-2: 5900 mm
2-3: 1395 mm
- 1.1.5 Tyres
1st axle: : 385/65 R22,5 (single)
2nd axle: : 315/80 R22,5 (twin)
3rd axle: : 315/80 R22,5 (twin)
- 1.1.6 Kind of suspension: : 1st mechanical
2nd pneumatic
3rd pneumatic
- 1.1.7 Engine
Manufacturer: : FPT Industrial S.p.A.
Type: : F3HGE611B*N

Test Report No.: IT21/0228 - 00
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Type: ST MP 2B3C 79R

Manufacturer: S.T. System Truck S.p.A.
IT-46048 Roverbella (MN)



1.1.8 Steering

Type of steering transmission : steering wheel connected by a universal joint shaft to the steering gear-box which transmits the steering force to the front wheels (1st axle) through leverages and articulated joints

Linkage to wheels : Mechanical

Method of assistance : balls circulation hydraulic steering (Type ZF8099)

1.1.9 Mass of vehicle during test(s)

laden

Total: : 30400 kg

1st axle: : 9030 kg

2nd axle: : 10880 kg

3rd axle: : 10490 kg

1.1.10 Maximum speed: : 90 km/h

2 Test record

2.1 Place of test : IT-Roverbella (MN)

Date of test : series of tests A: 09.03.2021

2.2 Parameter of the test area

Test track : Asphalt & concrete dry, ceramic tiles wet

Air temperature : series of tests A: 12 °C

Velocity of wind : < 2,5m/s

2.3 Equipment for measuring and testing : The equipment on which the tests were carried out, fulfilled the requirements of the above-mentioned Regulation.

2.4 Test results

Series of tests A

- 2.4.1 General provisions : Fulfilled
(see also point 2.4.7.)
- 2.4.2 Special provisions for trailers : Not applicable
- 2.4.3 Failure provisions and performance : Fulfilled
(see also point 2.4.7.)
- 2.4.4 Warning signals : Fulfilled
- 2.4.5 Provisions for the periodic technical inspection of steering equipment : Fulfilled
- 2.4.6 Provisions for ACSF : Not applicable (vehicle not equipped with an ACSF)
- 2.4.7 Provisions for motor vehicles
- It shall be possible to leave a curve with a radius of 50 m at a tangent without unusual vibration in the steering equipment at 40 km/h : Fulfilled
- Steering effort
- Intact steering equipment : Turning radius: 12m
Steering control effort to the right: 60N
Steering control time to the right: 3.4s
Steering control effort to the left: 55N
Steering control time to the left: 3.3s
- Failure in the steering equipment : Turning radius: 20m
Steering control effort to the right: 380N
Steering control time to the right: 3.6s
Steering control effort to the left: 355N
Steering control time to the left: 3.4s

Test Report No.: IT21/0228 - 00
UN-R79-02

Type: ST MP 2B3C 79R

Manufacturer: S.T. System Truck S.p.A.
IT-46048 Roverbella (MN)



2.4.8 Additional provisions for vehicles : Not applicable
equipped with ASE

2.5 Remarks : not applicable

3 Enclosures:

1. Further enclosures : Not applicable

4 Statement of conformity:

The information folder as mentioned under No. 0.5 and the type described therein are - i n c o m p l i a n c e - with the Test Specification mentioned above.

For the present type, the selected test vehicles together with the information documents of remaining variant/version, is representative.

The tests have been carried out, considering the relevant requirements of ISO/IEC 17025:2017.

This report includes pages 1 to 6.
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TEST LABORATORY

Rezzato, 09.03.2021
aa/ah

File No.:



PR-21/0050

A blue ink signature, appearing to read "A. Adami", written over a light blue circular stamp.

A. Adami
Test engineer



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Fax: +39-030-2590395



INDICE DEL FASCICOLO DI OMOLOGAZIONE
INDEX TO THE INFORMATION PACKAGE

Veicolo: <i>Vehicle:</i>	Autotelaio per autoveicolo <i>Chassis without bodywork</i>
Categoria del veicolo: <i>Category of vehicle:</i>	N3
Nome e indirizzo del costruttore: <i>Name and address of manufacturer:</i>	(fase 1) Iveco Magirus AG (stage 1) D-89070 Ulm (fase 2) S.T. System Truck S.p.A. (stage 2) I-46048 Roverbella (MN) - Via Paesa, 28
Nome e indirizzo dell'eventuale rappresentante del costruttore: <i>Name and address of the manufacturer's representative (if any):</i>	non ricorre <i>not applicable</i>
Nome e indirizzo del trasformatore: <i>Name and address of converter:</i>	S.T. System Truck S.p.A. I-46048 Roverbella (MN) - Via Paesa, 28
Marca (denominazione commerciale del costruttore): <i>Make (trade name of manufacturer):</i>	Iveco / System Truck
Tipo: <i>Type:</i>	ST MP 2B3C 79R

Scheda informativa: <i>Information document:</i>	ST_MP_2B3C_79R_00		del <i>of</i>	01.02.2021
chiave interpretazione varianti e versioni <i>variants and versions explanation key</i>	ST_MP_2B3C_79R_00	allegato 0.0 <i>annex 0.0</i>	del <i>of</i>	01.02.2021
combinazioni possibili <i>permissible combination</i>	ST_MP_2B3C_79R_00	allegato 0.1 <i>annex 0.1</i>	del <i>of</i>	01.02.2021
masse e dimensioni <i>masses and dimensions</i>	ST_MP_2B3C_79R_00	allegato 1 <i>annex 1</i>	del <i>of</i>	01.02.2021
sospensione <i>suspension</i>	ST_MP_2B3C_79R_00	allegato 2 <i>annex 2</i>	del <i>of</i>	01.02.2021

Disegni allegati: <i>Attachment drawings:</i>				
disegno complessivo (passo 5600 mm): <i>overall drawing (wheelbase 5600 mm):</i>	55.01.00.0137	rev.0 <i>rev.0</i>	del <i>of</i>	08.09.2020
disegno complessivo (passo 5900 mm): <i>overall drawing (wheelbase 5900 mm):</i>	55.01.00.0127	rev.0 <i>rev.0</i>	del <i>of</i>	10.02.2020
schemi dell'asse o degli assi sterzanti: <i>steering system diagram:</i>	5802037501	rev. A1 <i>rev. A1</i>	del <i>of</i>	28.06.2017
schema complessivo dell'equipaggiamento sterzo: <i>diagram of the steering equipment:</i>	5802373065	rev. A0 <i>rev. A0</i>	del <i>of</i>	05.2017



SCHEDA INFORMATIVA INFORMATION DOCUMENT

N°
Nr **ST_MP_2B3C_79R_00**
del
of **01.02.2021**

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1.	CARATTERISTICHE COSTRUTTIVE GENERALI DEL VEICOLO <i>GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE</i>	pag. 2 <i>page 2</i>
2.	MASSE E DIMENSIONI <i>MASSES AND DIMENSIONS</i>	pag. 3 <i>page 3</i>
6.	SOSPENSIONI <i>SUSPENSION</i>	pag. 4 <i>page 4</i>
7.	STERZO <i>STEERING</i>	pag. 5 <i>page 5</i>
	CHIAVE INTERPRETAZIONE VARIANTI E VERSIONI <i>VARIANTS AND VERSIONS EXPLANATION KEY</i>	All. 0.0 <i>Ann. 0.0</i>
	COMBINAZIONI POSSIBILI <i>PERMISSIBLE COMBINATION</i>	All. 0.1 <i>Ann. 0.1</i>



