2027 CATALOGO GENERALE
General Catalogue



www.tvzassali.it


TVZ



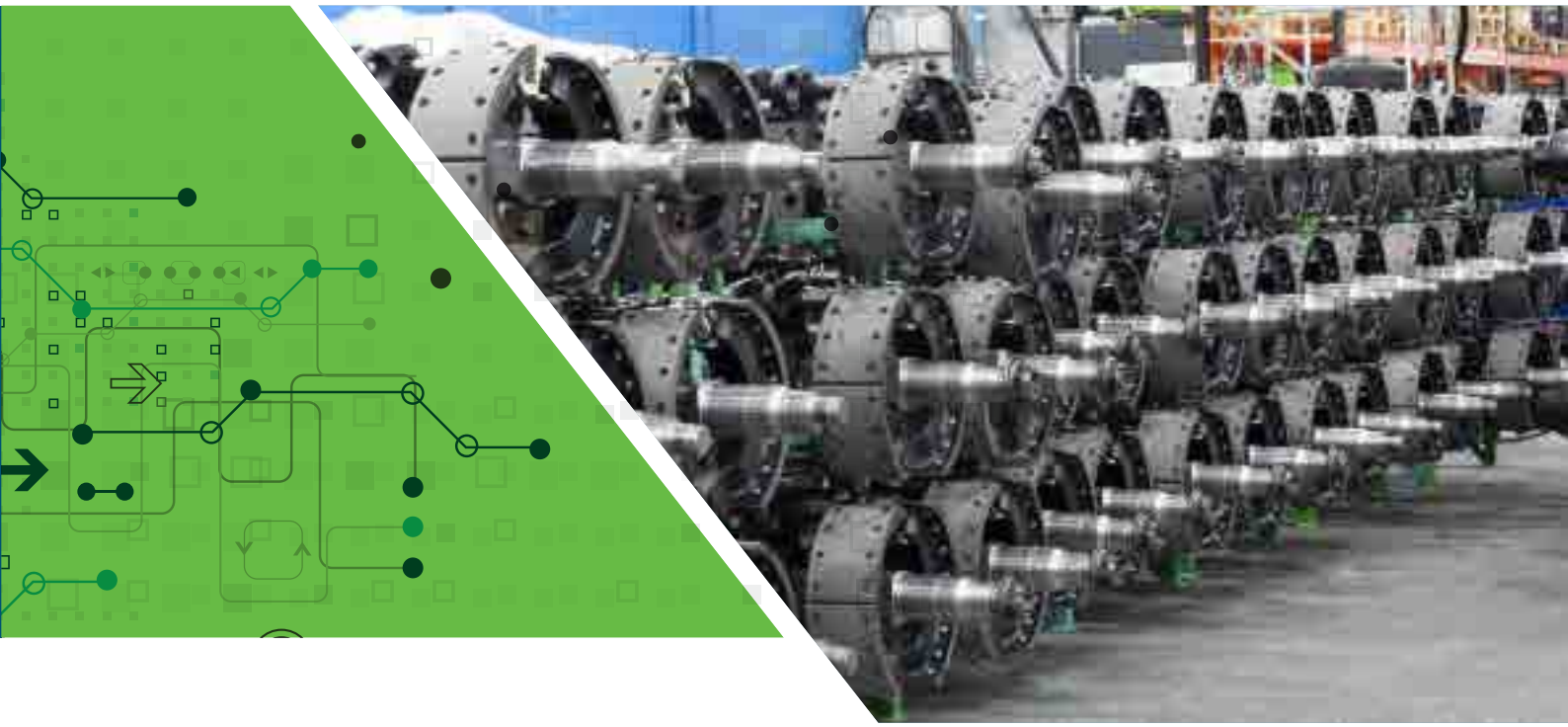


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UN IMPEGNO PRECISO

A CLEAR MISSION





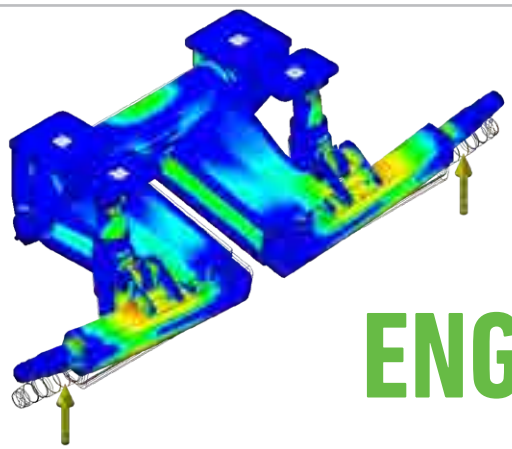
MISSION

Essere i migliori specialisti "Made in Italy" negli assali e gruppi di sospensione

La produzione industriale è una sfida continua. Ora più che mai. Tenacia e voglia di guardare avanti si alternano a difficoltà che vanno affrontate e superate. Una volta bastava un punto di forza per fare un'azienda, oggi la propositività deve essere globale. Consapevoli di questo scenario, In TVZ siamo strutturati in modo da mantenere alta la qualità dell'offerta e allo stesso tempo sviluppare competitività al servizio dei nostri clienti. Crediamo che il miglioramento continuo dei processi aziendali sia fondamentale per essere e mantenersi i migliori specialisti Made in Italy nel nostro settore.

Be the best "Made in Italy" experts in axles and suspension groups

Industrial production is an ongoing challenge. Now more than ever. Tenacity and desire to look ahead alternate with difficulties that must be faced and overcome. Once it only took one single point of strength to make a company, nowadays a proactive approach must be taken. Aware of this scenario, TVZ is structured to maintain the high quality of its offer and at the same time develop the competitiveness of our customer service. We believe that continuous improvement of business processes is critical to be and remain the best Made in Italy specialists in our field.



ENGINEERING

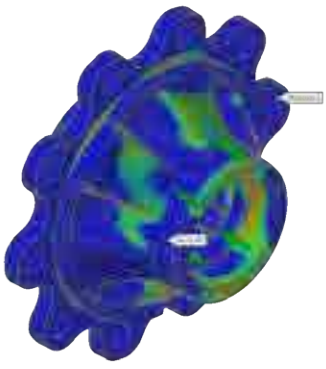
RISORSE DEDICATE
COMMITTED ENGINEERING

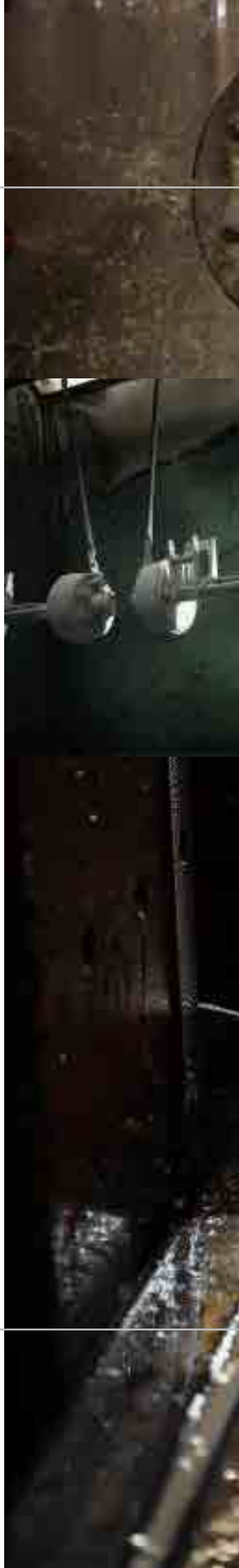
Professionalità e know-how al servizio della tecnologia per macchine agricole e automotive industriale

Ricerca e sperimentazione sui materiali e sulle tecnologie rendono ogni prodotto TVZ un compagno di lavoro fedele e generoso, sia per l'impresa agricola sia per i diversi campi applicativi dell'automotive. L'impegno di engineering fa di TVZ un'azienda sempre aggiornata sulle nuove tendenze della meccanizzazione e fortemente reattiva alle evoluzioni dei mercati. Le nostre professionalità sono coordinate in progetti mirati a soddisfare le domanda per ciò che riguarda assi, semiassi e sospensioni. Soluzioni sempre conformi alle normative anche nel caso di proposte totalmente personalizzate.

Professionalism and know-how committed to agricultural machinery and industrial automotive

Research and testing on materials and technologies make each TVZ product a faithful and generous work companion, both for the farm and the different automotive fields. The engineering effort makes of TVZ an up-todate company on new trends in mechanization and also highly responsive to market developments. Our professionalism are coordinated in projects designed to meet the demand for what concerns axles, stub axles and suspensions, always offering solutions which comply with regulations even in the case of personalized products.













PRODUZIONE

PRODUCTION

STABILIMENTI ALL'AVANGUARDIA

Linee di produzione costantemente aggiornate per unire grandi numeri e alta qualità

TVZ opera con un layout di fabbrica molto efficiente e versatile, strutturato su principi di smart manufacturing.In particolare la flessibilità ci consente di lavorare con clienti di ogni dimensione e coprire esigenze anche molto diversificate, assicurando sempre quel dialogo collaborativo che è riconosciuto come principale punto di forza dell'azienda. Le certificazioni che attestano la competenza e i livelli di eccellenza dell'attività TVZ vengono costantemente aggiornate e implementate in collaborazione con gli organismi internazionali e gli enti accreditati.

STATE-OF-THE-ART FACTORY

Constantly updated production lines to combine large numbers and high quality

TVZ operates based on a very efficient and versatile factory layout, structured on the principles of smart manufacturing. In particular, flexibility allows us to work with companies of all sizes and respond to diversified requirements, always ensuring that collaborative dialogue that is recognized as the main point of strength of the company. Certifications attesting to the competence and the levels of excellence of TVZ are constantly updated and implemented in collaboration with international organizations and accredited institutions.

PRESENTAZIONE DEL CATALOGO

Per semplificare la scelta dell'assale più adatto all'utilizzatore, TVZ srl è lieta di proporre il proprio catalogo di prodotti, dove si possono trovare: assali fissi con e senza freno, assali sterzanti con e senza freno, sospensioni meccaniche singole, tandem e tridem, sospensioni pendolari di tipo bogie, sospensioni pneumatiche e sospensioni idrauliche.

USO CORRETTO DEL CATALOGO

La portata di un assale è data dalla resistenza della trave e dei cuscinetti.
La resistenza della trave è influenzata dal carico sull'assale, dallo sbalzo applicato e dalla velocità di utilizzo. La resistenza dei cuscinetti è influenzata dal carico sull'assale, dalla velocità, dallo spostamento della ruota, dalle dimensioni e dal tipo di pneumatico e dalla configurazione di montaggio degli assali sul veicolo.
Non sempre tutti questi fattori vengono presi in considerazione per la scelta dell'assale.

Per un uso corretto del catalogo è bene seguire quanto riportato di seguito:

Come scegliere l'assale

Per individuare l'assale corretto, è bene partire utilizzando le tabelle da pag. 27 a pag. 42, con le quali, in base al carico, lo sbalzo, la configurazione, la velocità ed il tipo di trave è possibile identificare la struttura portante per il nostro assale.
I carichi indicati nelle tabelle relative alle portate sono quelli massimi ammissibili per la velocità, lo sbalzo e l'applicazione indicata. Inoltre fanno riferimento all'utilizzo di ruote con flangia centrale (offset = 0) e con pneumatico avente il raggio dinamico minore o uguale a 400 mm per le tipologie di mozzi fino a 661 e 600 mm per le tipologie di mozzi superiori. Per l'utilizzo di ruote con spostamenti diversi da zero o raggi dinamici superiori ai 600 mm, prego contattare il nostro ufficio tecnico, che potrà consigliarvi in merito.Una volta scelto l'assale in base alla portata si deve verificare che anche lo sbalzo riferito sia sufficiente, lo sbalzo è la misura dal centro del pneumatico al centro della piastra di fissaggio dell'assale al telaio/sospensione (quota H). Per fare questa verifica è sufficiente utilizzare la formula riportata e spiegata prima delle tabelle delle portate a pagina 26. Nel caso gli assali vadano ad equipaggiare un veicolo con gli assi ravvicinati tra di loro, TVZ consiglia l'utilizzo di un assale autosterzante (veicolo tandem) o due assali autosterzante (veicolo tridem), questo per ridurre in maniera significativa la forza assiale che verrebbe a generarsi per lo strascinamento dei pneumatici sul terreno durante una curva, tali forze vanno a sovraccaricare i cuscinetti riducendone la vita, e provocano un'usura precoce del pneumatico, che rappresenta una delle spese maggiori di manutenzione di un veicolo.

Attacchi

Una volta scelto il tipo di assale, verificare quali siano gli attacchi disponibili, tenendo presente che non tutte le tipologie di attacco sono disponibili in versione gemellata, è possibile verificare tali disponibilità consultando la tabella a pagina 22 del presente catalogo.
Per un corretto serraggio della ruota al mozzo consultare la tabella a pagina 23 riportante le coppie di serraggio da applicare ai dadi, onde evitare il danneggiamento della colonnetta e/o del dado.

Freni

Il freno deve essere selezionato in funzione del peso della macchina, del tipo di pneumatici utilizzati e della velocità massima prevista.
Le capacità di frenatura riportate in questo catalogo (pagine 12–15) sono conformi ai regolamenti internazionali vigenti:

- per velocità di **30 e 40 km/h**, secondo il regolamento **EU 2015/68**;
- per velocità **superiori a 40 km/h**, secondo il regolamento **ECE R13**.

È inoltre fondamentale verificare che il freno possa essere alloggiato all'interno della ruota. Per individuare la ruota minima compatibile con ciascun tipo di freno, consultare la tabella riportata a pagina 19 del presente catalogo
Verificare inoltre la compatibilità tra il freno e il tipo di assale scelto consultando la tabella a pagina 18.
Qualora sia necessario dimensionare l'assale ai fini dell'omologazione, si raccomanda di contattare preventivamente il nostro Ufficio Tecnico. In questo modo sarà possibile definire correttamente e con il necessario anticipo la procedura di rodaggio.
Infine, si raccomanda di eseguire un adeguato rodaggio prima di effettuare qualsiasi prova di collaudo, al fine di garantire il corretto raggiungimento delle prestazioni di frenatura previste.

Opzioni

E' possibile equipaggiare gli assali TVZ con:

- bilancini per poter azionare i due freni con un solo cilindro;
- piastre forate per il montaggio di Brake Chamber, con forature per cilindri da 12"a 36";
- cilindri freno idraulici con o senza molle di richiamo.

E' possibile realizzare sugli assali TVZ:

- verniciatura antiruggine di fondo;
- verniciature fondo + finitura;
- cavallino.

RICERCA

La ricerca e la sperimentazione sui materiali e il costante aggiornamento dei processi produttivi fa di ogni prodotto TVZ un compagno di lavoro fedele e generoso sia per l'agricoltore che per il trasportatore.
Con personale interno, o appoggiandosi a laboratori specializzati, vengono affrontati tutti gli aspetti della qualità e della sicurezza dei prodotti: dalle prove sui materiali, al controllo sistematico delle lavorazioni meccaniche, alla sorveglianza sulle fasi di assemblaggio e verniciatura, fino al collaudo dei freni al banco, in collaborazione con centri prova sia Italiani che esteri.

TVZ srl declina ogni responsabilità per eventuali inesattezze e si riserva il diritto di apportare delle modifiche al presente catalogo.

CATALOGUE PRESENTATION



In order to simplify the process of choosing the most suitable axle for the user, TVZ Srl is pleased to recommend the catalogue of its own products with the following products available: fixed axles with or without brakes, steering axles with or without brakes, single, tandem, tridem mechanical suspensions, bogie pendular suspension systems, pneumatic suspensions and hydraulic suspensions.

USING THE CATALOGUE CORRECTLY

The capacity of an axle is given by the resistance of beams and bearings.
Beam resistance is affected by the axle load, the overhang applied and the operation speed. Bearing resistance is affected by the axle load, speed, wheel offset, dimensions and type of tyre and by the axle assembly configuration on the vehicle. All these factors are not always taken into account when choosing the axle.

In order to use the catalogue correctly, follow the indications below:

How to choose the axle

To identify the correct axle, start by using the tables on pages 27 to 42. It is possible to identify the bearing structure for our axle according to loading, overhang, configuration, speed and the type of beams.
The load capacities specified in the tables are the maximum allowed for speed, overhang and indicated application. Additionally the table refers to the use of wheels with central flange (offset = 0) and with tyres having a dynamic radius smaller than or equal to 400 mm for hubs types up to 661 and 600 mm for higher hubs types.
Please contact our technical department for advice regarding the use of wheels with offset different from zero or a dynamic radius greater than 600 mm. Once the axle is chosen according to the capacity, check if the specified overhang is sufficient; the overhang is the distance between the tyre centre and the centre of the plate fixing the axle to the frame/suspension (position H). To carry out this check, it is sufficient to use the formula indicated and described before and the capacity tables on page 26.
If axles are fitted to a vehicle with axles that are close to each other, TVZ recommends using a self-steering axle (tandem vehicle) or two self-steering axles (tridem vehicle), in order to considerably reduce the axial force generated by the tyre dragging on the surface while on a bend. Such force overloads the bearings reducing life and causing premature wear of the tyre, which is one of the most significant costs in vehicle maintenance.