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0. DATI GENERALI GENERAL

- 0.1. Marca (denominazione commerciale del costruttore):
Make (trade name of manufacturer): Iveco / System Truck
Iveco / System Truck
- 0.2. Tipo:
Type: ST MP 2B3C 79R
ST MP 2B3C 79R
- Varianti:
Variants: vedere allegato n° 0.0
see annex Nr. 0.0
- Versioni:
Versions: vedere allegato n° 0.0
see annex Nr. 0.0
- 0.3. Mezzi di identificazione del tipo, se marcati sul veicolo:
Means of identification of type, if marked on the vehicle: numero di omologazione del tipo su targhetta
type approval number on manufacturer's plate
- 0.3.1. Posizione della marcatura:
Location of that marking: su targhetta VIN
on VIN plate
- 0.4. Categoria del veicolo:
Category of vehicle: N3
N3
- 0.5. Nome della società e indirizzo del costruttore:
Company name and address of manufacturer: S.T. System Truck S.p.A.
I-46048 Roverbella (MN) - Via Paesa, 28
- 0.5.1. Per i veicoli omologati in più fasi, ragione sociale e indirizzo del fabbricante del veicolo nella fase iniziale / precedente:
For multi-stage approved vehicles, company name and address of the manufacturer of the base / previous stage(s) vehicle: Iveco Magirus AG
D-89070 Ulm
- 0.8. Denominazione/i e indirizzo/i dello/gli stabilimento/i di montaggio:
Name(s) and address(es) of assembly plant(s): S.T. System Truck S.p.A.
I-46048 Roverbella (MN) - Via Paesa, 28
- 0.9. Denominazione e indirizzo dell'(eventuale) rappresentante del costruttore:
Name and address of the manufacturer's representative (if any): non ricorre
not applicable
- 0.10. Posizione e modalità di fissaggio del marchio di omologazione sul veicolo:
Location and method of attachment of approval mark on the vehicle: targhetta adesiva su parete frontale, dietro griglia radiatore
adhesive plate on the front wall behind radiator grill

1. CARATTERISTICHE COSTRUTTIVE GENERALI DEL VEICOLO GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

- 1.1. Fotografie e/o disegni di un veicolo rappresentativo:
Photographs and/or drawings of a representative vehicle:



Fotografia ¾ anteriore
Photo ¾ front



Fotografia ¾ posteriore
Photo ¾ rear

varianti - versioni:
variants - versions:

4AS - ??????????????????????



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01.02.2021

	Passo: wheelbase:	5600 mm: 55.01.00.0137 55.01.00.0137	rev.0 rev.0	del of	08.09.2020 08.09.2020
	Passo: wheelbase:	5900 mm: 55.01.00.0127 55.01.00.0127	rev.0 rev.0	del of	10.02.2020 10.02.2020
1.3.	Numero di assi e di ruote: <i>Number of axles and wheels:</i>	3 3	assi, axles,	10 ruote 10 wheels	
1.3.1.	Numero e posizione degli assi a ruote gemellate: <i>Number and position of axles with twin wheels:</i>	2 2	assi, axles,	2° e 3° asse 2 nd and 3 rd axle	
1.3.2.	Numero e posizione degli assi sterzanti: <i>Number and position of steered axles:</i>	1 1	asse, axle,	1° asse 1 st axle	
1.3.3.	Assi motore (numero, posizione, interconnessione): <i>Powered axles (number, position, interconnection):</i>	2 2	assi, axles,	2° e 3° asse 2 nd and 3 rd axle	albero di trasm. propeller shaft
1.8.	Lato di guida: <i>Hand of drive:</i>	a sinistra left	oppure or	a destra right	
2.	MASSE E DIMENSIONI (in kg e mm) MASSES AND DIMENSIONS (in kg and mm) (eventualmente con riferimento ai disegni) (refer to drawing where applicable)				
2.1.	Interasse o interassi (a pieno carico): <i>Wheelbase(s) (fully loaded):</i>	vedere allegato n° see annex Nr. 1	1		
2.3.1.	Carreggiata di ciascun asse sterzante: <i>Track of each steered axle:</i>	1°: 2040 ÷ 2140 mm 1 st : 2040 ÷ 2140 mm			
2.4.	Dimensioni (fuori tutto) del veicolo <i>Range of vehicle dimensions (overall)</i>				
2.4.1.	Telai non carrozzati <i>For chassis without bodywork</i>				
2.4.1.1.	Lunghezza: <i>Length:</i>	vedere punto 1.1. see item 1.1.			
2.4.1.2.	Larghezza: <i>Width:</i>	max 2600 mm max 2600 mm			
2.4.1.4.	Sbalzo anteriore: <i>Front overhang:</i>	1410 mm 1410 mm			
2.4.1.5.	Sbalzo posteriore: <i>Rear overhang:</i>	vedere punto 1.1. see item 1.1.			
2.4.2.	Telai carrozzati <i>For chassis with bodywork</i>				
2.4.2.1.	Lunghezza: <i>Length:</i>	non ricorre not applicable			
2.4.2.2.	Larghezza: <i>Width:</i>	non ricorre not applicable			
2.4.2.4.	Sbalzo anteriore: <i>Front overhang:</i>	non ricorre not applicable			
2.4.2.5.	Sbalzo posteriore: <i>Rear overhang:</i>	non ricorre not applicable			
2.8.	Massa massima a pieno carico tecnicamente ammissibile dichiarata dal costruttore:	vedere allegato n° 1			



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	<i>Technically permissible maximum laden mass stated by the manufacturer:</i>	see annex Nr. 1	
2.9.	Carico/massa massima tecnicamente ammissibile su ciascun asse: <i>Technically permissible maximum mass on each axle:</i>	vedere allegato n° 1 see annex Nr. 1	
2.10.	Massa tecnicamente ammissibile su ciascun gruppo di assi: <i>Technically permissible mass on each group of axles:</i>	vedere allegato n° 1 see annex Nr. 1	
6.	SOSPENSIONI SUSPENSION		
6.2.	Tipo e modello della sospensione di ciascun asse o ruota: <i>Type and design of the suspension of each axle or wheel:</i>	1°: sospensione meccanica, ammortizzatori idraulici <i>leaf suspension, hydraulic shock absorbers</i> 2°: sospensione meccanica o pneumatica, ammortizzatori idraulici <i>leaf or air suspension, hydraulic shock absorbers</i> 3°: sospensione meccanica o pneumatica, ammortizzatori idraulici <i>leaf or air suspension, hydraulic shock absorbers</i>	
6.6.	Pneumatici e ruote <i>Tyres and wheels</i>		
6.6.1.	Combinazione/i pneumatico/cerchione: <i>Tyre / wheel combination(s):</i>		
	a) per gli pneumatici indicare la designazione della misura, l'indice della capacità di carico, il simbolo della categoria di velocità ed eventualmente la resistenza al rotolamento ai sensi della norma ISO 28580 <i>a) for tyres indicate size designation, load-capacity index, speed category symbol, rolling resistance in accordance with ISO 28580 (where applicable)</i>		
	b) per le ruote, indicare dimensioni del cerchione e dati della campanatura <i>b) for wheels indicate rim size(s) and off-set(s)</i>		
6.6.1.1.	Assi <i>Axels</i>		
6.6.1.1.1.	Asse 1: <i>Axle 1:</i>	vedere allegato n° 2 see annex Nr. 2	2
6.6.1.1.2.	Asse 2: <i>Axle 2:</i>	vedere allegato n° 2 see annex Nr. 2	
6.6.1.1.3.	Asse 3: <i>Axle 3:</i>	vedere allegato n° 2 see annex Nr. 2	
6.6.1.2.	Ruota di scorta (se disponibile): <i>Spare wheel, if any:</i>	vedere punto 6.6.1.1. see point 6.6.1.1.	
6.6.3.	Pressione/i degli pneumatici raccomandata dal fabbricante del veicolo: <i>Tyre pressure(s) as recommended by the vehicle manufacturer:</i>		
6.6.3.1.	1° asse: <i>1st axle:</i>	vedere 6.6.1.1.1. see 6.6.1.1.1.	
6.6.3.2.	2° asse: <i>2nd axle:</i>	vedere 6.6.1.1.2. see 6.6.1.1.2.	