Fittings

Once the type of axle is chosen, check for the available fittings, taking into account that not all types of fittings are available in the twinned version. The availability can be verified consulting page 22 of this catalogue.
To correctly tighten the wheel to the hub, please consult the table on page 23 indicating the tightening torques to be applied to nuts, in order to avoid damaging the stud bolt and/or the nut.

Brakes

The brake must be selected based on the weight of the machine, the type of tires used, and the maximum expected speed.
The braking capacities listed in this catalog (pages 12–15) comply with current international regulations:

- for speeds of **30 and 40 km/h**, according to **EU Regulation 2015/68**;
- for speeds **exceeding 40 km/h**, according to **ECE Regulation R13**.

It is also essential to verify that the brake can fit inside the wheel. To identify the minimum compatible wheel for each type of brake, please refer to the table on page 19 of this catalog.
Additionally, verify the compatibility between the brake and the chosen type of axle by consulting the table on page 18.
If it is necessary to size the axle for homologation purposes, we recommend contacting our Technical Department in advance. This will make it possible to properly define the break-in procedure with the necessary lead time.
Finally, we recommend performing an adequate break-in period before carrying out any testing trials, in order to ensure that the expected braking performance is correctly achieved.

Options

It is possible to equip TVZ axles with the following components:

- compensator in order to activate brakes by means of only one cylinder;
- drilled plates to assemble the Brake Chamber, with drilling holes for cylinders from 12" to 36";
- hydraulic brake cylinders with or without return springs.

The TVZ axles can undergo the following treatments:

- priming rust preventer painting;
- priming painting + finish;
- camber.

RESEARCH

Material research and testing and the constant update of production processes makes each TVZ product a faithful and helpful workmate for both farmers and for transporters.
With internal personnel or with the help of specialised workshops, the quality and safety of the products are verified: from material tests, systematic control of mechanical machining operations, supervision during the assembly and painting phases up to brake bench tests performed in collaboration with Italian and foreign testing centres.

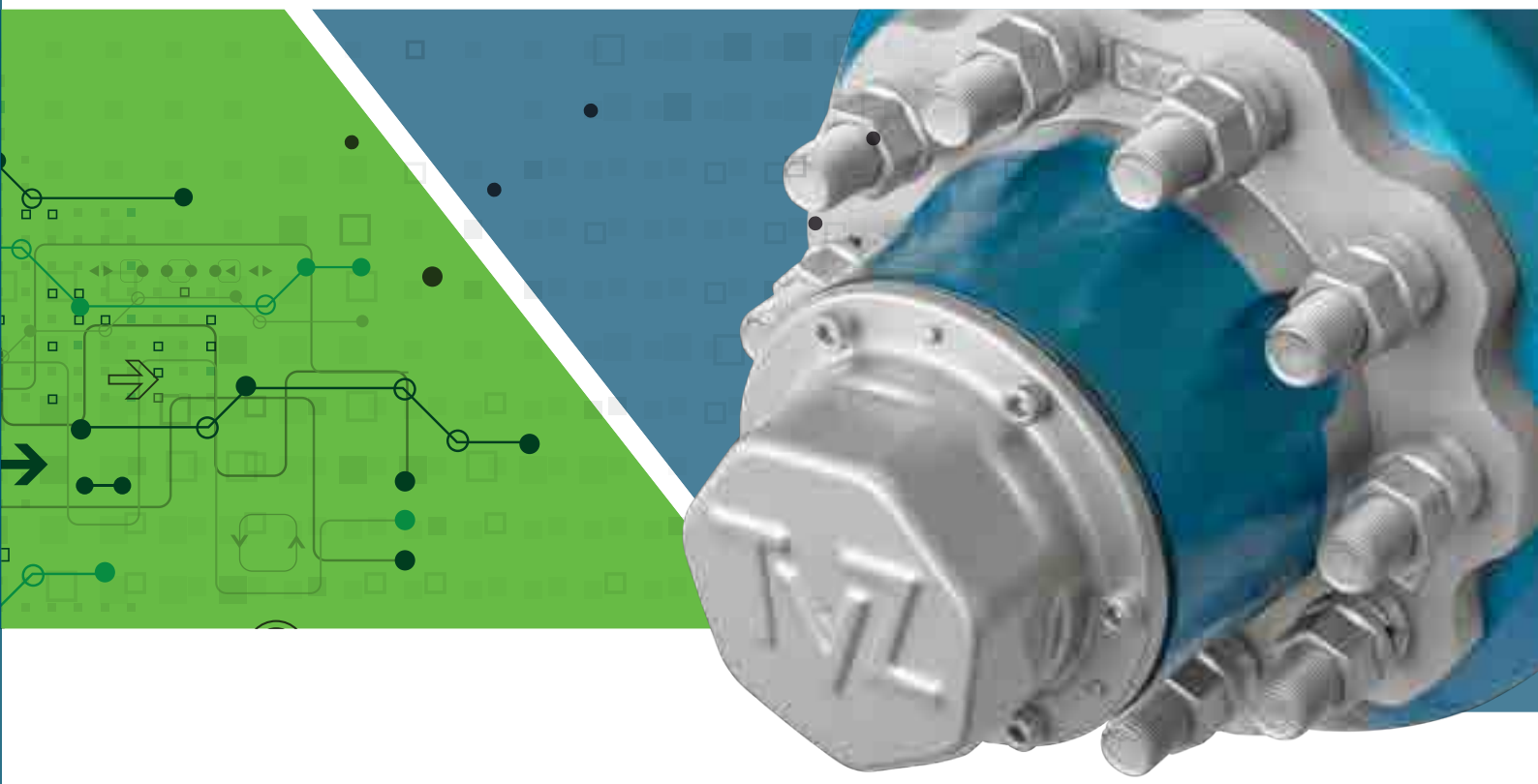
TVZ Srl is not liable for any inaccuracies and reserves the right to modify this catalogue.



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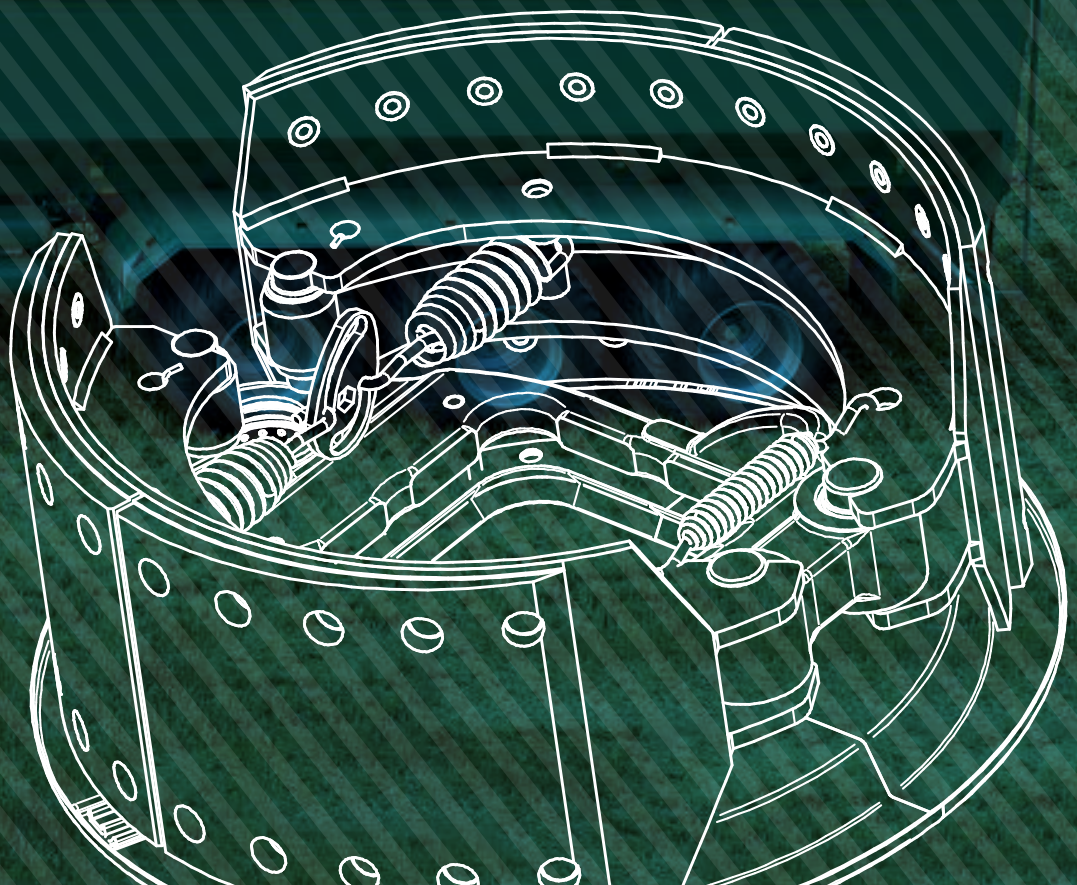


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FRENI
brakes



VELOCITÀ - Speed 30 km/h							
TIPO Type	DIMENSIONI Dimensions	OMOLOGA Approval	RAGGIO DI PROVA Test radius (mm)	ID1	ID2	ID3	ID4
20M	200x040	2015/68	300	A20M	20M	1373	36102926
25M	250x060	2015/68	336	A25M	25M	3924	36101718
30M	300x060	2015/68	406	A30M	30M	4905	36105818
30G	300x060	2015/68	406	A30G	30G	5886	36101618
6Y	300x060	2015/68	400	A6Y	6Y	5150	36101720
30S	300x090	2015/68	418	A30S	30S	7848	36101517
30V	300x090	2015/68	437	A30V	30V	7358	36103225
9I	300x090	2015/68	418	A9I	9I	6867	36101819
314I	300x135	2015/68	383	KF	314I	9810	36108018
35G	350x060	2015/68	450	A35G	35G	6867	36104118
35S	350x080	2015/68	450	A35S	35S	8829	36101919
35Q	350x090	2015/68	545	A35Q	35Q	8829	36104820
40G	400x080	2015/68	550	A40G	40G	7848	36102218
40G	400x080	2015/68	550	A40G	40G	7848	36104218
406I	406x120	2015/68	525	A406I	406I	10791	36101520

VELOCITÀ - Speed 40 km/h							
TIPO Type	DIMENSIONI Dimensions	OMOLOGA Approval	RAGGIO DI PROVA Test radius (mm)	ID1	ID2	ID3	ID4
20M	200x040	2015/68	300	A20M	20M	981	36102826
25M	250x060	2015/68	305	A25M	25M	3198	36107516
30G	300x060	2015/68	397	A30G	30G	3581	36107616
6Y	300x060	2015/68	400	A6Y	6Y	3924	36101620
30S	300x090	2015/68	418	A30S	30S	5396	36108216
30V	300x090	2015/68	419	A30V	30V	6867	36103125
9I	300x090	2015/68	418	A9I	9I	5396	36101719
310I	300x100	2015/68	419	JF	310I	6867	36107518
314I	300x135	2015/68	388	KF	314I	9221	36103025
35G	350x060	2015/68	450	A35G	35G	5886	36105317
35S	350x080	2015/68	450	A35S	35S	6377	36105918
35Q	350x090	2015/68	460	A35Q	35Q	7848	36104720
40G	400x080	2015/68	525	A40G	40G	7358	36102019
406I	406x120	2015/68	560	A406I	406I	9810	36108116
406P	406x140	2015/68	560	A406P	406P	12262	36103818

I valori indicati per le omologhe "pianificate" possono variare - *The value of the "scheduled" homologations could vary*
I freni 6Y e 9I sono idraulici con cilindro interno - *The brakes 6Y and 9I are hydraulic with inner cylinder*

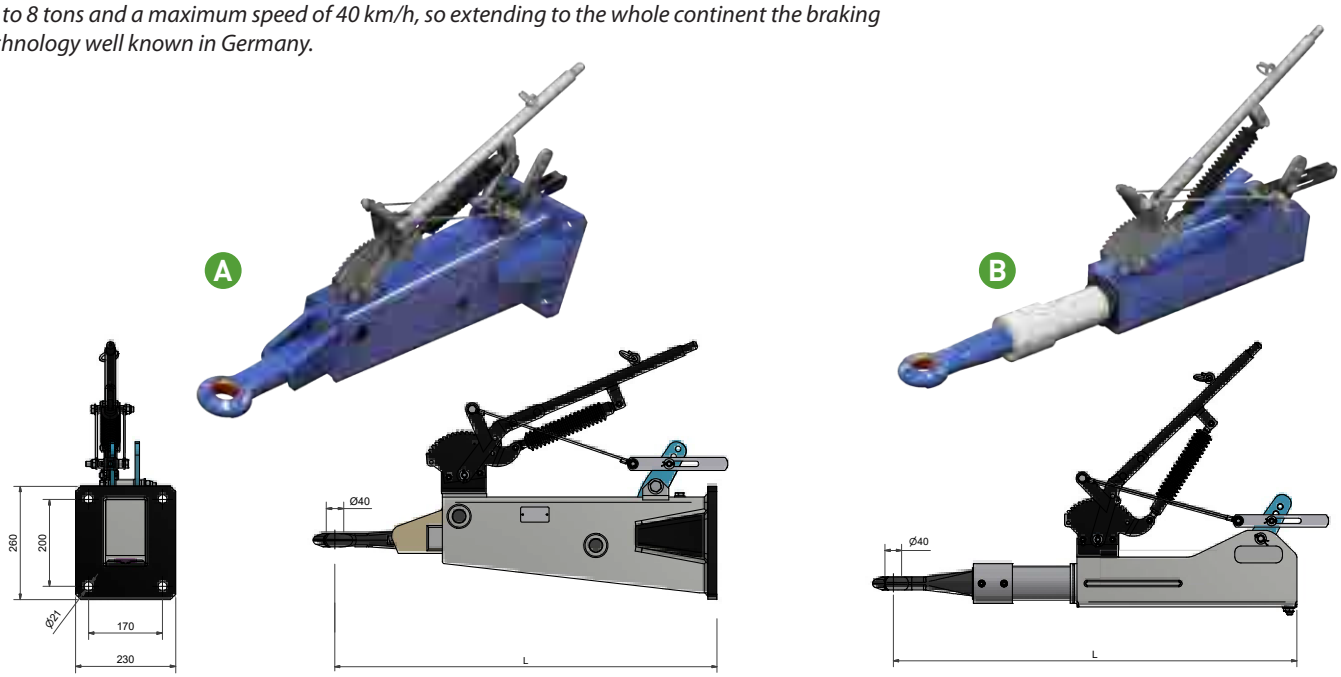
Freni omologhe europee ECE-R13 _ European approved brakes ECE-R13

VELOCITÀ - Speed 105 km/h							
TIPO Type	DIMENSIONI Dimensions	OMOLOGA Approval	RAGGIO DI PROVA Test radius (mm)	ID1	ID2	ID3	ID4
310I	300x100	ECE-R13	420	JF	310I	5886	36100513
314I	300x135	ECE-R13	383	KF	314I	7848	36100413
316I	300x160	ECE-R13	388	A316I	316I	9812	36106317
316I	300x160	ECE-R13	388	A316I	316I	10791	36102026
406I	406x120	ECE-R13	560	A406I	406I	8829	36104413
412I	406x120	ECE-R13	560	A412I	412I	11282	36100526
406P	406x140	ECE-R13	560	A406P	406P	10791	36104513
414I	406x140	ECE-R13	560	A414I	414I	11772	36100326
420I	420x180	ECE-R13	560	A420I	420I	12753	36104215
420I	420x180	ECE-R13	560	A420I	420I	12753	36102825



Il nuovo regolamento per le macchine agricole ammette la frenatura ad inerzia per i rimorchi con massa fino a 8 ton e velocità fino a 40 km/h, estendendo così all'intero continente una tecnologia ben nota in Germania.

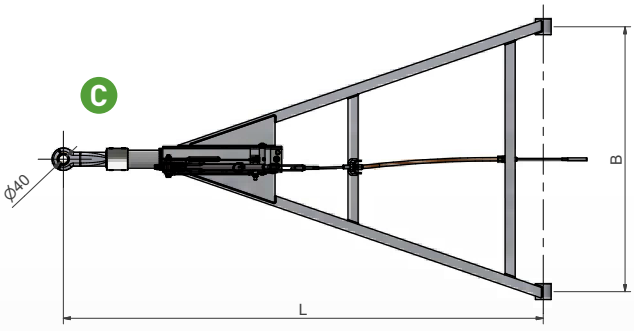
The new European regulation on agricultural admits the inertia braking for trailers with a mass of up to 8 tons and a maximum speed of 40 km/h, so extending to the whole continent the braking technology well known in Germany.



Timoni disponibili anche senza piastra posteriore, con occhione cuna o DIN - *drawbars availabe also without rear plate with towing eye cuna or DIN*

TIMONI Drawbars	TIPO Type	MASSA MINIMA Minimum mass (kg)	MASSA MASSIMA Maximum mass (kg)	CARICO VERTICALE MAX Max vertical load (kg)	CORSA EFFICACE Useful stroke (mm)	L (mm)
2,5 ton TRM02	A SINGLE AXLE / TANDEM	1700	2600	600	120	877
4 ton TRM04	A SINGLE AXLE / TANDEM	2600	3800	600	120	877
6 ton TRM06	A SINGLE AXLE / TANDEM	3500	6000	1000	120	877
8 ton TRM08	A SINGLE AXLE / TANDEM	5000*	8000*	1600	120	877
6 ton TRB06	B TWO AXLES	4850	6500	0	135	973
8 ton TRB08	B TWO AXLES	6500	8000	0	135	973

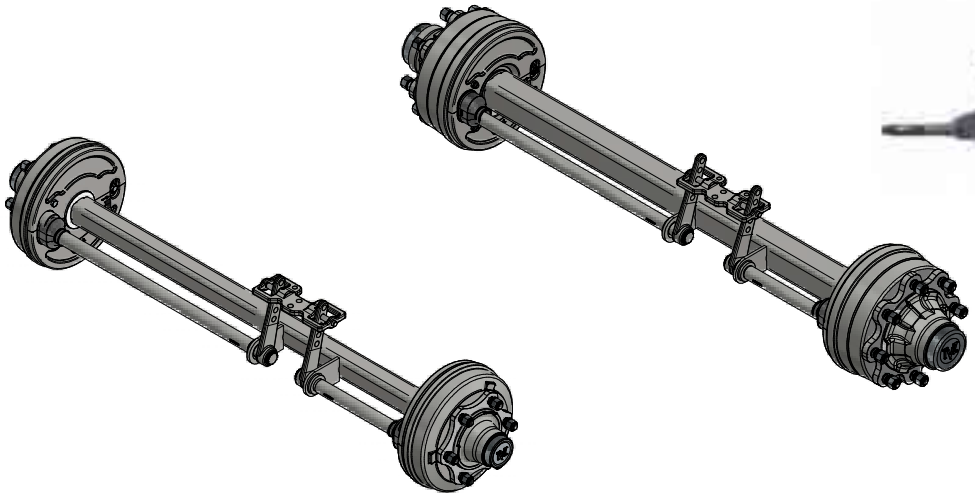
* Da verificare in base al carico verticale sull'occhione - *To be checked based on the vertical load on the eye*
Timoni disponibili con occhione cuna o DIN - *Drawbars available with towing eye cuna or DIN.*





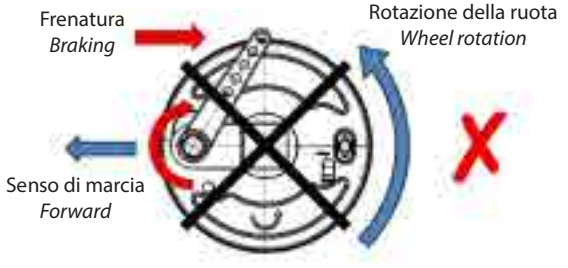
TIMONI Drawbars	TIPO Type	MASSA MINIMA Minimum mass (kg)	MASSA MASSIMA Maximum mass (kg)	B (mm)	L (mm)	CORSA EFFICACE Useful stroke (mm)
TRB06FD...	C TWO AXLES	4850	6500	900 - 1250	1900 - 2200	135
TRB08FD...	C TWO AXLES	6500	8000	900 - 1250	1900 - 2200	135

Freni ad inerzia _ Inertia brakes

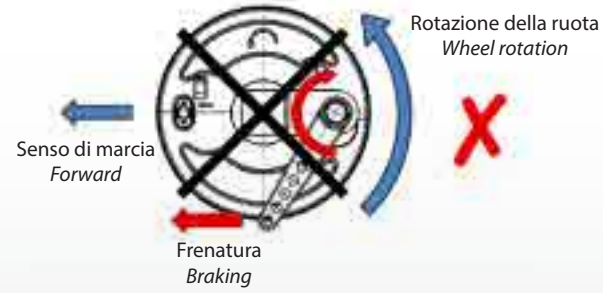




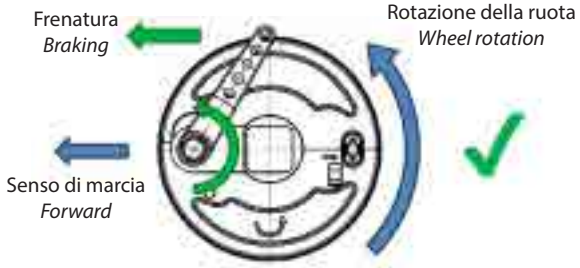
FRENO Brake	TIPO Type	VELOCITÀ Speed (km/h)	MASSA FRENATA Braking mass (kg/axle)	RAGGIO PNEUMATICO - Tire radius	
				Min (mm)	Max (mm)
300x60	6R	30	6000	340	480
300x60	6R	40	4000	340	480
300x90	9T (a)	30	5000	500	610
300x90	9T (b)	30	6000	340	390
300x90	9T (c)	30	6000	380	480
300x90	9T (d)	30	8000	400	482
300x90	9T (a)	40	5000	500	610
300x90	9T (b)	40	6000	340	390
300x90	9T (c)	40	6000	380	480



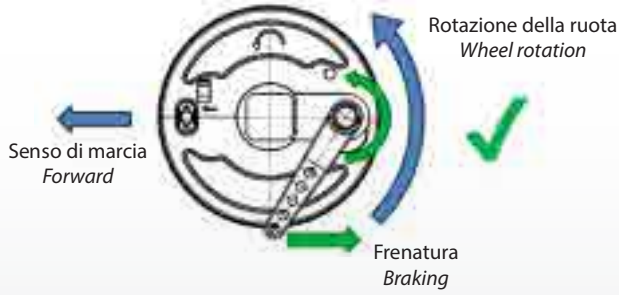
Parte destra - *Right side*



Esempi di azionamenti scorretti da non fare.
Examples of incorrect actions not to do



Parte destra - *Right side*

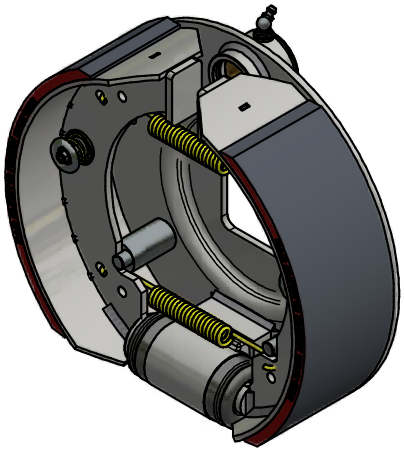


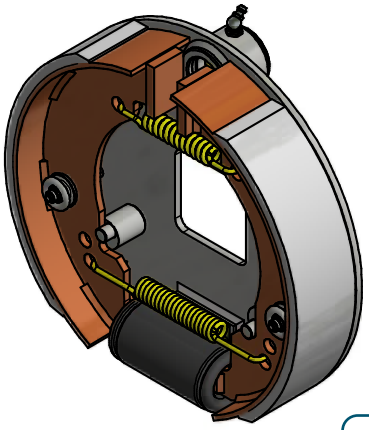
Esempi di azionamenti possibili corretti.
Examples of possible correct actions.

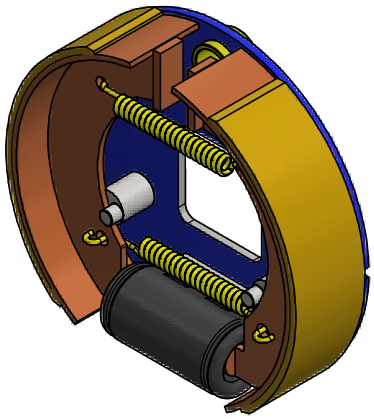
Freni ad azionamento idraulico _ Hydraulic brakes

Tra i freni proposti è disponibile anche una gamma con frenatura idraulica integrata nel tamburo.
Le taglie disponibili sono 250x60 (disponibile a breve), 300x60 e 300x90, con omologhe Mother Regulation a 30 km/h e 40 km/h.
Il vantaggio di un freno idraulico è che può essere montato agevolmente in tutte quelle machine dove non c'è spazio per l'attuatore fissato alla leva del freno, come ad esempio atomizzatori, rotopresse, etc.
Per sfruttare al massimo la capacità frenante è necessario montare un convertitore aria-olio, che può essere alloggiato in qualsiasi punto del veicolo, in questo caso l'impianto principale è ad aria.
A differenza di altri freni del genere presenti sul mercato, i freni idraulici TVZ sono dotati di un registro manuale dell'usura, caratteristica che ne ha permesso l'omologazione Mother Regulation.
Inoltre, sui verbali Europei è indicato l'assorbimento dell'olio durante la frenata, valore che permette ai costruttori di veicoli di non fare le prove a caldo.

Among the proposed brakes there is also a range with hydraulic braking integrated in the drum.
The available sizes are 250x60 (available shortly), 300x60 and 300x90, with Mother Regulation homologation at 30 km/h and 40 km/h.
The advantage of a hydraulic brake is that it can be easily mounted in all those machines where there is no space for the actuator fixed to the brake lever, such as atomizers, round balers, etc.
To make the most of the braking capacity it is necessary to install an air-oil converter, which can be housed anywhere in the vehicle, in this case the main system is air-powered.
Unlike other brakes of this kind on the market, the TVZ hydraulic brakes are equipped with a manual wear register, a feature that allowed the Mother Regulation approval.
In addition, on European reports the oil absorption during braking is indicated, a value that allows vehicle manufacturers not to do hot tests.







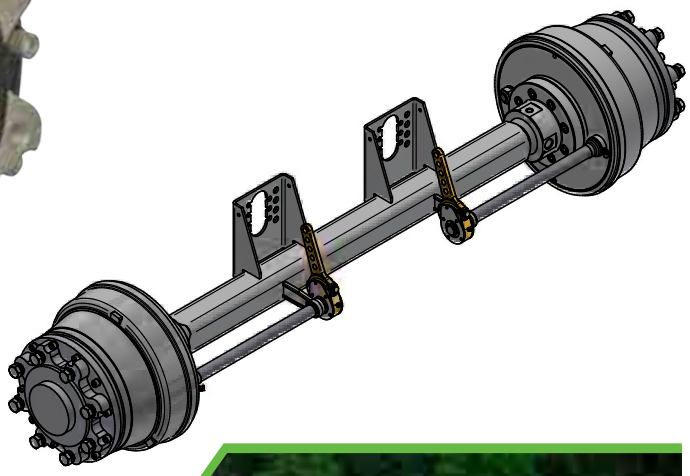
Con i freni idraulici usare olio minerale
With hydraulic brakes use mineral oil









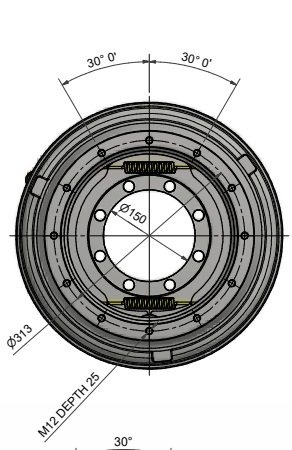


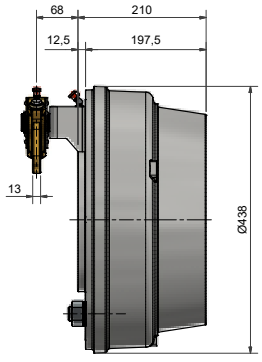


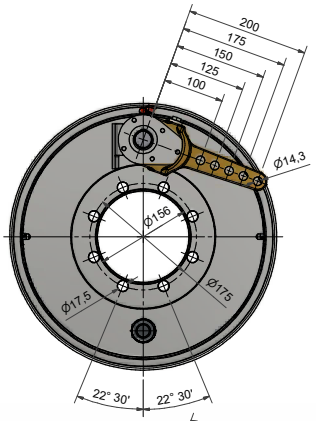


KIT cod. KBB25040G01
per montare il freno 400x80-40G
sul motore idraulico Black Bruin BB250.

KIT cod. KBB25040G01
to mount the 400x80-40G brake
on the Black Bruin BB250 hydraulic motor.

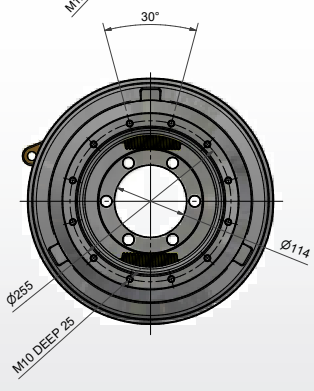


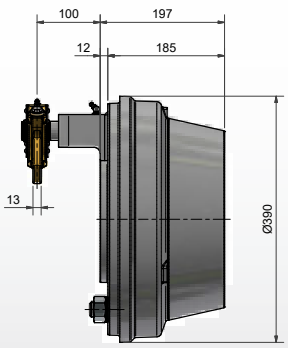


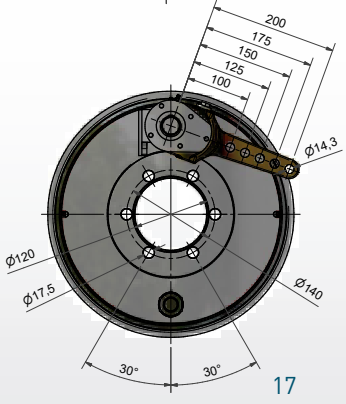


KIT cod. KBB24035G01
per montare il freno 350x60-35G
sul motore idraulico Black Bruin BB240.

KIT cod. KBB24035G01
to mount the 350x60-35G brake
on the Black Bruin BB240 hydraulic motor.







Accoppiamento freni-quadri _ Connection brakes-beams

TIPI DI FRENO Type of brake	BILLETTA - Beam															
	Q030	Q035	Q040	Q045	Q050	Q055	Q060	Q070	Q080	Q090	Q100	Q110	Q120	Q130	Q150	Ø127
140X30 - 140	X	X	X													
200X40 - 20M			X	X	X											
200X60 - 22M					X	X	X									
250X60 - 25M					X	X	X	X								
300X60 - 30M					X	X	X	X	X							
300X60 - 30G					X	X	X	X	X	X						
300X60 - 6R							X	X	X							
300X60 - 6Y					X	X	X	X	X							
300X90 - 9R - 9T							X	X	X	X						
300X90 - 30S							X	X	X	X						
300X90 - 9I							X	X	X	X						
350X60 - 35G							X	X	X	X						
350X80 - 35S							X	X	X	X	X					
400X80 - 40G									X	X	X	X	X	X		X
300X100 - 310I								X	X	X	X	X				
300X135 - 314I									X	X	X	X	X			
300X160 - 316I									X	X	X	X	X			
406X120 - 406I										X	X	X	X	X	X	X
406x140 - 406P										X	X	X	X	X	X	X
420x180 - 420I												X	X	X	X	X