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- 6.6.3.3. 3° asse:
3rd axle: vedere 6.6.1.1.3.
see 6.6.1.1.3.
7. **STERZO**
STEERING
- 7.1. Schemi dell'asse o degli assi sterzanti:
Steering system diagram: dis. n° 5802037501 del 28.06.2017 rev. A1
drawing No. 5802037501 of 28.06.2017 rev. A1
- 7.2. Trasmissione e comando
Transmission and control
- 7.2.1. Tipo di trasmissione dello sterzo (precisare se anteriore o posteriore):
Type of steering transmission (specify for front and rear, if applicable): volante (Ø470-510 mm) collegato mediante un albero alla scatola dello sterzo che trasmette la forza dello sterzo alle ruote ante-riori (1° asse) mediante leveraggi e giunti a snodo
steering wheel (Ø470-510 mm) connected by a universal joint shaft to the steering gear-box which transmits the steering force to the front wheels (1st axle) through leverages and articulated joints
- 7.2.2. Trasmissione alle ruote (compresi sistemi diversi da quelli meccanici; eventualmente, specificare se anteriore o posteriore):
Linkage to wheels (including other than mechanical means; specify for front and rear, if applicable): vedere punto 7.2.1.
see item 7.2.1.
- 7.2.3. Tipo degli eventuali servocomandi:
Method of assistance, if any: idroguida a circolazione di sfere (ZF opp. Bosch 8099) balls circulation hydraulic steering (ZF or Bosch 8099)
- 7.2.4. Schema complessivo dell'equipaggiamento sterzo illustrante la posizione sul veicolo dei vari dispositivi di sterzata:
Diagram of the steering equipment as a whole, showing the position on the vehicle of the various devices influencing its steering behaviour: dis n° 5802373065 del 05.2017 rev. A0
drawing No. 5802373065 of 05.2017 rev. A0
- 7.2.5. Schema del comando sterzo
Schematic diagram of the steering control
- 7.3. Angolo massimo di sterzata delle ruote
Maximum steering angle
- 7.3.1. A destra:
Numero di giri del volante (o dati equivalenti):
To the right:
Number of turns of the steering wheel (or equivalent data) vedere punto 7.2.4.
vedere punto 7.2.4.
see item 7.2.4.
see item 7.2.4.
- 7.3.2. A sinistra:
Numero di giri del volante (o dati equivalenti):
To the left:
Number of turns of the steering wheel (or equivalent data): vedere punto 7.2.4.
vedere punto 7.2.4.
see item 7.2.4.
see item 7.2.4.

Revisione 0 del 01.02.2021
Revision of

x La Ditta

(ing. Paolo MARTINI)
Ruolo: Direttore tecnico
Position: Technical Director



SCHEDA INFORMATIVA **INFORMATION DOCUMENT**

All n° **0.0**
Annex Nr
del **01.02.2021**
of

CHIAVE INTERPRETAZIONE VARIANTI E VERSIONI **VARIANTS AND VERSIONS EXPLANATION KEY**

Caratteristiche Characteristics	Descrizione Description	Tipo Type			Varianti Variants		Versioni Versions															
Nome costruttore Manufacturer's company name	Iveco / S.T. System Truck S.p.A.	ST																				
Tipo di modifica della fase 2 Stage 2 modify kind	Modifica passo Wheelbase modify		MP																			
Marca, modello, categoria, tipo e numero di assi della fase 1 Make, model, category and number of axles of stage 1	Iveco Magirus, X-Way ON MY 2019, carro 6x4, cat. N3, 3 assi Iveco Magirus, X-Way ON MY 2019, truck 6x4, cat. N3, 3 axles			2B3C																		
Fase di completamento Extent of build	incompleto X-Way MY 2019: cabinato non carrozzato incomplete X-Way MY 2019: chassis cab without body				4																	
Numero assi sterzanti Number steering axle	1 (1° asse / 1 st axle)					A																
Principio di funzionamento Working principle	accensione spontanea compression ignition					S																
Cilindrata Engine capacity	8710 cm ³							09														
	11120 cm ³							11														
	12882 cm ³							12														
Interasse (1° ÷ 3° asse) Wheelbase (1 st ÷ 3 rd axle)	da 5100 mm a 5600 o 5900 mm from 5100 mm to 5600 or 5900 mm								FB													
Direttiva emissioni Directive emission	Euro VI D												D									
	Euro VI D EGR												L									
Tipo cabina Cab type	AD													D								
	AT													T								
	AS													S								
Potenza del motore Engine power	243 kW														A							
	265 kW														B							
	294 kW														V							
	309 kW														C							
	338 kW														E							
	353 kW														F							
	375 kW														R							
	419 kW														S							



SCHEDA INFORMATIVA INFORMATION DOCUMENT

All n° 0.0
Annex Nr
del 01.02.2021
of

CHIAVE INTERPRETAZIONE VARIANTI E VERSIONI VARIANTS AND VERSIONS EXPLANATION KEY

Caratteristiche Characteristics	Descrizione Description	Tipo Type	Varianti Variants	Versioni Versions
Tipo 2° e 3° asse 2 nd and 3 rd axle type	HR			J
	SR			N
Massa massima su 1° asse Maximum mass on 1 st axle	7500 kg			75
	8000 kg			80
	8500 kg			85
	9000 kg			90
Massa massima su 2° asse Maximum mass on 2 nd axle	10500 kg			10
	11500 kg			11
Asse aggiunto Added axle	non ricorre not applicable			Z
Massa massima su 3° asse Maximum mass on 3 rd axle	10500 kg			10
	11500 kg			11
Uscita gas di scarico Exhaust exit	laterale sinistra / side left			S
	verticale / vertical			V
	centrale / centre			C
Tipo di cambio Type of gearbox	manuale / manual			M
	automatico / automatic			A
Interasse (2° ÷ 3° asse) Wheelbase (2 nd ÷ 3 rd axle)	1395 mm			P
ADR	con ADR / with ADR			S
	con ADR classe AT / with ADR Class AT			T
	senza ADR / without ADR			N
Sistema di frenatura Braking system	frenatura EBS (freni a disco), veicolo rimorchiante EBS braking (disc brakes), towing vehicle			F
	frenatura EBS (freni a disco), veicolo non rimorchiante EBS braking (disc brakes), no towing vehicle			N



SCHEDA INFORMATIVA INFORMATION DOCUMENT

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COMBINAZIONI POSSIBILI PERMISSIBLE COMBINATION

Varianti Variants	Versioni Versions
4 A S	0 9 FB D D A N 75 10 Z 10 S M P S F T 80 V N N 85 C T 90
4 A S	0 9 FB D D A N 80 11 Z 11 S M P S F T 85 V N N 90 C T
4 A S	0 9 FB D D B N 75 10 Z 10 S M P S F T V 80 V N N 85 C T 90
4 A S	0 9 FB D D B N 80 11 Z 11 S M P S F T V 85 V N N 90 C T
4 A S	0 9 FB D D A N 75 10 Z 10 S A P S N T 80 V N 85 C T 90
4 A S	0 9 FB D D A N 80 11 Z 11 S A P S N T 85 V N 90 C T
4 A S	0 9 FB D D B N 75 10 Z 10 S A P S N T 80 V N 85 C T 90
4 A S	0 9 FB D D B N 80 11 Z 11 S A P S N T 85 V N 90 C T
4 A S	1 1 FB D D C N 75 10 Z 10 S M P S F T E 80 V N N F 85 C T 90
4 A S	1 1 FB D D C N 80 11 Z 11 S M P S F T E 85 V N N F 90 C T
4 A S	1 1 FB L D F N 75 10 Z 10 S M P S F T 80 V N N 85 C T 90
4 A S	1 1 FB L D F N 80 11 Z 11 S M P S F T 85 V N N 90 C T
4 A S	1 2 FB D S R N 75 10 Z 10 S M P S F S 80 V N N 85 C T 90