Caratteristiche indicative dei freni _ Indicative characteristics of the brakes

FRENO - Brake		COPPIA CAMMA MAX. Max. cam shaft torque (Nm)	RUOTA MINIMA Min wheel	Ø ESTERNO TAMBURO Drum external Ø (mm)	LEVA - Lever	
TIPO Type	DIMENSIONI Dimensions				mm	TIPO Type
140	140x30	50	8"	155	90	F
20M	200x40	130	10"	212 L.40 - 220	110-140-175-210	F
22M	200x60	150	10"	213	115-150-180-210-240	F
25M	250x60	470	13"	280	115-150-180-210-240	F
					200-225-250-275-300	
					100-125-150-175-200	R
30M	300x60	550	15"	335	115-150-180-210-240	F
					200-225-250-275-300	
					100-125-150-175-200	R
30G	300x60	550	15"	335	115-150-180-210-240	F
					200-225-250-275-300	
					100-125-150-175-200	R
30S	300x90	1140	15"	345	100-125-150-175-200-225	F
					200-225-250-275-300	
					100-125-150-175-200	R
30V	300x090	1140	15"	345	100-125-150-175-200	F
					100-125-150-175-200	R
6Y	300x60 Idr.	n.n.	15"	335	100-125-150-175-200-225	F
9I	300x90 Idr.	n.n.	15"	345	100-125-150-175-200	F
310I	300x100	910	15"	345	127-152-178-203	R
					127-152-178-203-228-254	
					105-120-135-150-165-180-250	A
314I	300x135	1000	15"	355	127-152-178-203	R
					127-152-178-203-228-254	
					105-120-135-150-165-180-250	A
316I	300x160	1500	15"	360	127-152-178-203	R
					127-152-178-203-228-254	
					105-120-135-150-165-180-250	A
35G	350x60	900	18"	390	100-125-150-175-200-225	F
					200-225-250-275-300	
					100-125-150-175-200	R
35S	350x80	970	18"	390	100-125-150-175-200-225	F
					200-225-250-275-300	
					100-125-150-175-200	R
35Q	350x90	970	18"	390	100-125-150-175-200-225	F
					200-225-250-275-300	
					100-125-150-175-200	R
40G	400x80	1140	19,5"	440	100-125-150-175-200-225	F
					200-225-250-275-300	
					100-125-150-175-200	R
406I	406x120	1375	19,5" / 20"	460	127-152-178-203	R
					127-152-178-203-228-254	
					105-120-135-150-165-180-250	A
412I	406x120	1375	19,5" / 20"	460	127-152-178-203	R
					105-120-135-150-165-180-250	A
406P	406x140	1350	19,5" / 20"	460	127-152-178-203	R
					127-152-178-203-228-254	
					105-120-135-150-165-180-250	A
414I	406x140	1350	19,5" / 20"	460	127-152-178-203	R
					105-120-135-150-165-180-250	A
420I	420x180	1860	22,5"	478	127-152-178-203	R
					127-152-178-203-228-254	
					105-120-135-150-165-180-250	A

F = LEVA FISSA - *Fixed lever*
R = LEVA REGISTRABILE* - *Adjustable lever**
A = LEVA AUTOMATICA* - *Automatic lever**

*La leva piegata non ha disponibili tutti i fori.
** The folded lever does not have all the holes available.*

- Nel caso di calcoli di frenatura fatti secondo normative specifiche, fare riferimento alla coppia massima indicata sul verbale del freno, testato secondo tali normative.
- *In the case of brake calculations made in accordance with specific regulations, please refer to the maximum torque indicated on the report of the brake, tested in accordance with these regulations.*

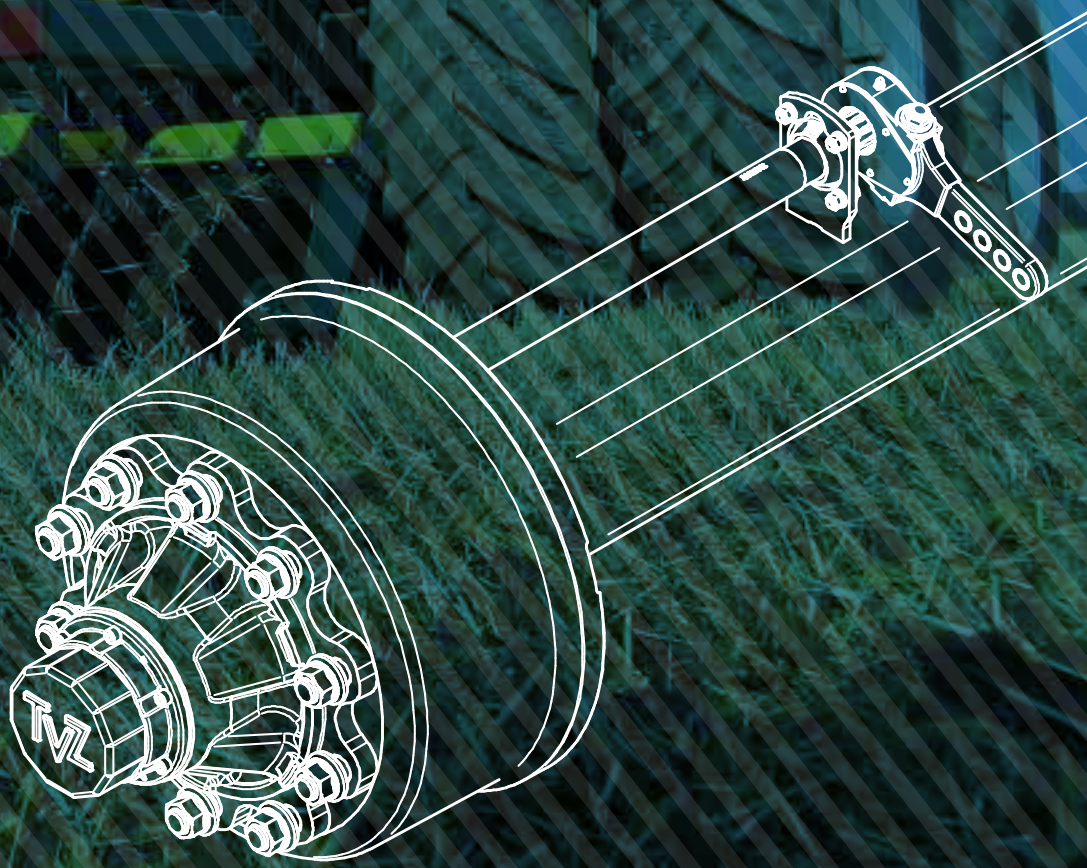
- Le ruote minime indicate sono valide per ruote singole con ET=0 in caso di ruote gemelle va verificata la possibilità di montaggio.
- *The minimum wheels indicated are valid for single wheels with ET=0; in the case of dual wheels, the possibility of mounting must be verified.*

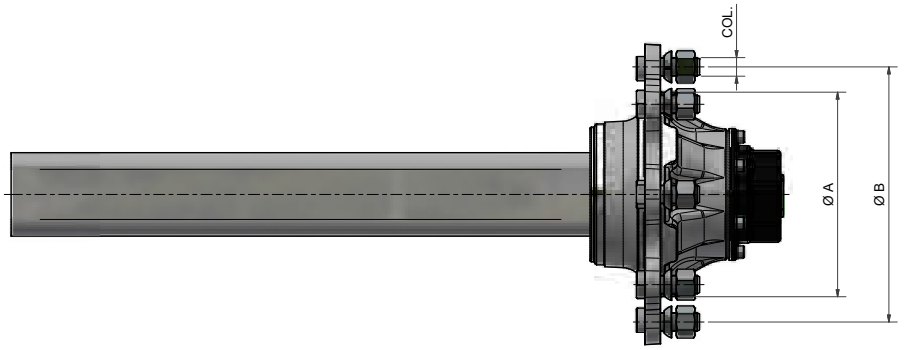



TVZ



ATTACCHI
fittings





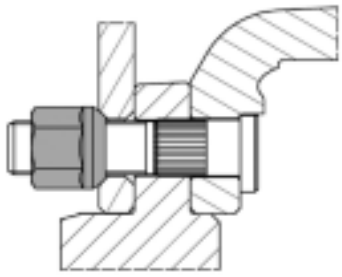
ATTACCHI Fittings				BILLETTA PIENA - Full beam											
N°FORI Holes	COL.	A	B	30	35	40	45	50	55	60	70	80	90	100	110
4	M12	62	95	S	S	S									
4	M12	60	100		S	S									
4	M12	58	98	S	S	S									
4	M16	84	130		S	S	S								
5	M16	94	140			S	S	S							
5	M14	66	112			S	S								
6	M18	160	205					S	S	S/G	S/G	S/G			
8	M18	220	275								S/G	S/G	S/G		
8	M20	220	275									S/G	S/G	S/G	S/G
10	M22	280	335										S/G	S/G	S/G
10	M22	175	225										S/G	S/G	S/G

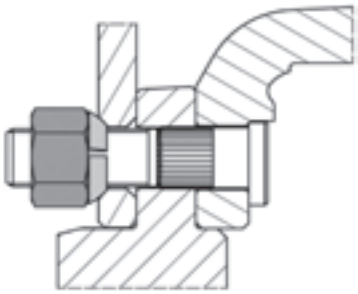
ATTACCHI Fittings				TUBOLARI - tubulars					
N°FORI Holes	COL.	A	B	110x12,5	120x12,5	130x14	Ø127x20	150x14	150x16
4	M12	62	95						
4	M12	60	100						
4	M12	58	98						
4	M16	84	130						
5	M16	94	140						
5	M14	66	112						
6	M18	160	205	S/G					
8	M18	220	275	S/G	S/G				
8	M20	220	275	S/G	S/G	S/G	S/G		
10	M22	280	335	S/G	S/G	S/G	S/G	S/G	S/G
10	M22	175	225		S/G	S/G			

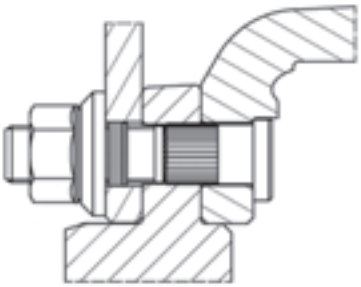
S = SEMPLICE / *Standard*
G = GEMELLATO / *Twin*



Coppie di serraggio _ Torque

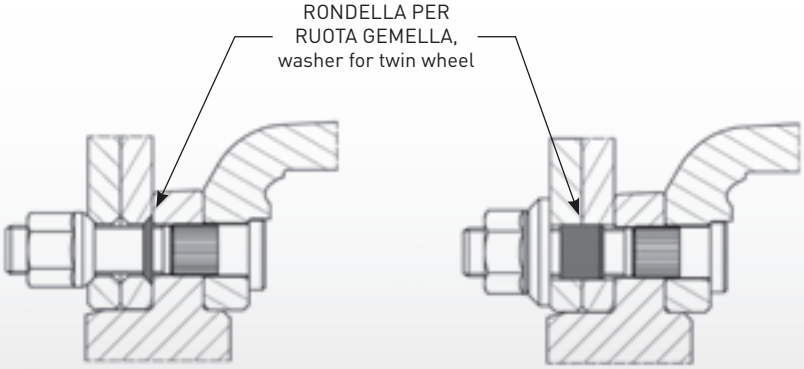
DADO DIN DIN nut		COLONNINA Wheel stud	CHIAVE DADO Nut wrench (mm)	SERRAGGIO Tightening (Nm)		
Il foro del disco deve possedere una svasatura conica per accogliere la parte sferica del dado DIN. Il serraggio si effettua con la parte sferica del dado dentro la svasatura del disco. *Rim holes must be chamfered to set the spherical base of the nut DIN.* *The tightening is getting between spherical base of the nut and the rim chamfering.*		M12x1,5	17	90	+0	+10
		M14x1,5	19	130	+0	+10
		M16x1,5	27	200	+0	+10
		M18x1,5	24	300	+0	+40

DADO PIANO CON RONDELLA LIMES flat nut with limes washer		COLONNINA Wheel stud	CHIAVE DADO Nut wrench (mm)	SERRAGGIO Tightening (Nm)		
Il foro del disco deve possedere una svasatura conica per accogliere la parte sferica del dado DIN. Il serraggio si effettua con la parte sferica del dado dentro la svasatura del disco. *Rim holes must be chamfered to set the spherical base of the nut DIN.* *The tightening is getting between spherical base of the nut and the rim chamfering.*		M18x1,5	27	300	+0	+40
		M20x1,5	30	400	+0	+40
		M22x1,5	30	535	+0	+50

DADO TIPO M M-Type nut		COLONNINA Wheel stud	CHIAVE DADO Nut wrench (mm)	SERRAGGIO Tightening (Nm)		
Il foro del disco non deve possedere alcuna svasatura. Il centraggio della ruota si effettua sulla corrispondente sede di centraggio del mozzo e il fissaggio della ruota è assicurato dalla rondella girevole alla base del dado. Quando si monta la ruota non dimenticare di inserire gli anelli che hanno la funzione di ridurre il gioco tra la colonnina ed il foro della ruota per agevolare il corretto fissaggio della ruota. *Holes rim must not be countersunk. The wheel locate by the hub reference diameter and the tighening by the flat revolving part of the nut Do not forget to insert bushes, to reduce the gap between the stud and the rim hole.*		M18x1,5	27	270	+0	+40
		M20x1,5	32	360	+0	+40
		M22x1,5	32	485	+0	+50
		M24x1,5	36	640	+0	+60

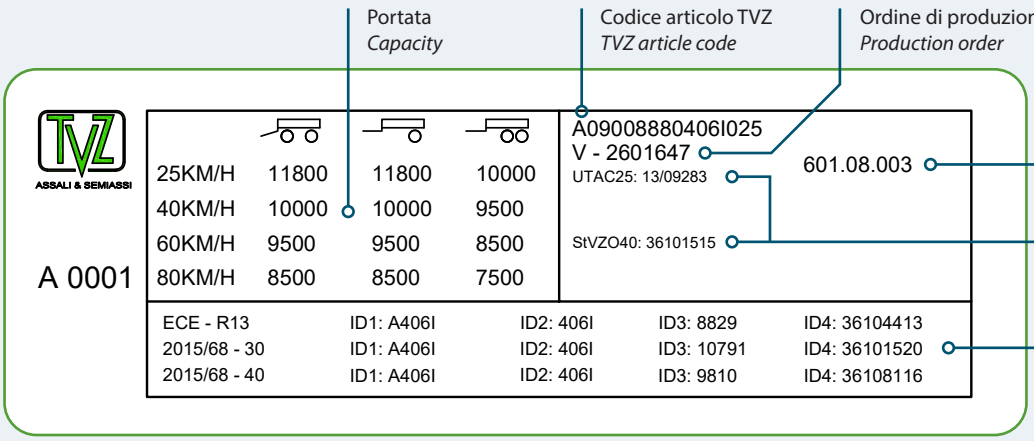
Per il montaggio della ruota gemellata con dado ruota piano e rondella aperta, è necessario interporre tra il mozzo e il cerchio interno una rondella sferica chiusa di precentraggio. La rondella deve inserirsi perfettamente nella sede svasata del cerchio interno, garantendo il corretto centraggio della ruota.
Nel caso di utilizzo del dado di tipo M, devono essere installate le apposite rondelle di centraggio. Durante il montaggio, verificare che la superficie di appoggio della ruota sia perfettamente aderente alla superficie del mozzo, senza giochi, disallineamenti o corpi estranei interposti.

For twin-wheel assembly using a flat wheel nut and an open washer, a closed spherical pre-centering washer must be installed between the hub and the inner wheel. The washer must fit perfectly into the countersunk seat of the inner wheel to ensure correct wheel centering. When using an M-type wheel nut, the appropriate centering washers must be installed. During assembly, ensure that the wheel mounting face is in full contact with the hub mounting face, with no gaps, misalignment, or foreign material between the mating surfaces.



Assali e semiassi: lettura della taghetta identificativa

Axles and stub axles: how to read the identification plate



Il codice che identifica i prodotti TVZ ha la seguente struttura.

The code that identifies our products is create as follows.

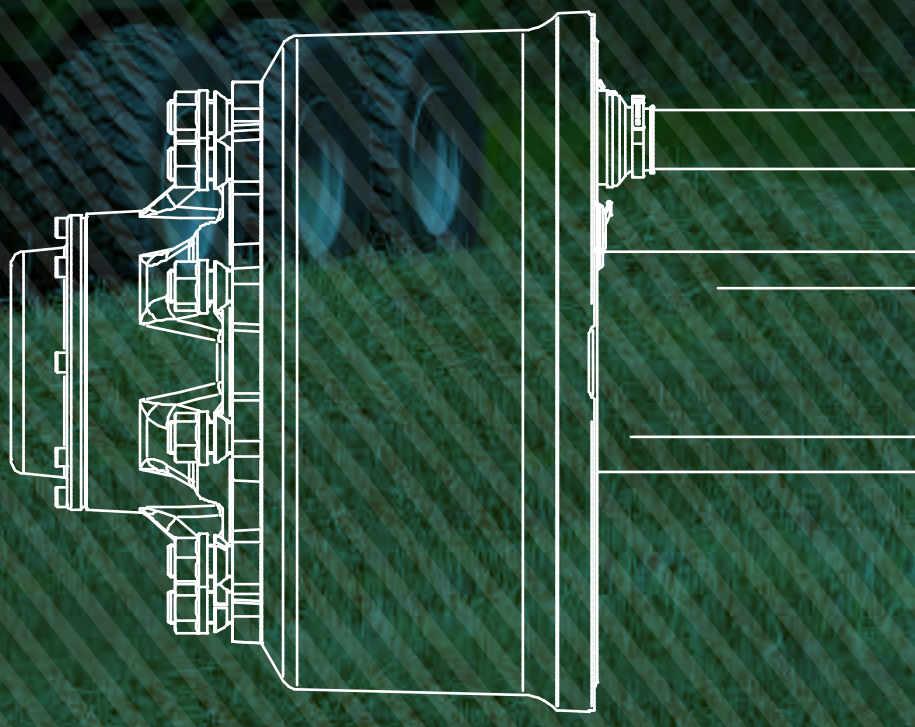
Esempio: *Example*: **A 100 10 899 406I 001**

- **A** — Tipo di prodotto: A Assale - S Semiasse - ecc... / *A= Type of product: A Axle - S Stub axle - etc.*
- **100** — Lato del quadro della billetta / *Type of square of the beam*
- **10** — N° di colonnette / *Number of studs*
- **899** — Tipologia del mozzo / *Type of hub*
- **406I** — Freno / *Brake*
- **001** — Progressivo / *Progressive number*





ASSALI
axles



N.B. Le portate riportate in questo catalogo sono le massime ammissibili per le velocità e per le applicazioni indicate. Ne consegue che è possibile aumentare lo sbalzo indicato a catalogo diminuendo proporzionalmente la portata indicata a catalogo ma non il contrario.

Portata massima	Portata a catalogo * Sbalzo a catalogo / Sbalzo utilizzato dal cliente
Sbalzo massimo	Sbalzo a catalogo * Portata a catalogo / Portata richiesta dal cliente

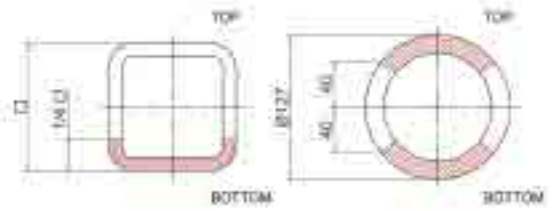
Portata massima e sbalzo massimo sono riferiti all'applicazione per cui l'assale viene scelto.
Per il range di velocità 25 km/h – 40 km/h, lo sbalzo "H" in tabella è riferito alla portata indicata nella configurazione monoasse a 25 km/h, per calcolare lo sbalzo "H" nelle altre configurazioni procedere come segue:
H indicato in tabella * portata monoasse a 25 km/h / portata indicata nella configurazione per cui si vuole conoscere lo sbalzo.
Per il range di velocità 60 km/h – 80 km/h, lo balzo "H" in tabella è riferito alla portata indicata nella configurazione monoasse a 60 km/h, per calcolare lo sbalzo "H" nelle altre configurazioni procedere come segue:
H indicato in tabella * portata monoasse a 60 km/h / portata indicata nella configurazione per cui si vuole conoscere lo sbalzo.

N.B. The capacities indicated in this catalogue are the maximum allowed for the speed and applications specified. It is possible therefore to increase the overhang indicated in the catalogue by proportionally decreasing the capacity also indicated in the catalogue, but not vice versa.

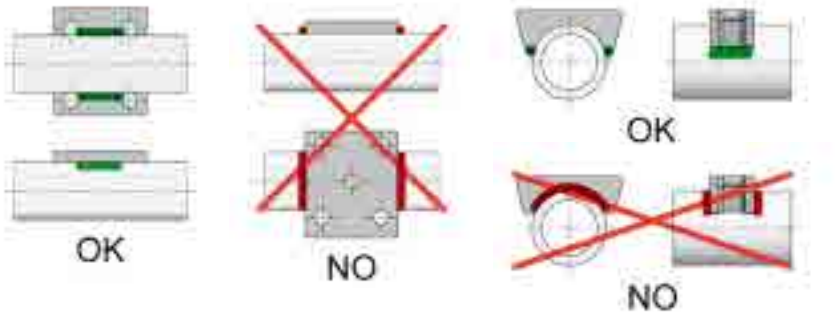
Maximum capacity	*Capacity indicated in the catalogue* Overhang indicated in the catalogue / Overhang used by the customer*
Maximum overhang	*Overhang indicated in the catalogue* Capacity indicated in the catalogue / Capacity request by the customer*

Maximum load capacity and maximum overhang are based on the specific application for which the axle is selected.
For the 25 km/h – 40 km/h speed range, the "H" overhang shown in the table refers to the load capacity specified for the single-axle configuration at 25 km/h. To calculate the "H" overhang for other configurations, use the following formula:
H value shown in the table × single-axle load capacity at 25 km/h ÷ load capacity of the configuration for which the overhang is to be determined.
For the 60 km/h – 80 km/h speed range, the "H" overhang shown in the table refers to the load capacity specified for the single-axle configuration at 60 km/h. To calculate the "H" overhang for other configurations, use the following formula:
H value shown in the table × single-axle load capacity at 60 km/h ÷ load capacity of the configuration for which the overhang is to be determined.

Montaggio degli assi _ Fitting of axles



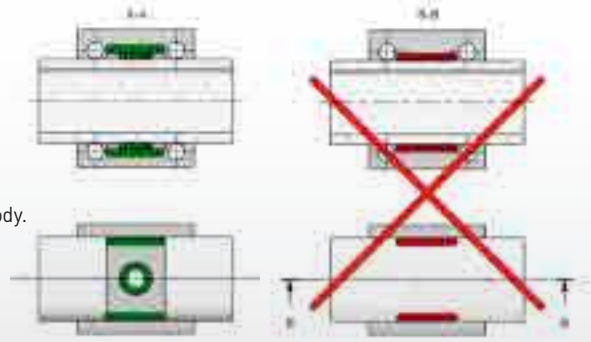
NON saldare sulla parte ROSSA.
DO NOT weld on RED area.



Sono vietate le saldature trasversali al corpo asse.
It's forbidden to weld crosswise to the axle.

ASSI TUBOLARI:
Non saldare le piastre direttamente sul corpo del tubolare.
Seguire lo schema indicato in figura.

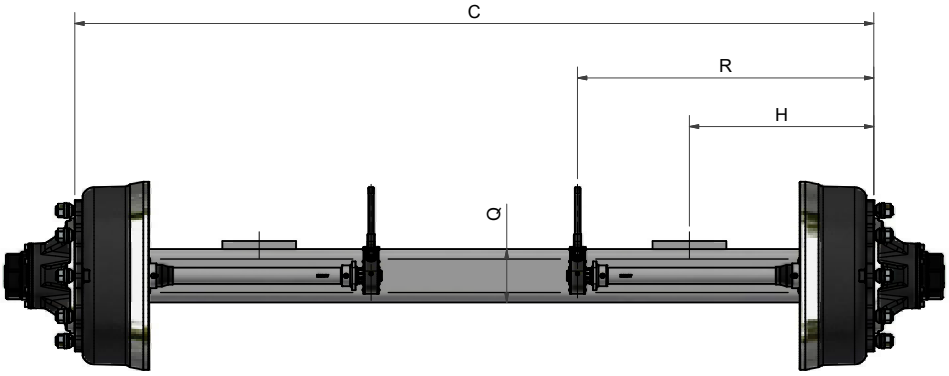
TUBULAR AXLES:
Do not weld any plates directly on the axle body.
Follow the indication in the figure.



Le operazioni che richiedono la saldatura possono essere eseguite solo da personale certificato.
Contattare il servizio tecnico TVZ per istruzioni su piastre o supporti non indicati.

Intervention that requires welding must be executed by certified personnel only.
Contact TVZ technical service for more detailed information on way to weld the various types of plates or supports.

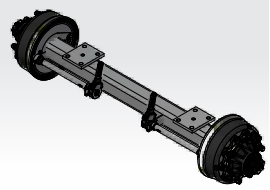
Assali quadri _ Square axles



25-40 km/h



QUADRI - SQUARES



CODICE Code	Q QUADRO Square (mm)	25 km/h			40 km/h			H SBALZO Overhang (mm)
		2 ASSI Axles (kg)	MONO Mono (kg)	TANDEM Tandem (kg)	2 ASSI Axles (kg)	MONO Mono (kg)	TANDEM Tandem (kg)	
A03004420	30	1100	1100	950	900	900	850	115
A03504420	35	1100	1100	950	900	900	850	185
A04004440	40	1450	1450	1300	1300	1300	1200	210
A04005520	40	1900	1900	1700	1750	1750	1600	160
A04505530	45	2500	2500	2100	2100	2100	1950	175
A05005540	50	3300	3300	2800	2800	2800	2500	180
A05006540	50	3300	3300	2800	2800	2800	2500	180
A05505540	55	3300	3300	2800	2800	2800	2500	240
A05506630	55	4000	4000	3500	3500	3500	3000	200
A06006640	60	4800	4800	4200	4200	4200	3800	215
A07006645	70	6000	6000	5100	5100	5100	4300	275
A07006661	70	7200	7200	6700	6700	6700	6000	225
A07008661	70	7200	7200	6700	6700	6700	6000	225
A08006661	80	7200	7200	6700	6700	6700	6000	340
A08008661	80	7200	7200	6700	6700	6700	6000	340
A08006668	80	8200	8200	7400	7700	7700	7000	300
A08008668	80	8200	8200	7400	7700	7700	7000	300
A08006671	80	10000	10000	9000	9200	9200	8500	245
A08008671	80	10000	10000	9000	9200	9200	8500	245
A09006671	90	10000	10000	9000	9200	9200	8500	350
A09008671	90	10000	10000	9000	9200	9200	8500	350
A09008880	90	11800	11800	10600	11000	11000	10000	295
A09010880	90	11800	11800	10600	11000	11000	10000	295
A10008880	100	11800	11800	10600	11000	11000	10000	400
A10010880	100	11800	11800	10600	11000	11000	10000	400
A10008899	100	14000	14000	12500	13000	13000	11500	340
A10010899	100	14000	14000	12500	13000	13000	11500	340
A11010991	110	15000	15000	14000	14000	14000	13000	410
A11010994	110	16000	16000	14500	15000	15000	14000	380
A12008880	Tub. 120	11800	11800	10600	11000	11000	10000	430
A12010880	Tub. 120	11800	11800	10600	11000	11000	10000	430
A12008899	Tub. 120	14000	14000	12500	13000	13000	11500	360
A12010899	Tub. 120	14000	14000	12500	13000	13000	11500	360
A13008899	Tub. 130	14000	14000	12500	13000	13000	11500	480
A13010899	Tub. 130	14000	14000	12500	13000	13000	11500	480
A13010991	Tub. 130	15000	15000	14000	14000	14000	13000	445
A13010994	Tub. 130	16000	16000	14500	15000	15000	14000	415
A15010994	Tub. 150	16000	16000	14500	15000	15000	14000	585
A15010998	Tub. 150	18500	18500	17000	17500	17500	16000	550

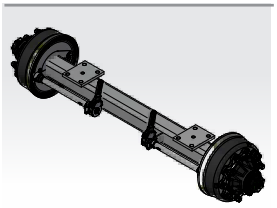
R = Contattare il nostro ufficio commerciale per la misura del perno oliva.
R = Please take contact with our sales department for the measure of the camshaft.

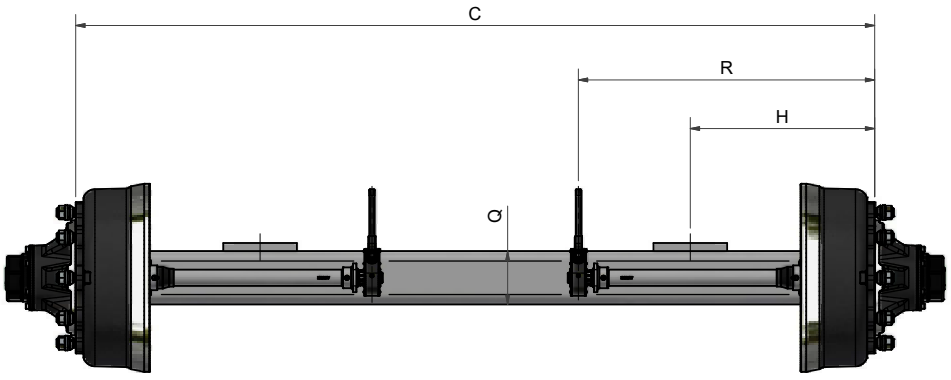
Assali quadri _ Square axles

60-80 km/h



QUADRI - SQUARES



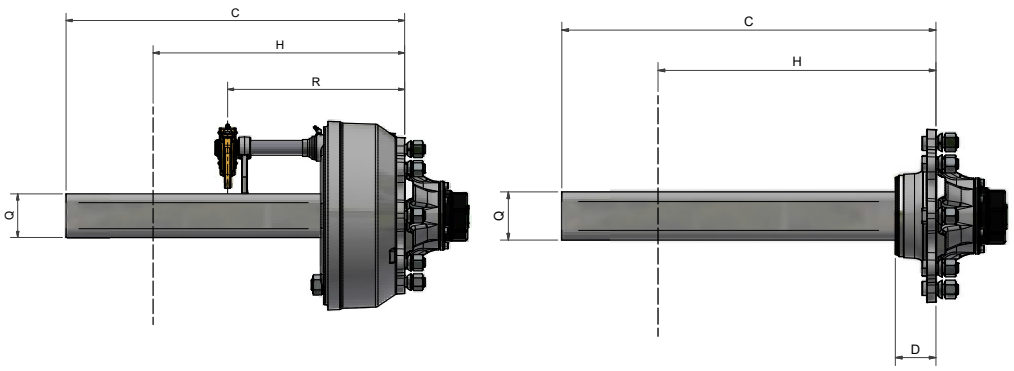


CODICE Code	Q QUADRO Square (mm)	60 km/h 2 ASSI Axles (kg)	60 km/h MONO mono (kg)	60 km/h TANDEM Tandem (kg)	80 km/h 2 ASSI Axles (kg)	80 km/h MONO mono (kg)	80 km/h TANDEM Tandem (kg)	H SBALZO Overhang (mm)
A04005520	40	1600	1600	1450				140
A04505530	45	1950	1950	1750				155
A05005540	50	2500	2500	2250				165
A05006540	50	2500	2500	2250				165
A05505540	55	2500	2500	2250				220
A05506630	55	3000	3000	2750				185
A06006640	60	3800	3800	3500				190
A07006645	70	4300	4300	3850				255
A07006660	70	6000	6000	5400	5400	5400	4800	185
A07008660	70	6000	6000	5400	5400	5400	4800	185
A08006660	80	6000	6000	5400	5400	5400	4800	335
A08008660	80	6000	6000	5400	5400	5400	4800	335
A08006668	80	7000	7000	6300	6300	6300	5700	290
A08008668	80	7000	7000	6300	6300	6300	5700	290
A08006671	80	8500	8500	7700	7700	7700	7000	240
A08008671	80	8500	8500	7700	7700	7700	7000	240
A09006671	90	8500	8500	7700	7700	7700	7000	330
A09008671	90	8500	8500	7700	7700	7700	7000	330
A09008880	90	10000	10000	9000	8900	8900	8000	280
A09010880	90	10000	10000	9000	8900	8900	8000	280
A10008880	100	10000	10000	9000	8900	8900	8000	385
A10010880	100	10000	10000	9000	8900	8900	8000	385
A10008899	100	12000	12000	11000	11000	11000	10000	320
A10010899	100	12000	12000	11000	11000	11000	10000	320
A11010991	110	13000	13000	12000	12000	12000	11000	370
A11010994	110	14000	14000	13000	13000	13000	12000	340
A12008880	Tub. 120	10000	10000	9000	8900	8900	8000	450
A12010880	Tub. 120	10000	10000	9000	8900	8900	8000	450
A12008899	Tub. 120	12000	12000	11000	11000	11000	10000	375
A12010899	Tub. 120	12000	12000	11000	11000	11000	10000	375
A13008899	Tub. 130	12000	12000	11000	11000	11000	10000	480
A13010899	Tub. 130	12000	12000	11000	11000	11000	10000	480
A13010991	Tub. 130	13000	13000	12000	12000	12000	11000	445
A13010994	Tub. 130	14000	14000	13000	13000	13000	12000	415
A15010994	Tub. 150	14000	14000	13000	13000	13000	12000	585
A15010998	Tub. 150	16000	16000	15000	14500	14500	14000	560

R = Contattare il nostro ufficio commerciale per la misura del perno oliva. *R = Please take contact with our sales department for the measure of the camshaft.*