Varianti
Variants

4	A	S
---	---	---

4	A	S
---	---	---

4	A	S
---	---	---

Versioni
Versions

1	2	FB	D	S	R	N	80	11	Z	11	S	M	P	S	F
					S		85				V			N	N
							90				C			T	

1	2	FB	L	S	S	N	75	10	Z	10	S	M	P	S	F
							80				V			N	N
							85				C			T	
							90								

1	2	FB	L	S	S	N	80	11	Z	11	S	M	P	S	F
							85				V			N	N
							90				C			T	



SCHEDA INFORMATIVA INFORMATION DOCUMENT

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of

1
01.02.2021

Punto Item	Variante Variant	Versione Version	Descrizione Description		
2.1.	4AS	????????????????	$1^\circ \div 2^\circ$	$2^\circ \div 3^\circ$	
	4AS	????????????????	5600 mm	1395 mm	
2.8.	4AS	????????7510?10????	5900 mm	1395 mm	
	4AS	????????8010?10????	27000 kg		
	4AS	????????8510?10????	27000 kg		
	4AS	????????9010?10????	29000 kg		
	4AS	????????9010?10????	29500 kg		
	4AS	????????8011?11????	30000 kg		
	4AS	????????8511?11????	30000 kg		
2.9.	4AS	????????9011?11????	30000 kg		
	4AS	????????7510?10????	1°	2°	3°
	4AS	????????8010?10????	7500	10500	10500 kg
	4AS	????????8510?10????	8000	10500	10500 kg
	4AS	????????8510?10????	8500	10500	10500 kg
	4AS	????????9010?10????	9000	10500	10500 kg
	4AS	????????9010?10????	9000	10500	10500 kg
2.10.	4AS	????????8011?11????	8000	11500	11500 kg (*)
	4AS	????????8511?11????	8500	11500	11500 kg (*)
	4AS	????????9011?11????	9000	11500	11500 kg (*)
	4AS	????????7510?10????	T_{post} / T_{rear}		
	4AS	????????8010?10????	21000 kg		
	4AS	????????8510?10????	21000 kg		
	4AS	????????9010?10????	21000 kg		
	4AS	????????8011?11????	23000 kg	(*)	
	4AS	????????8511?11????	23000 kg	(*)	
	4AS	????????9011?11????	23000 kg	(*)	
	4AS	????????9011?11????	23000 kg	(*)	

(*) Solo per massa massima tecnicamente ammissibile di 30000 kg

(*) Only Technically permissible maximum laden mass of 30000 kg



SCHEDA INFORMATIVA INFORMATION DOCUMENT

All n°
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del
of

2
01.02.2021

Punto Item	Variante Variant	Versione Version	Descrizione Description								
	Varianti Variants	Versioni Versions	Dimensione Size	Ind. di carico Load index	Carico Payload	Indice di vel. Speed index	Dim. cerchio Rim size	Offset acciaio Offset steel	Offset alluminio Offset aluminium	Raggio Radius	Pressione Pressure
6.6.1.1.1.	4AS	????????75??????????	315/80 R22,5	154	7500	G	22,5 x 9,00	161-162	150-154	523	8,00 bar
			315/70 R22,5	154	7500	G	22,5 x 9,00	161-162	150-154	492	9,00 bar
			13 R22,5	154	7500	G	22,5 x 9,00	161-162	150-154	546	8,00 bar
			295/80 R22,5	154	7500	G	22,5 x 8,25 22,5 x 9,00	152-159 161-162	145-148 150-154	507	9,00 bar
			385/55 R22,5	154	7500	G	22,5 x 11,75	130	120-135	480	7,75 bar
			385/65 R22,5	154	7500	G	22,5 x 11,75	120-135	120-135	517	7,50 bar
	4AS	????????80??????????	315/80 R22,5	156	8000	G	22,5 x 9,00	161-162	150-154	523	8,50 bar
			315/70 R22,5	156	8000	G	22,5 x 9,00	161-162	150-154	492	9,00 bar
			13 R22,5	156	8000	G	22,5 x 9,00	161-162	150-154	546	8,50 bar
			385/55 R22,5	156	8000	G	22,5 x 11,75	130	120-135	480	8,50 bar
			385/65 R22,5	156	8000	G	22,5 x 11,75	120-135	120-135	517	8,00 bar
			315/80 R22,5	158	8500	G	22,5 x 9,00	161-162	150-154	523	9,00 bar
	4AS	????????85??????????	385/55 R22,5	158	8500	G	22,5 x 11,75	130	120-135	480	9,00 bar
			385/65 R22,5	158	8500	G	22,5 x 11,75	120-135	120-135	517	8,50 bar
			385/55 R22,5	160	9000	G	22,5 x 11,75	130	120-135	480	9,00 bar
	4AS	????????90??????????	385/65 R22,5	160	9000	G	22,5 x 11,75	120-135	120-135	517	9,00 bar
6.6.1.1.2.	4AS	????????10??????????	315/80 R22,5	142	10500	G	22,5 x 9,00	161-162	150-154	523	6,25 bar
			315/70 R22,5	142	10500	G	22,5 x 9,00	161-162	150-154	492	7,00 bar
			13 R22,5	142	10500	G	22,5 x 9,00	161-162	150-154	546	6,00 bar
			295/80 R22,5	142	10500	G	22,5 x 8,25 22,5 x 9,00	152-159 161-162	145-148 150-154	507	7,00 bar
	4AS	????????11??????????	315/80 R22,5	145	11500	G	22,5 x 9,00	161-162	150-154	523	6,75 bar
			315/70 R22,5	145	11500	G	22,5 x 9,00	161-162	150-154	492	7,75 bar
			13 R22,5	145	11500	G	22,5 x 9,00	161-162	150-154	546	6,75 bar
			295/80 R22,5	145	11500	G	22,5 x 8,25 22,5 x 9,00	152-159 161-162	145-148 150-154	507	7,75 bar