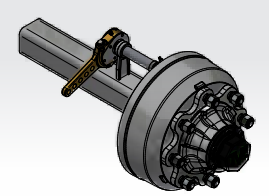
Semiassi quadri _ Square stub axles

25-40 km/h





QUADRI - SQUARES



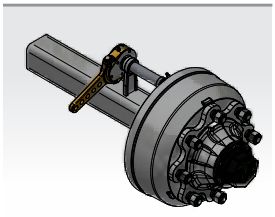
CODICE Code	Q QUADRO Square (mm)	D (mm)	25 km/h 2 ASSI Axles (kg)	25 km/h MONO Mono (kg)	25 km/h TANDEM Tandem (kg)	40 km/h 2 ASSI Axles (kg)	40 km/h MONO Mono (kg)	40 km/h TANDEM Tandem (kg)	H SBALZO Overhang (mm)
S03004420	30	550	550	475	450	450	425	115	
S03504420	35	30	550	550	475	450	450	425	185
S04004440	40	35	725	725	650	650	650	600	210
S04005520	40	40	950	950	850	875	875	800	160
S04505530	45	45	1250	1250	1050	1050	1050	975	175
S05005540	50	45	1650	1650	1400	1400	1400	1250	180
S05006540	50	45	1650	1650	1400	1400	1400	1250	180
S05505540	55	45	1650	1650	1400	1400	1400	1250	240
S05506630	55	50	2000	2000	1750	1750	1750	1500	200
S06006640	60	50	2400	2400	2100	2100	2100	1900	215
S07006645	70	50	3000	3000	2550	2550	2550	2150	275
S07006661	70	65	3600	3600	3350	3350	3350	3000	225
S07008661	70	65	3600	3600	3350	3350	3350	3000	225
S08006661	80	65	3600	3600	3350	3350	3350	3000	340
S08008661	80	65	3600	3600	3350	3350	3350	3000	340
S08006668	80	68	4100	4100	3700	3850	3850	3500	300
S08008668	80	68	4100	4100	3700	3850	3850	3500	300
S08006671	80	75	5000	5000	4500	4600	4600	4250	245
S08008671	80	75	5000	5000	4500	4600	4600	4250	245
S09006671	90	75	5000	5000	4500	4600	4600	4250	350
S09008671	90	75	5000	5000	4500	4600	4600	4250	350
S09008880	90	85	5900	5900	5300	5500	5500	5000	295
S09010880	90	85	5900	5900	5300	5500	5500	5000	295
S10008880	100	85	5900	5900	5300	5500	5500	5000	400
S10010880	100	85	5900	5900	5300	5500	5500	5000	400
S10008899	100	87	7000	7000	6250	6500	6500	5750	340
S10010899	100	87	7000	7000	6250	6500	6500	5750	340
S11010991	110	90	7500	7500	7000	7000	7000	6500	410
S11010994	110	90	8000	8000	7250	7500	7500	7000	380
S12008880	Tub. 120	85	5900	5900	5300	5500	5500	5000	430
S12010880	Tub. 120	85	5900	5900	5300	5500	5500	5000	430
S12008899	Tub. 120	85	7000	7000	6250	6500	6500	5750	360
S12010899	Tub. 120	85	7000	7000	6250	6500	6500	5750	360
S13008899	Tub. 130	85	7000	7000	6250	6500	6500	5750	480
S13010899	Tub. 130	85	7000	7000	6250	6500	6500	5750	480
S13010991	Tub. 130	90	7500	7500	7000	7000	7000	6500	445
S13010994	Tub. 130	90	8000	8000	7250	7500	7500	7000	415
S15010994	Tub. 150	90	8000	8000	7250	7500	7500	7000	585
S15010998	Tub. 150	115	9250	9250	8500	8750	8750	8000	550

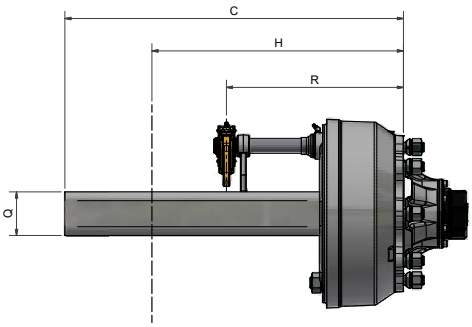
Semiassi quadri _ Square stub axles

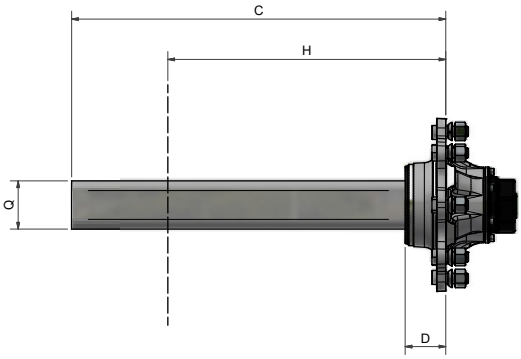
60-80 km/h



QUADRI - SQUARES



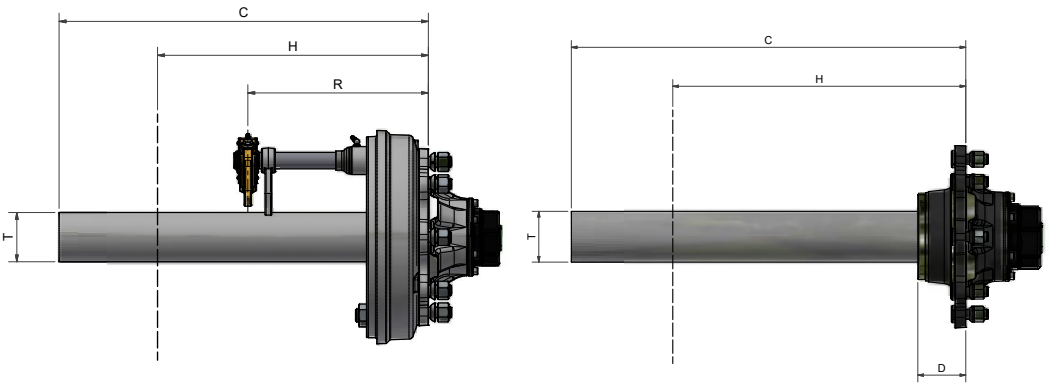




CODICE Code	Q QUADRO Square (mm)	D (mm)	60 km/h 2 ASSI Axles (kg)	60 km/h MONO Mono (kg)	60 km/h TANDEM Tandem (kg)	80 km/h 2 ASSI Axles (kg)	80 km/h MONO Mono (kg)	80 km/h TANDEM Tandem (kg)	H SBALZO Overhang (mm)
S04005520	40	40	800	800	725				140
S04505530	45	45	975	975	875				155
S05005540	50	45	1250	1250	1125				165
S05006540	50	45	1250	1250	1125				165
S05505540	55	45	1250	1250	1125				220
S05506630	55	50	1500	1500	1375				185
S06006640	60	50	1900	1900	1750				190
S07006645	70	50	2150	2150	1925				255
S07006660	70	65	3000	3000	2700	2700	2700	2400	185
S07008660	70	65	3000	3000	2700	2700	2700	2400	185
S08006660	80	65	3000	3000	2700	2700	2700	2400	335
S08008660	80	65	3000	3000	2700	2700	2700	2400	335
S08006668	80	68	3500	3500	3150	3150	3150	2850	290
S08008668	80	68	3500	3500	3150	3150	3150	2850	290
S08006671	80	75	4250	4250	3850	3850	3850	3500	240
S08008671	80	75	4250	4250	3850	3850	3850	3500	240
S09006671	90	75	4250	4250	3850	3850	3850	3500	330
S09008671	90	75	4250	4250	3850	3850	3850	3500	330
S09008880	90	85	5000	5000	4500	4450	4450	4000	280
S09010880	90	85	5000	5000	4500	4450	4450	4000	280
S10008880	100	85	5000	5000	4500	4450	4450	4000	385
S10010880	100	85	5000	5000	4500	4450	4450	4000	385
S10008899	100	87	6000	6000	5500	5500	5500	5000	320
S10010899	100	87	6000	6000	5500	5500	5500	5000	320
S11010991	110	90	6500	6500	6000	6000	6000	5500	370
S11010994	110	90	7000	7000	6500	6500	6500	6000	340
S12008880	Tub. 120	85	5000	5000	4500	4450	4450	4000	450
S12010880	Tub. 120	85	5000	5000	4500	4450	4450	4000	450
S12008899	Tub. 120	85	6000	6000	5500	5500	5500	5000	375
S12010899	Tub. 120	85	6000	6000	5500	5500	5500	5000	375
S13008899	Tub. 130	85	6000	6000	5500	5500	5500	5000	480
S13010899	Tub. 130	85	6000	6000	5500	5500	5500	5000	480
S13010991	Tub. 130	90	6500	6500	6000	6000	6000	5500	445
S13010994	Tub. 130	90	7000	7000	6500	6500	6500	6000	415
S15010994	Tub. 150	90	7000	7000	6500	6500	6500	6000	585
S15010998	Tub. 150	115	8000	8000	7500	7250	7250	7000	560

R = Contattare il nostro ufficio commerciale per la misura del perno oliva. *R = Please take contact with our sales department for the measure of the camshaft.*

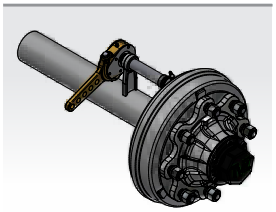
Semiassi tondi _ Round stub axle



25-40 km/h



TONDI - ROUNDS

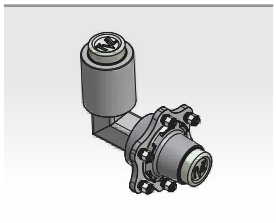


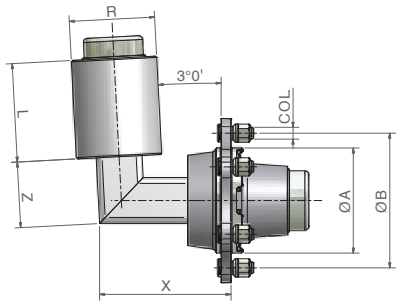
CODICE Code	T TONDO Round (mm)	D (mm)	25 km/h 2 ASSI Axles (kg)	25 km/h MONO Mono (kg)	25 km/h TANDEM Tandem (kg)	40 km/h 2 ASSI Axles (kg)	40 km/h MONO Mono (kg)	40 km/h TANDEM Tandem (kg)	H SBALZO Overhang (mm)
S03404420	35	30	550	550	475	450	450	425	120
S03904420	40	30	550	550	475	450	450	425	180
S03904440	40	35	725	725	650	650	650	600	135
S04405520	45	40	950	950	850	875	875	800	145
S04905530	50	45	1250	1250	1050	1050	1050	975	155
S05405540	55	45	1650	1650	1400	1400	1400	1250	155
S05406540	55	45	1650	1650	1400	1400	1400	1250	155
S05905540	60	45	1650	1650	1400	1400	1400	1250	200
S05906630	60	50	2000	2000	1750	1750	1750	1500	165
S06906640	70	50	2400	2400	2100	2100	2100	1900	220
S07906661	80	65	3600	3600	3350	3350	3350	3000	220
S07908661	80	65	3600	3600	3350	3350	3350	3000	220
S07906668	80	68	4100	4100	3700	3850	3850	3500	190
S07908668	80	68	4100	4100	3700	3850	3850	3500	190
S08906671	90	75	5000	5000	4500	4600	4600	4250	225
S08908671	90	75	5000	5000	4500	4600	4600	4250	225
S08908880	90	85	5900	5900	5300	5500	5500	5000	190
S08910880	90	85	5900	5900	5300	5500	5500	5000	190
S09908880	100	85	5900	5900	5300	5500	5500	5000	260
S09910880	100	85	5900	5900	5300	5500	5500	5000	260
S09908899	100	87	7000	7000	6250	6500	6500	5750	215
S09910899	100	87	7000	7000	6250	6500	6500	5750	215



Semiassi sterzanti tipo L _ Steering stub axles “L type”

25 km/h

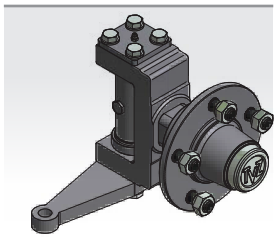


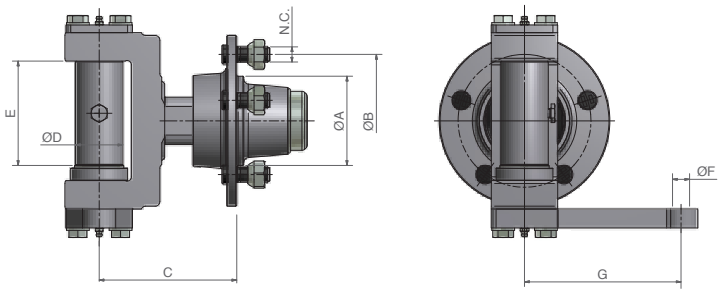


CODICE Code	QUADRO Square (mm)	R (mm)	L (mm)	Z (mm)	X (mm)	PORTATA Capacity (kg)	N.C.	A (mm)	B (mm)
L04004440000	40	65	65	80	140	650	4 M12	58	98
L04004440000	40	65	65	80	140	650	4 M12	62	95
L05005540000	50	95	100	90	160	1400	5 M16	94	140
L05006540000	50	95	100	90	180	1400	6 M18	160	205
L06006640000	60	120	120	90	180	2000	6 M18	160	205
L07006661000	70	130	150	100	200	3000	6 M18	160	205
L08008661000	80	130	150	100	200	3000	8 M18	220	275

Semiassi sterzanti tipo Y light _ Steering stub axles “Y type" light

25 km/h

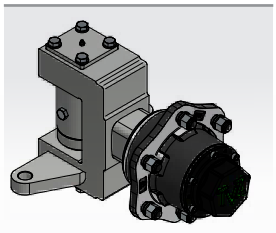


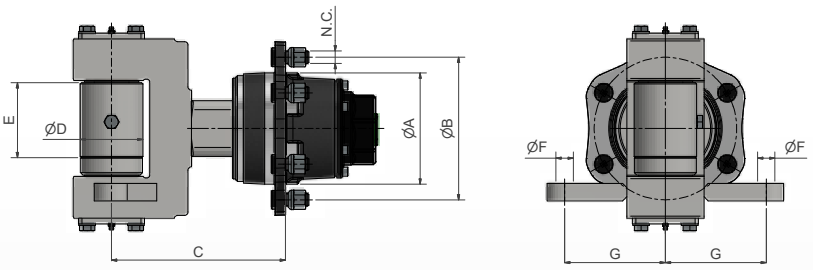


CODICE Code	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	PORTATA Capacity (kg)	N.C.	A (mm)	B (mm)
I04505520000	145	50	105	18	165	950	5 M16	94	140
I04505530000	145	50	105	18	165	1250	5 M16	94	140
I05005540000	145	50	105	18	165	1500	5 M16	94	140
I05006540000	145	50	105	18	165	1500	6 M18	160	205

Semiassi sterzanti tipo Y strong _ Steering stub axles “Y type" strong

25 km/h

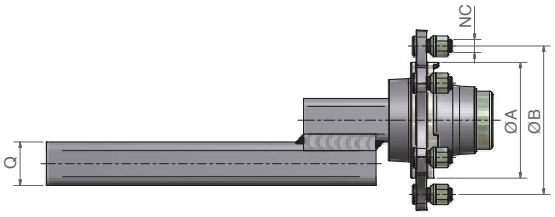




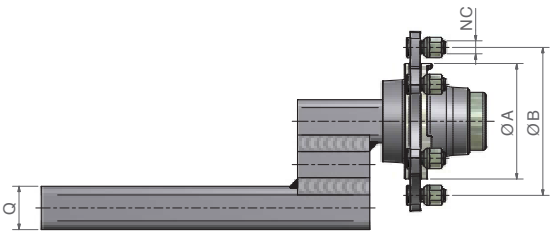
CODICE Code	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	PORTATA Capacity (kg)	N.C.	A (mm)	B (mm)
I08006661000	225	90	108	25	145	3000	6 M18	160	205
I08008661000	225	90	108	25	145	3000	8 M18	220	275
I08006671000	250	90	108	25	145	3000	6 M18	160	205
I08008671000	250	90	108	25	145	3000	8 M18	220	275

Semiassi ribassati _ Offset stub axles

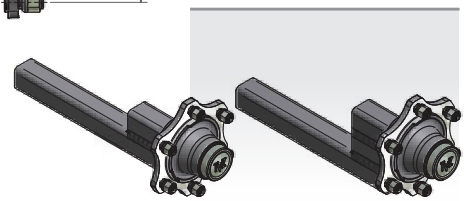
25-40 km/h



RIBASSATO UNA VOLTA
ONCE OFFSET

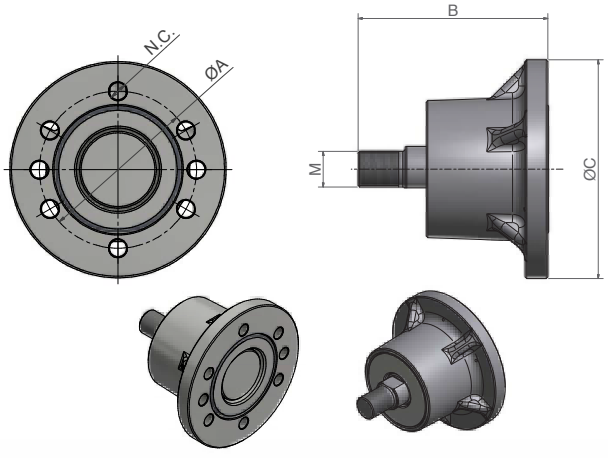


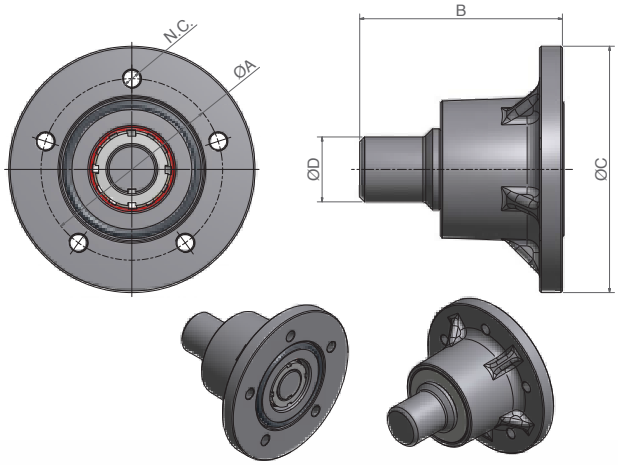
RIBASSATO DUE VOLTE
TWICE OFFSET



CODICE Code	QUADRO Square (mm)	N.C.	A (mm)	B (mm)	MONOASSE Single axle (kg)	
					25 km/h	40 km/h
M04004440000	40	4 M12	58	98	725	650
M04004440000	40	4 M12	62	95	725	650
M04005520000	40	5 M16	94	140	950	875
M04505530000	45	5 M16	94	140	1250	1050
M05005540000	50	5 M16	94	140	1650	1400
M05006540000	50	6 M18	160	205	1650	1400
M05506630000	55	6 M18	160	205	2000	1750
M06006640000	60	6 M18	160	205	2400	2100
M07006661000	70	6 M18	160	205	3600	3350
M07008661000	70	8 M18	220	275	3600	3350

Semiassi per dischi frangi zolle _ Stub axles for disk roller scrapers





VERSIONE AVVITATA - SCREWED VERSION

ØA (mm)	N.C.	B (mm)	ØC (mm)	M
98	4 / 6 - M12x1,25	117	135	M22x1,5
112	5 - M12x1,5	117	152	M22x1,5

VERSIONE SALDATA - WELDED VERSION

ØA (mm)	N.C.	B (mm)	ØC (mm)	ØD (mm)
98	4 / 6 - M12x1,25	125	135	40
112	5 - M12x1,5	125	152	40

QUANDO DEVE ESSERE USATO

L'usura dei pneumatici rappresenta in percentuale la quota più alta dei costi di esercizio di un rimorchio agricolo.
La responsabilità di tale consumo è da attribuire all'ultimo assale di una sospensione che se fisso, ad ogni curva, dovendo seguire la traiettoria del rimorchio costringe i pneumatici a radere l'asfalto.
Oltre a ciò lo chassis e la sospensione in curva si irrigidiscono eccessivamente e ciò comporta per tutto il veicolo una maggiore usura.
Questi problemi sono evitati grazie all'utilizzo di uno o due (sospensione tridem) assali autosterzanti, in questo caso le ruote e quindi i pneumatici ruotano perfettamente, la sospensione sterza in curva e segue la traiettoria del trattore.

GIUNTO STERZANTE DI ALTA QUALITÀ

Lo sterzante SQR monta solo bronzine alveolate per garantire un ingrassaggio ideale al perno della cerniera e alla cerniera stessa. Il giunto sterzante risulta essere meno sensibile agli shock termici eventualmente prodotti dalle saldature che il costruttore del veicolo potrebbe apportarvi.
Le bronzine alveolate differenziano molto SQR da altri sterzanti che montano boccole in nylon. Il nylon è una materiale igroscopico, quindi con tolleranze mutevoli in base alle condizioni climatiche ed in particolare in base all'umidità. Il nylon risulta essere molto più soggetto all'usura rispetto ad una bronzina alveolata.

REGOLAZIONE DELLA STERZATURA

SQR è predisposto per una regolazione veloce e precisa dell'angolo di sterzatura. Caratteristica estremamente importante per adattare l'assale ad ogni tipologia di veicolo e di utilizzo.
La regolazione è presto fatta agendo su di una vite inserita nel supporto della cerniera e fissata con un dado di sicurezza, regolando la vite si può aumentare o diminuire l'angolo di sterzatura.

PERNO DELLA CERNIERA CONICO

Il perno conico dello sterzante SQR permette una regolazione precisa dei giochi del giunto sterzante e ne rende veloce la revisione facilitandone la rimozione e il successivo ripristino.



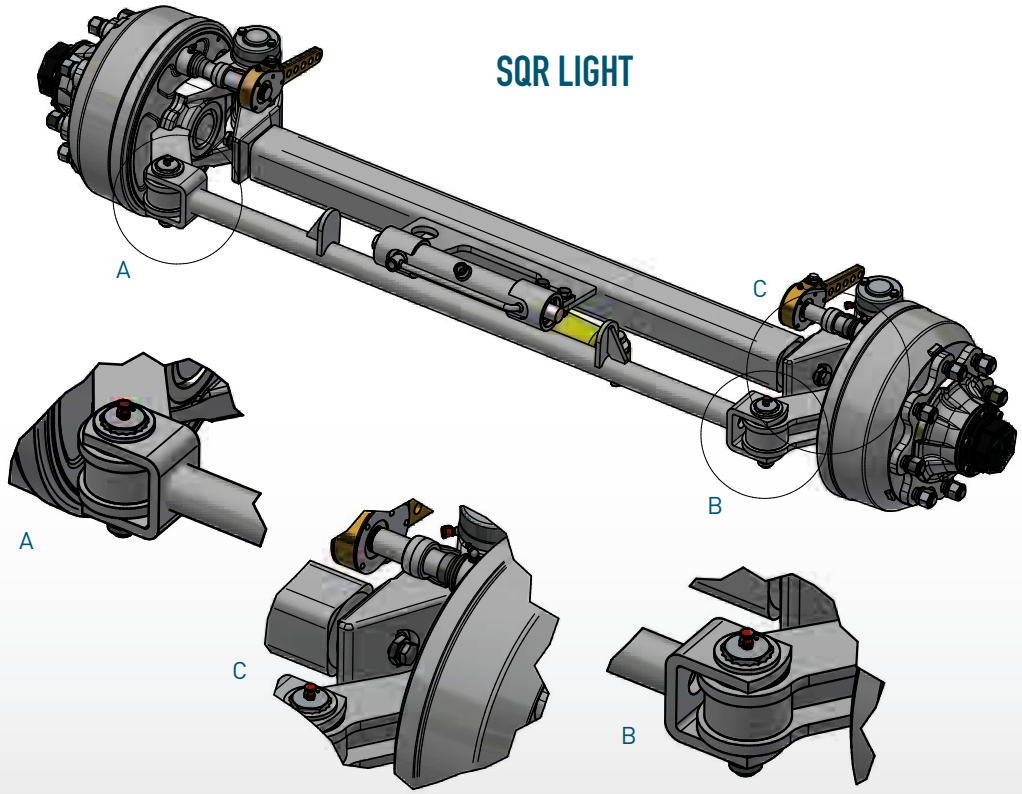
REGOLAZIONE VELOCE DELLA CONVERGENZA

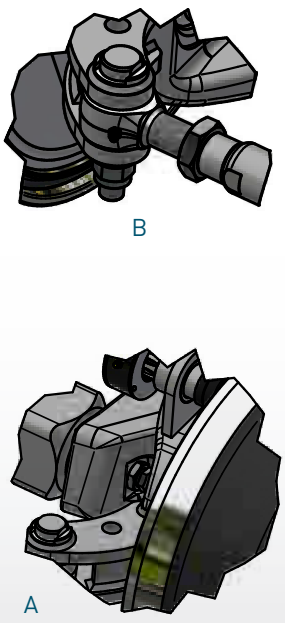
La convergenza dell'assale SQR è presto regolata semplicemente agendo su i due perni eccentrici che fissano la barra di sterzatura alle cerniere.

LEGGEREZZA

Lo studio delle geometrie del giunto sterzante unito all'utilizzo di materiali e componenti di qualità ha permesso di realizzare un prodotto competitivo per quanto riguarda il rapporto tra la sua capacità di carico e il suo peso.

SQR LIGHT





WHEN IT SHOULD BE USED

The tyre wear represents, perceptually, the highest using cost for an agricultural machine. The responsibility of this cost is to put to the last suspension axle, which it is fixed. The tyres are obliged to scrape on the earth at every bend, following the trailer direction.
Although, the chassis and the suspension, during the bend, are extremely rigid and so the complete trailer is overstressed to more wear.
There problems are avoided substituting the fixed axle with one or two (tridem suspension) steering axles. So the wheels and the tyres turn perfectly, the suspension turns also in bend, following the tractor direction.

HIGH QUALITY STEERING JOINT

The SQR steering is fitted with only bronze bushes with lubrication pockets to guarantee the best lubrication on the hinge pin and the hinge itself.
The steering joint is less sensitive to any thermal shock that could be originated by any welding carried out by the vehicle manufacturer.
The bronze bushes greatly differentiates SQR from other steering axles that use nylon bushing. Nylon is a hygroscopic material and therefore it presents variable tolerances depending on climatic conditions, in particular humidity. Nylon is more subject to wear and tear than bronze bush.

ADJUSTMENT OF THE STEERING

SQR is prearranged in order to allow for a fast and precise adjustment of the angle of steering.
This characteristic is extremely important to make the axle suitable to every type of vehicle and usage. The adjustment can be made quickly by means of a screw inserted in the hinge support and fixed by means of a safety nut. The angle of steering can be increased or reduced by adjusting this screw.

CONICAL HINGE PIN

The conical pin of the SQR steering axle allows for a precise adjustment of slacks in the steering joint and makes overhauling faster, rendering removal and replacing easier.

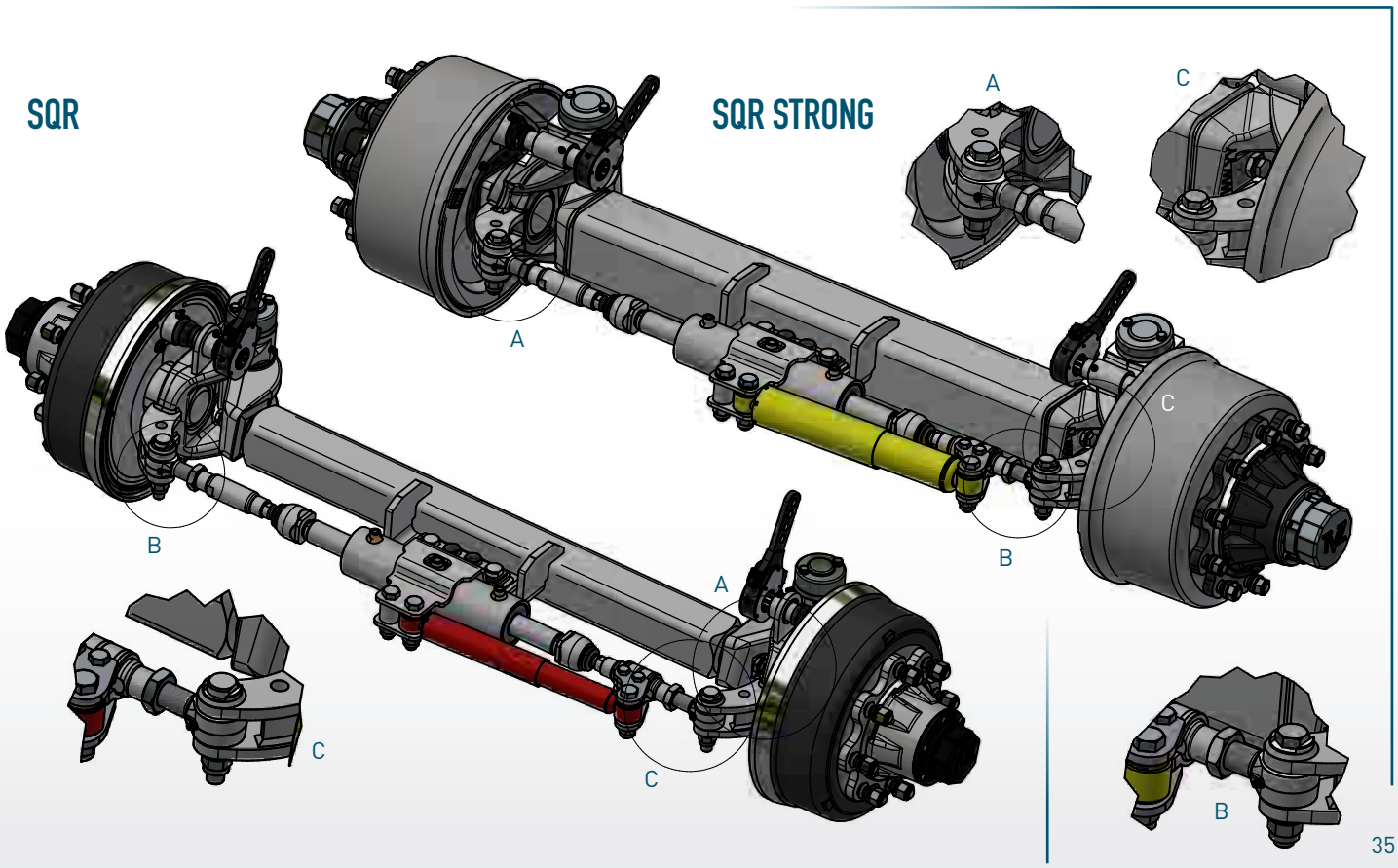


FAST ADJUSTMENT OF THE WHEEL ALIGNMENT

The alignment of the SQR axle is quickly adjusted by simply operating on two eccentric pins that fix the steering rod to the hinges.

LIGHTNESS

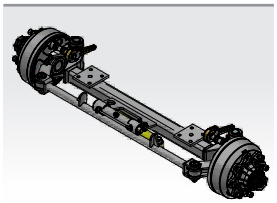
Research on the steering joint geometry together with use of high quality materials and components has resulted in a product that is competitive both on its load-bearing capacity and its weight.

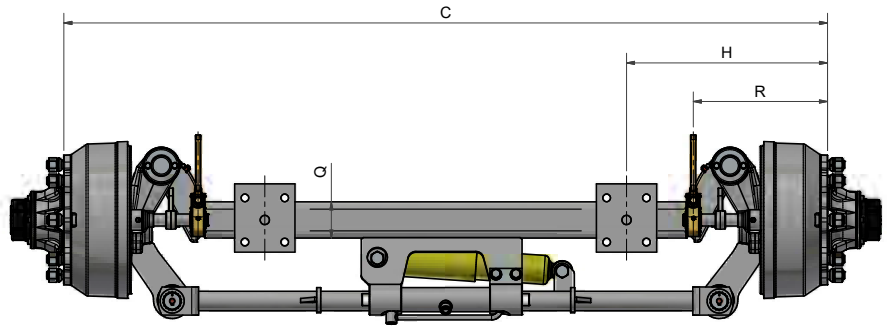


25-40 km/h



QUADRI - SQUARES

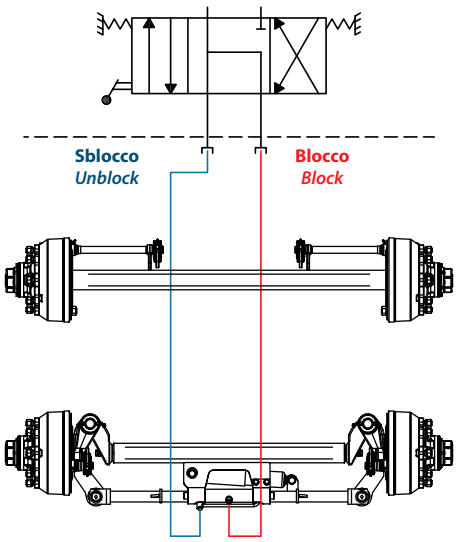




CODICE Code	Q QUADRO Square (mm)	PORTATA - Capacity (kg)		H SBALZO Overhang (mm)
		25 km/h	40 km/h	
H08006661	80	6700	6000	365
H08008661	80	6700	6000	365
H09006675	90	9000	8500	390
H09008675	90	9000	8500	390
H10008880	100	10000	10000	475
H10008899	100	10000	10000	475
H10010899	100	10000	10000	475
H11010899	110	10000	10000	570
H12010899	120x12	10000	10000	480

Nota: con i freni 300x135 - 300x160 - 406x120 e 406x140 la portata massima è ridotta a 8000 kg

Nota: with 300x135, 300x160, 406x120 and 406x140 brakes, the maximum load capacity is reduced to 8000 kg