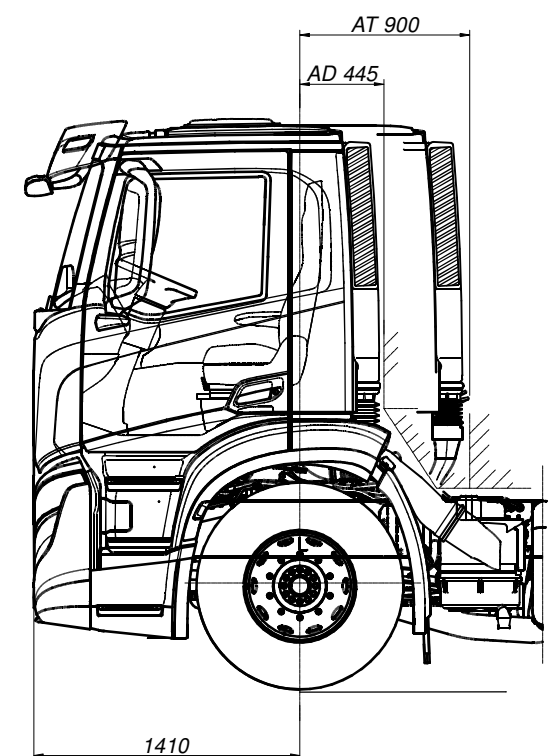
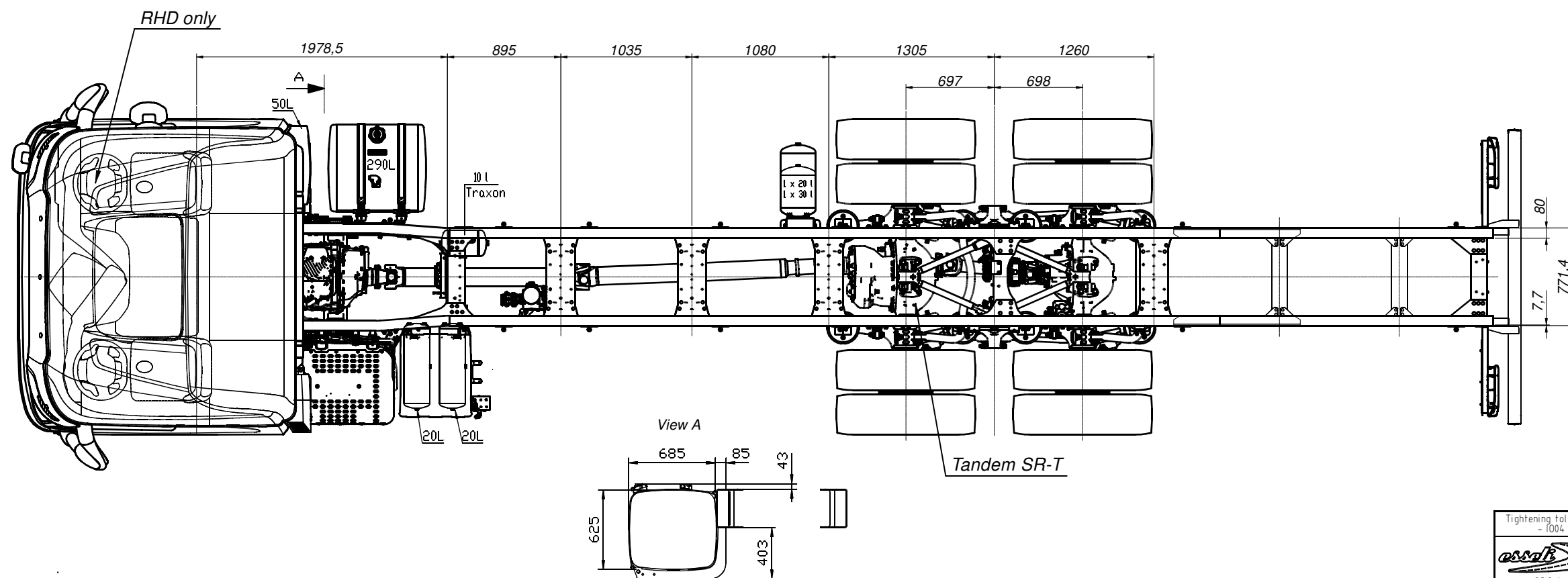
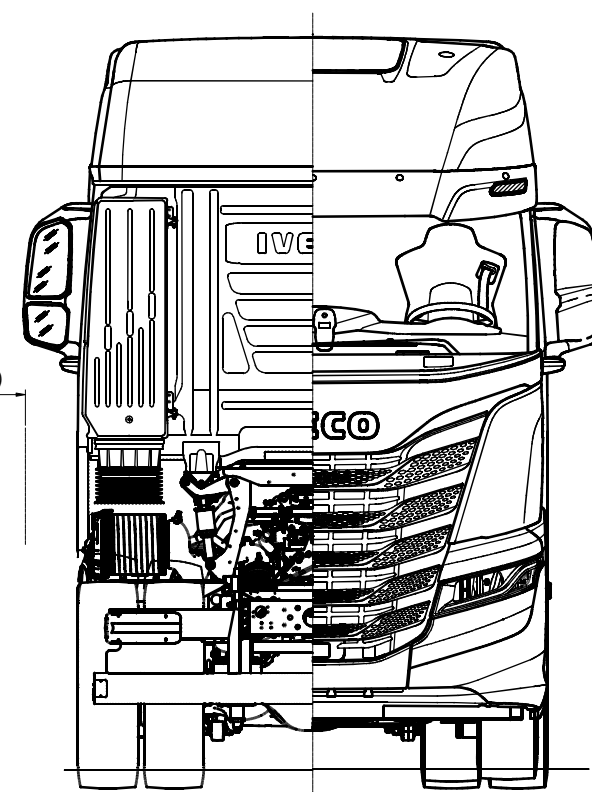
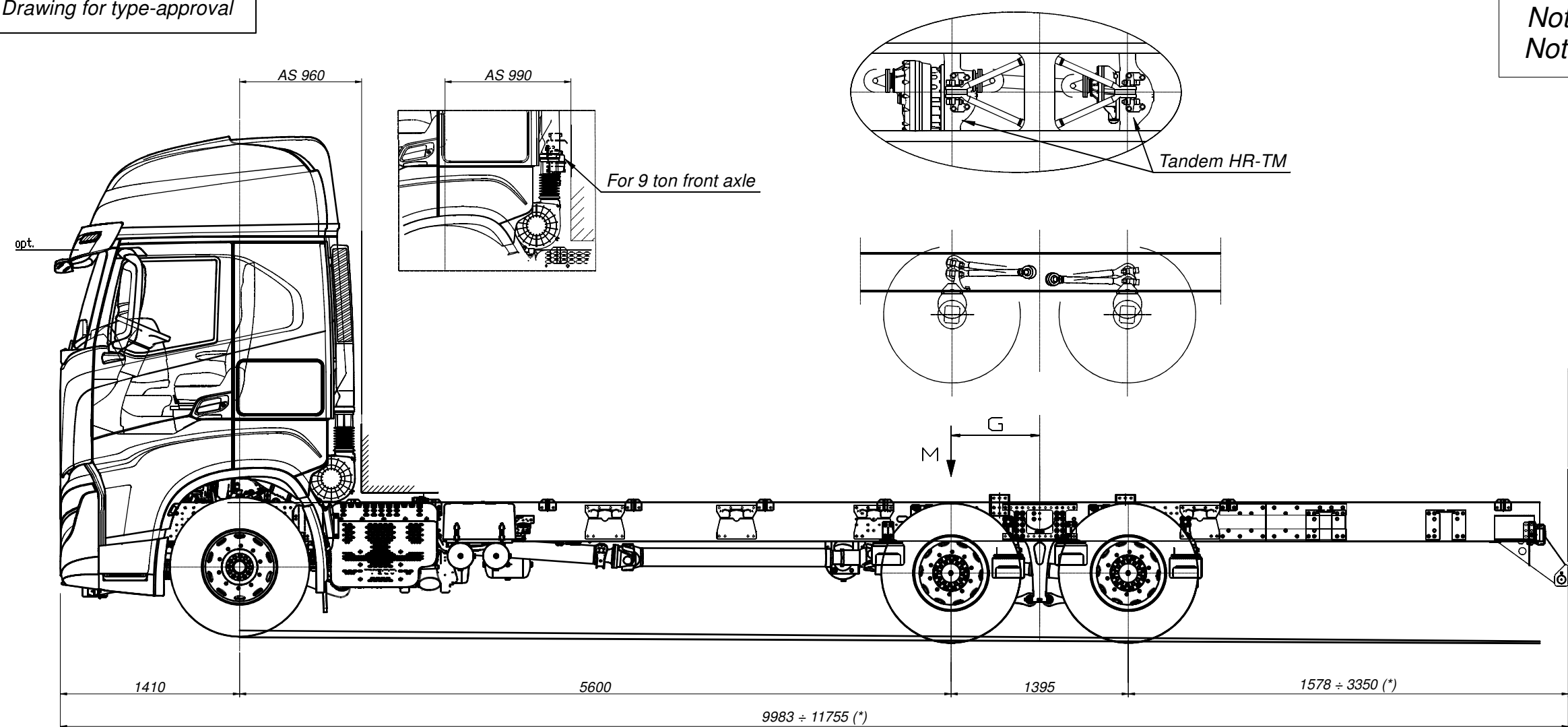
SCHEMA INFORMATIVA INFORMATION DOCUMENT

All n° 2
Annex Nr
del
of 01.02.2021

Punto Item	Variante Variant	Versione Version	Descrizione Description							
6.6.1.1.3.	4AS	????????????10?????	315/80 R22,5	142	10500	G	22,5 x 9,00	161-162	150-154	523 6,25 bar
			315/70 R22,5	142	10500	G	22,5 x 9,00	161-162	150-154	492 7,00 bar
			13 R22,5	142	10500	G	22,5 x 9,00	161-162	150-154	546 6,00 bar
			295/80 R22,5	142	10500	G	22,5 x 8,25 22,5 x 9,00	152-159 161-162	145-148 150-154	507 7,00 bar
	4AS	????????????11?????	315/80 R22,5	145	11500	G	22,5 x 9,00	161-162	150-154	523 6,75 bar
			315/70 R22,5	145	11500	G	22,5 x 9,00	161-162	150-154	492 7,75 bar
			13 R22,5	145	11500	G	22,5 x 9,00	161-162	150-154	546 6,75 bar
			295/80 R22,5	145	11500	G	22,5 x 8,25 22,5 x 9,00	152-159 161-162	145-148 150-154	507 7,75 bar

Disegno per omologazione
Drawing for type-approval

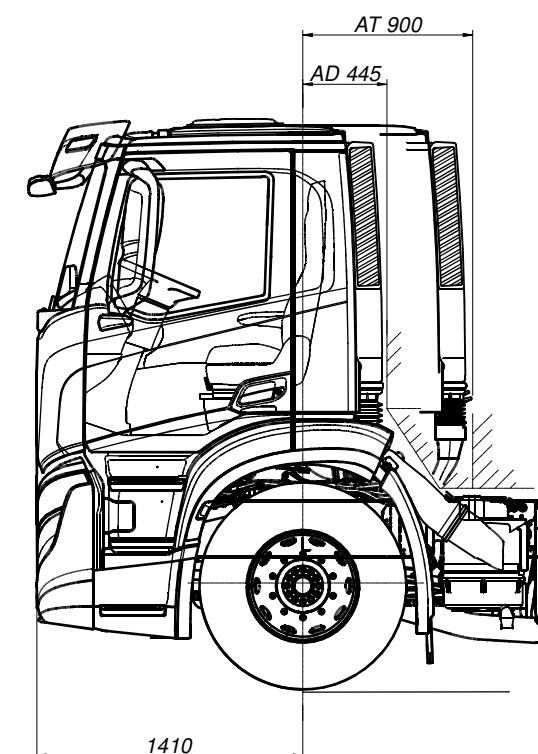
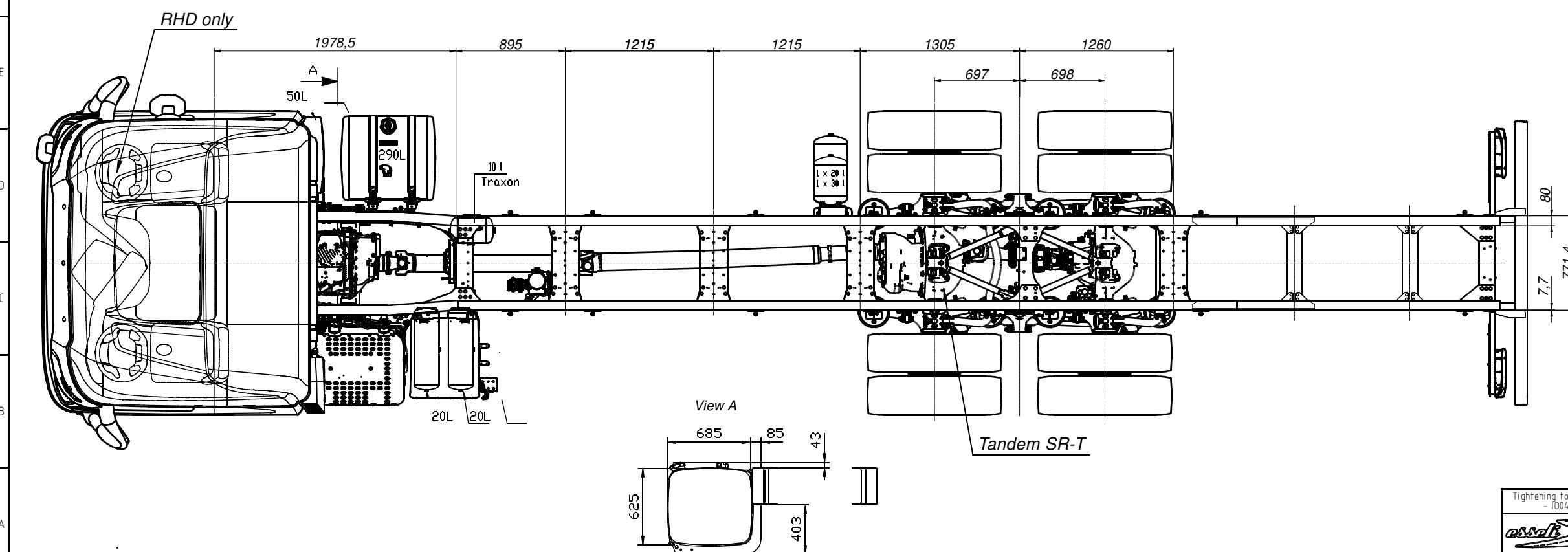
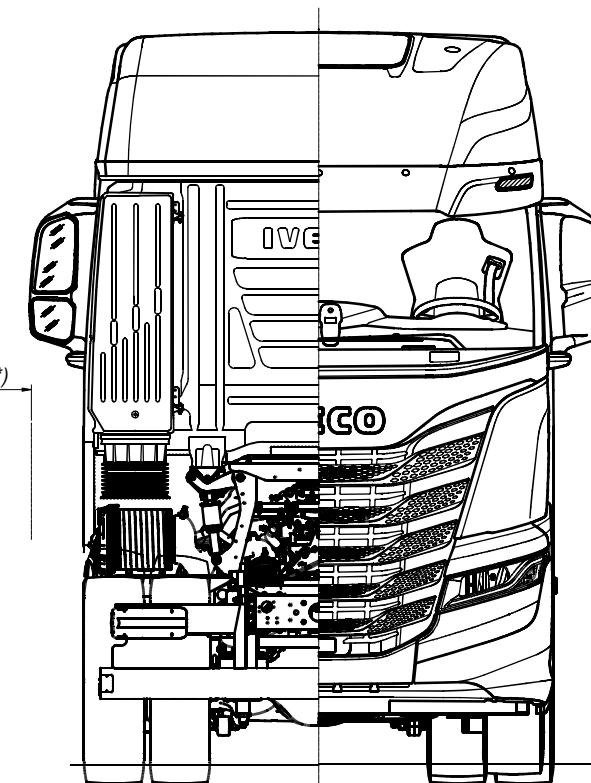
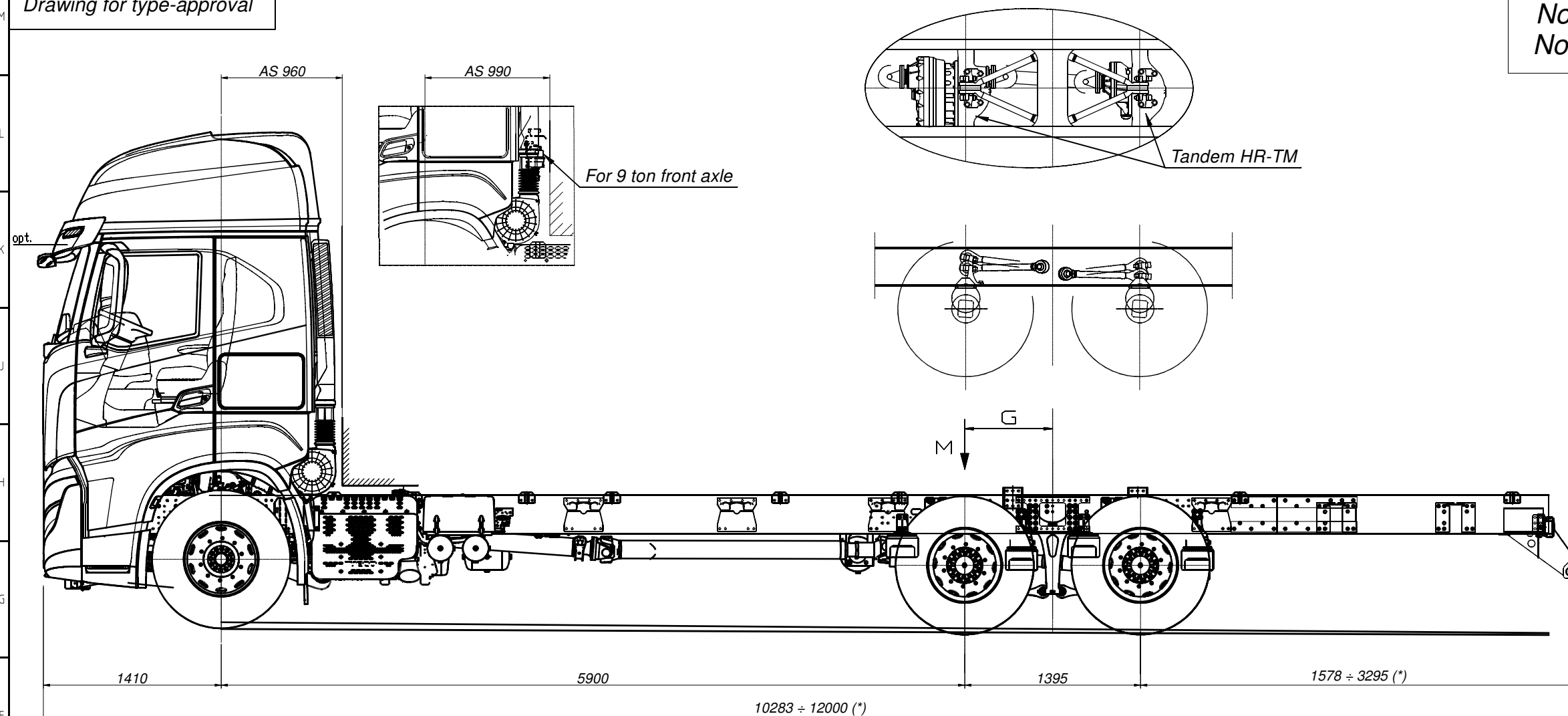
Nota (*): vedere scheda informativa
Note (*): see information document



Tightening tolerance - f004	ISO 2768 - ---- Tolerancing ISO 8015	Author P. MARTINI	Date 08/09/2020	Scale 1:20
Description All proprietary rights reserved by S.T. System Truck S.p.A. The reproduction, distribution and utilization of this document as well as the communication of its content to others, without express authorization is prohibited (see ISO 1676:2016)				
Description IVECO 2B3C AD/AT/AS 260/300XZ/P, HR ON+ 6x4 PASSO DA 5100+1395 A 5600+1395 MM				
Code 55.01.00.0137	Drawing 55.01.00.0137	Sheet 1/1	Format A1	

Disegno per omologazione
Drawing for type-approval

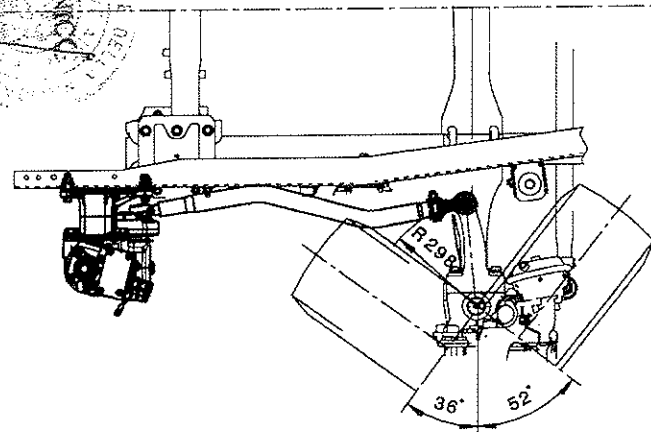
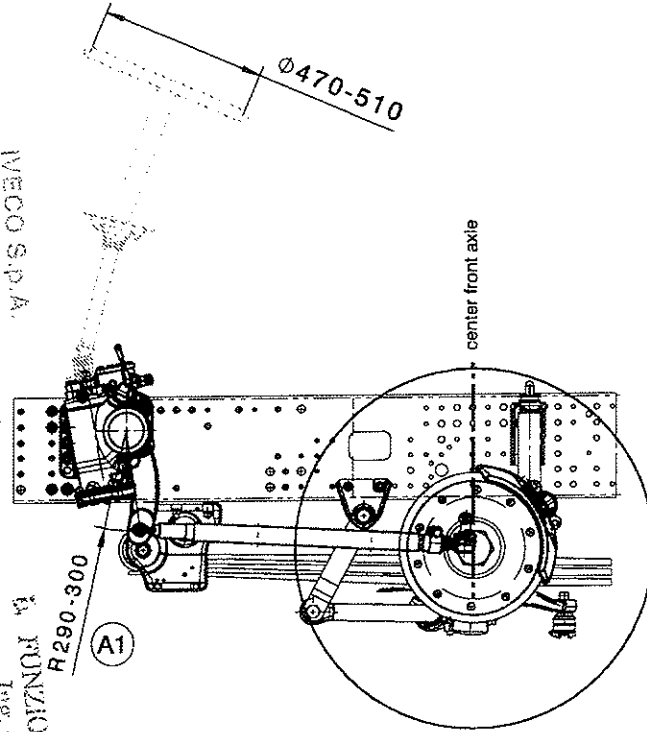
Nota (*): vedere scheda informativa
Note (*): see information document



Tightening tolerance - f004	ISO 2768 - ---- Tolerancing ISO 8015	Author P. MARTINI	Date 10/02/2020	Scale 1:20
Description All proprietary rights reserved by S.T. System Truck S.p.A. The reproduction, distribution and utilization of this document as well as the communication of its content to others, without express authorization is prohibited (see ISO 1676:2016)				
VECO 2B3C AD/AT/AS 260/300XZ/P, HR ON+ 6x4 PASSO DA 5100+1395 A 5900+1395 MM				
Code 55.01.00.0127	Drawing 55.01.00.0127	Sheet 1/1	Format A1	

E24*79R02/01*0057*00

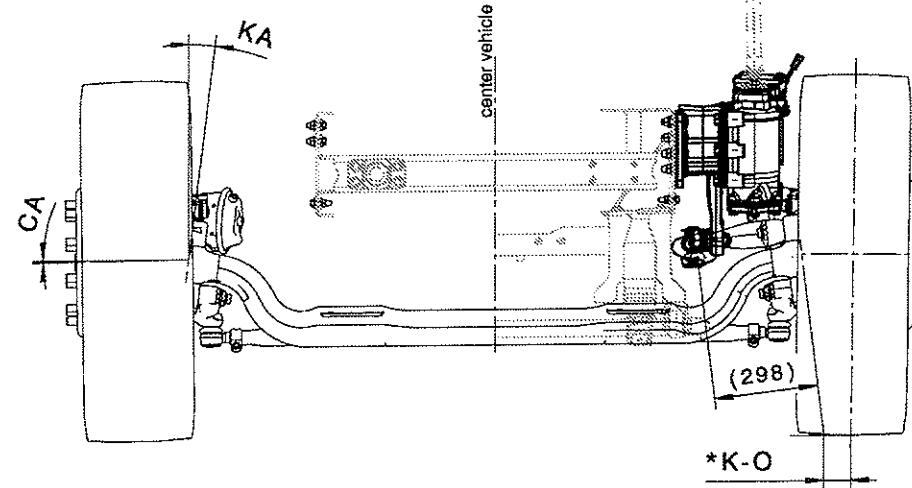
IVECO S.p.A.
Product Engineering / Product Validation
Homologation & Technical Application
(Giovanni Demichellis)



	front axle
K-O (KINGPIN-OFFSET)	*75 - 130
CA (CAMBER-ANGLE)	$0,8^\circ$
KA (KINGPIN-ANGLE)	7°
CASTER-ANGLE	$1,4^\circ - 3^\circ$
TOE-IN nominal value	$+1,5\text{mm/m}$
tolerance	$(\pm 1,5\text{mm/m})$

(A1)
(A1)

* K-O (KINGPIN-OFFSET) depends on tyres and rim-sizes



steering wheel rotation angle: 2088°
(from center to end lock: 1044° left and 1044° right)

overall ratio front axle = $2088^\circ / (52^\circ + 36^\circ) = 23,7$

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(A1)		Model 4x2P/6x2P/6x4 LHD+RHD steering-gear-type 8099-2-pumps i=22,2-26,2 Opt.78325 (Emergency steering circuit)					
Scale	schematic					Designation	Lex Code 155387
		A1	13A/RAM345040	20.06.17	Esc	GROUP-STEERINGGEAR WITH LINKAGE	
	Name	Date	A0	12CRY01008040	10.04.15		
Drawn by	SCHNEIDER Elias	19/06/2017	Index	Modification Notice Code	Date	Name	4x2P/6x2P/6x4 LHD+RHD_8099-1.5_Opt.78325
Checked by	SCHNEIDER Elias	20/06/2017					
Approved	KOEBERLE	Department	E040			No	5802037501 DC 50-1402
						Sheet	1/1

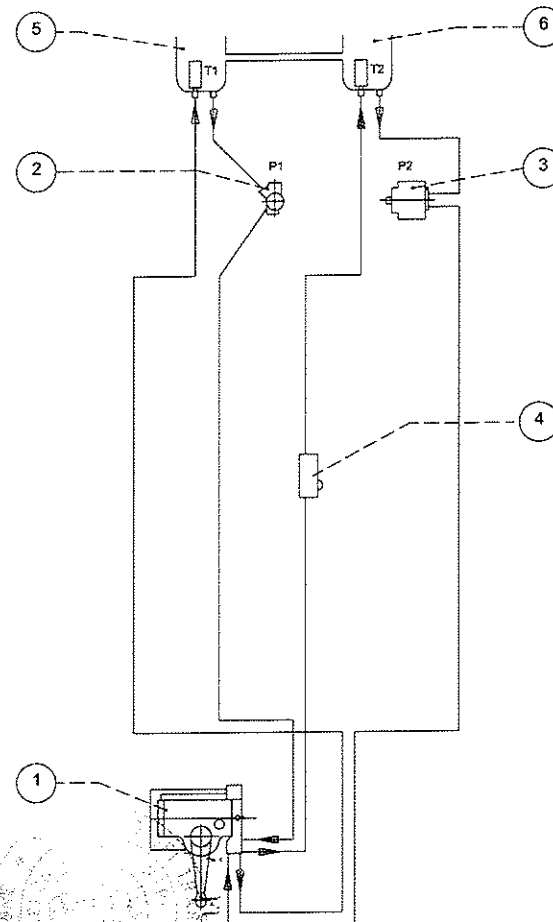
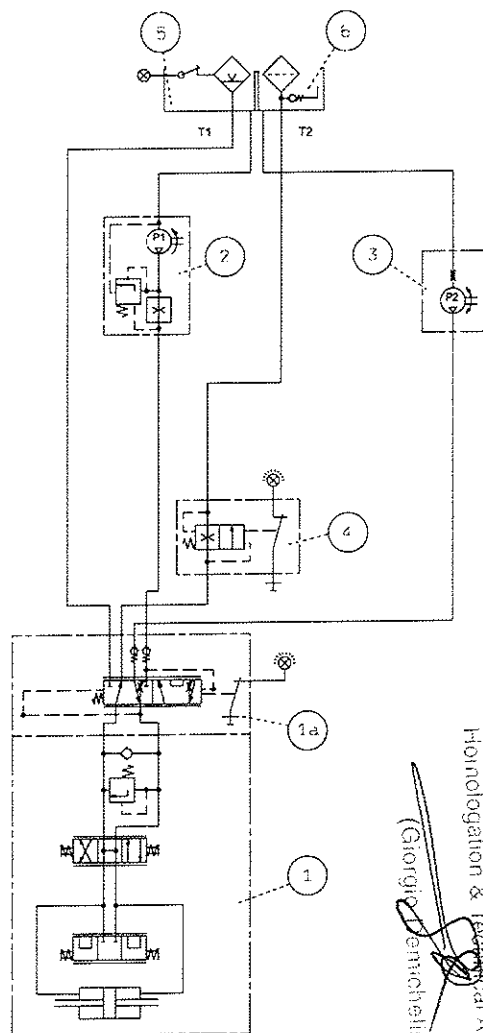
CNH
INDUSTRIAL

E24*79R02/01*0057*00

Modifications
A1 - 8x4 added to description, caster angle changed to $1,4^\circ - 3^\circ$ (was $2^\circ - 3^\circ$), pitman arm radius changed to R290-300 (was R290).
Toe-in changed to $\pm 1,5 \text{ mm/m}$ ($\pm 1,5 \text{ mm/m}$). IVECO title block replaced by CNH title block

hydraulic diagram

hydraulic scheme



Item	Description	TYPE/Characteristics
1	1) 1,5-CIRCUIT STEERING GEAR WITH INTEGRATED PRESSURE RELIEF VALVE 1a) WITH SWITCH-VALVE FOR EMERGENCY CIRCUIT	8099-1,5 i=22,2-26,2
2	VANE PUMP ENGINE-DRIVEN WITHOUT PRESSURE RELIEF VALVE	FN4 Q _{cons} =16l/min Q _{geo} =21cm³/rev
3	RADIAL PISTON PUMP GROUND-DRIVEN WITHOUT PRESSURE RELIEF VALVE	RN 8605 Q _{cons} =16l/min Q _{geo} =16cm³/rev
4	FLOW INDICATOR (ON-switch)	flow < 4-5l/min switch contacts closed flow > 4-5l/min switch contacts open
5	STEERING OIL TANK (2 chambers) with integrated filter elements for each chamber and level sensor/indicator	1x 2,1l nominal size alternatively 2x 1,5l nominal size

IVECO S.p.A.
Product Engineering / Product Validation
Homologation & Technical Application
(Giorgio Gemelli)

Funzionario Tecnico
Ing. Coordinatore
Piero Ceraci

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STANDARD		General rules: IVECO S.p.A.		10-2688	
Scheda SCHEMA		Material		Revisione	
CNH n° 0		Designation		Code No	
n° 0		Mass SCD		Depd No	
		0.000		184500	
Drawn by: DRR Philpp		Date: 19/06/2017		Line Diagram	
Checked by: DRR Philpp		Date: 20/06/2017		4x2/6x2/6x4 LHD+RHD_8099-1,5	
Model: 4x2/6x2/6x4 LHD/RHD 8099-1,5		No: 5802373065 DC 50-1494		Sheet 1/2	
Origin:		Reduced by:		A2	