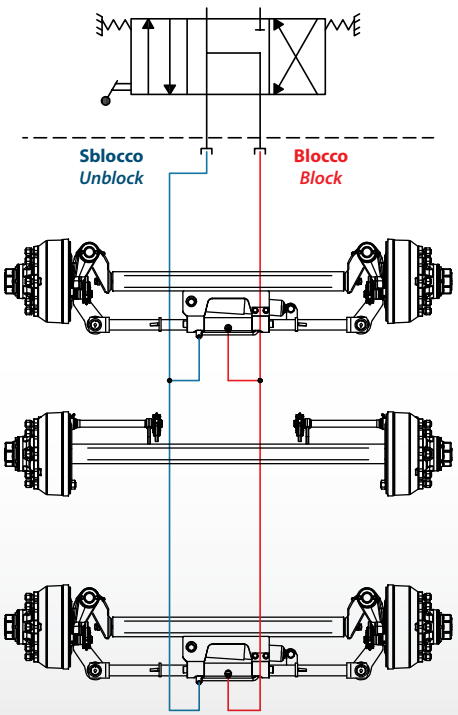
Impianto per Tandem
Tandem scheme

60 km/h

CODICE Code	Q QUADRO Square (mm)	PORTATA Capacity (kg) 60 km/h	H SBALZO Overhang (mm)
H08006660	80	5400	370
H08008660	80	5400	370
H09006675	90	7700	360
H09008675	90	7700	360
H10008880	100	9000	420
H10008899	100	9000	420
H10010899	100	9000	420
H11010899	110	9000	530
H12010899	120x12	9000	500

Nota: con i freni 300x135 - 300x160 - 406x120 e 406x140 la portata massima è ridotta a 7000 kg

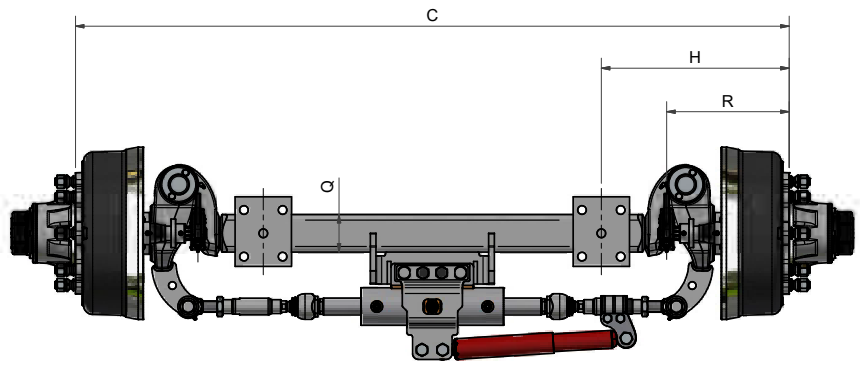
Nota: with 300x135, 300x160, 406x120 and 406x140 brakes, the maximum load capacity is reduced to 7000 kg



Impianto per Tridem
Tridem scheme

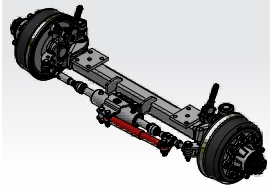
Assali sterzanti SQR _ Steering axles SQR

25-40 km/h

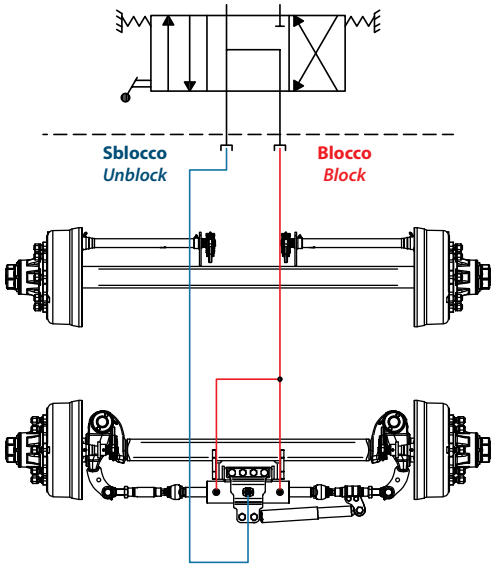




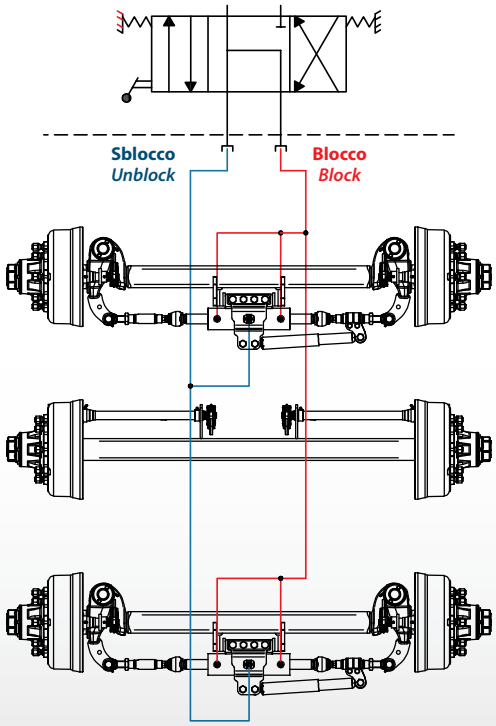
QUADRI - SQUARES



CODICE Code	Q QUADRO Square (mm)	PORTATA - Capacity (kg)		H SBALZO Overhang (mm)
		25 km/h	40 km/h	
XB1008880	100	10500	10000	450
XB1010880	100	10500	10000	450
XB1008899	100	12500	11500	380
XB1010899	100	12500	11500	380
XB1110991	110	13000	12000	470
XB1110994	110	13000	12000	470
XB1208899	120x12	12500	11500	400
XB1210899	120x12	12500	11500	400
XB1310991	130x14	13000	12000	510
XB1310994	130x14	13000	12000	510



Impianto per Tandem
Tandem scheme



Impianto per Tridem
Tridem scheme

60 km/h

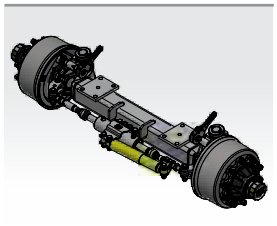
CODICE Code	Q QUADRO Square (mm)	PORTATA Capacity (kg) 60 km/h	H SBALZO Overhang (mm)
XB1008880	100	9000	420
XB1010880	100	9000	420
XB1008899	100	11000	345
XB1010899	100	11000	345
XB1110991	110	11000	435
XB1110994	110	11000	435
XB1208899	120x12	11000	410
XB1210899	120x12	11000	410
XB1310991	130x14	11000	520
XB1310994	130x14	11000	520

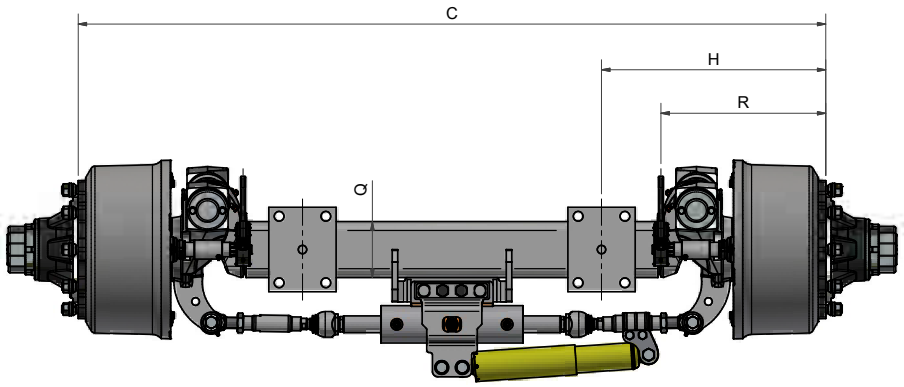
Assali sterzanti SQR Strong _ Steering axles SQR Strong

25-40 km/h

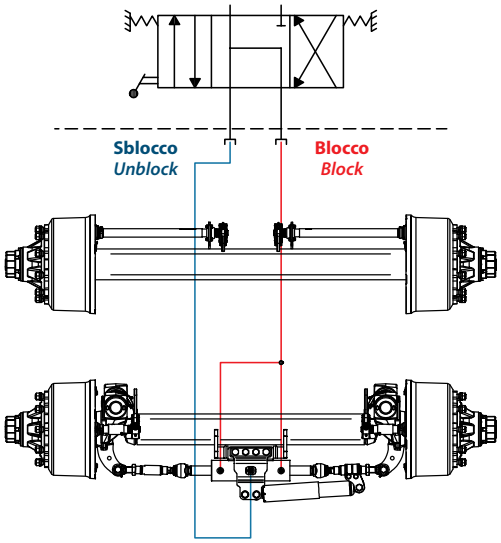


QUADRI - SQUARES





CODICE Code	Q QUADRO Square (mm)	PORTATA - Capacity (kg)		H SBALZO Overhang (mm)
		25 km/h	40 km/h	
VBA510994	150x16	14500	14000	700
VBA510998	150x16	16000	16000	630



Impianto per Tandem
Tandem scheme

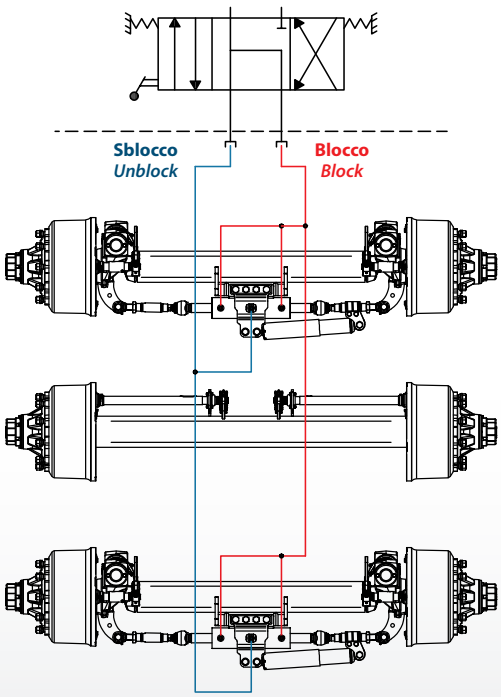
60 km/h

CODICE Code	Q QUADRO Square (mm)	PORTATA Capacity (kg) 60 km/h	H SBALZO Overhang (mm)
VBA510994	150x16	13000	680
VBA510998	150x16	14000	640

Per la realizzazione di semiassi sterzanti prego contattare il nostro servizio commerciale, per i semiassi le portate vanno dimezzate; gli assali con tubolare sono disponibili in base alla quantità.

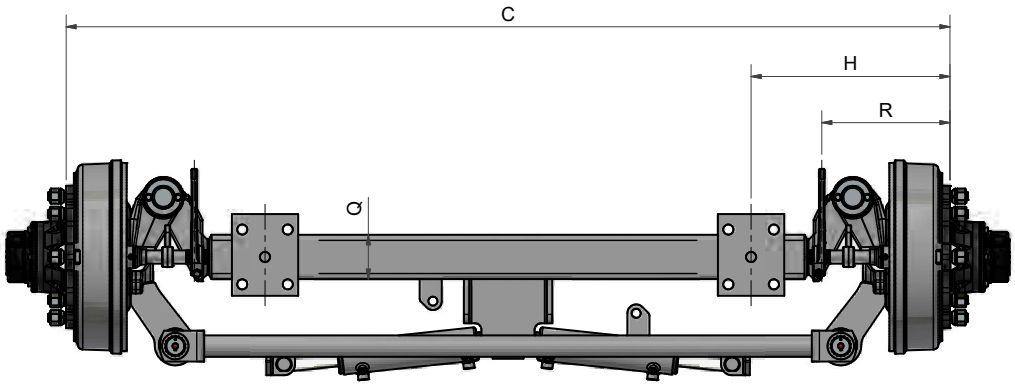
For the steering hubs, please contact our sales office please note that for the stub axles the loading capacity is the half of an axle please ask for the availiability of the axles with tubular instead of full beam.





Impianto per Tridem
Tridem scheme

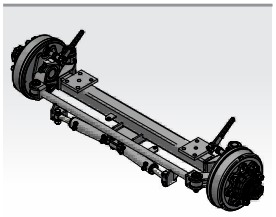
Assali sterzanti comandati SQL _ SQL forced steering axles



25-40 km/h



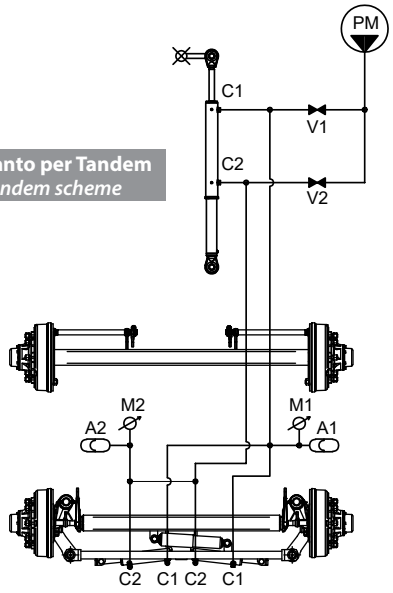
QUADRI - SQUARES



CODICE Code	Q QUADRO Square (mm)	PORTATA - Capacity (kg)		H SBALZO Overhang (mm)
		25 km/h	40 km/h	
HA9006675	90	9000	8500	390
HA9008675	90	9000	8500	390
HA0008880	100	10000	10000	475
HA0008899	100	10000	10000	475
HA0010899	100	10000	10000	475
HA11010899	110	10000	10000	570
HA12010899	120x12	10000	10000	480

Nota: con i freni 300x135 - 300x160 - 406x120 e 406x140 la portata massima è ridotta a 8000 kg
Nota: with 300x135, 300x160, 406x120 and 406x140 brakes,the maximum load capacity is reduced to 8000 kg

Impianto per Tandem
Tandem scheme



Sterzatura comandata

Tra la gamma di assali sterzanti TVZ è disponibile anche un assale studiato per la sterzatura comandata. L'assale con sistema di sterzatura comandata idraulicamente offre i seguenti vantaggi:

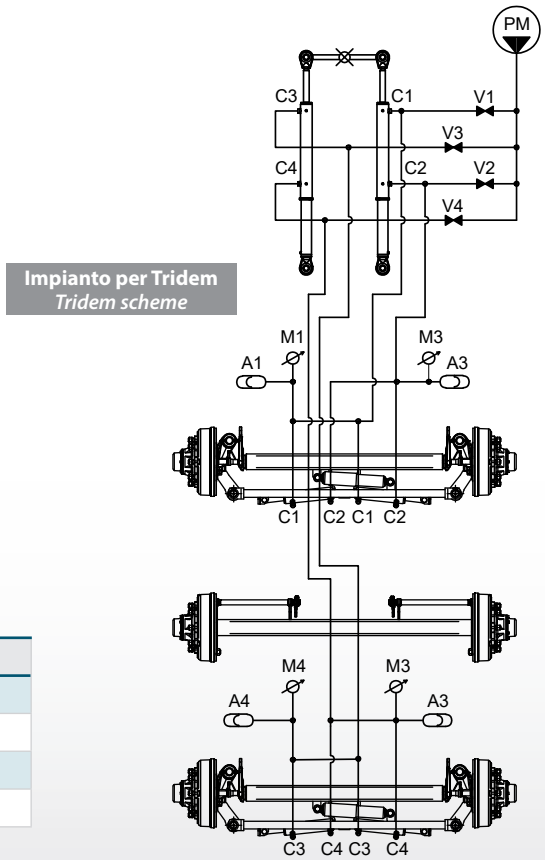
- conferisce una maggiore guidabilità del veicolo in entrambi i sensi di marcia, senza dover bloccare la sterzatura in retromarcia;
- permette un minor consumo dei pneumatici dovuto alla riduzione degli strisciamenti;
- permette raggi di sterzatura minori e quindi facilita le manovre;
- conferisce una maggiore stabilità al veicolo.

Forced steering

An axle designed for forced steering is also available within the T.V.Z. steering axle range. The axle with an hydraulically operated forced steering system offers the following advantages:

- *provides for an easier vehicle drive in both running directions without having to lock the steering in reverse gear;*
- *allows less tyre wear thanks to the reduction of dragging;*
- *allows a smaller steering radius, therefore facilitating manoeuvring;*
- *provides for a vehicle greater stability.*

Impianto per Tridem
Tridem scheme



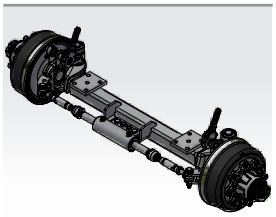
LEGENDA - LEGEND		
A1, A2, A3, A4	ACCUMULATORI A GAS	INERT GAS ACCUMULATOR
M1, M2, M3, M4	MANOMETRI DI CONTROLLO	PRESSURE GAUGE
V1, V2, V3, V4	VALVOLE A SFERA	TAP
PM	POMPA DI ALIMENTAZIONE	FEEDING PUMP

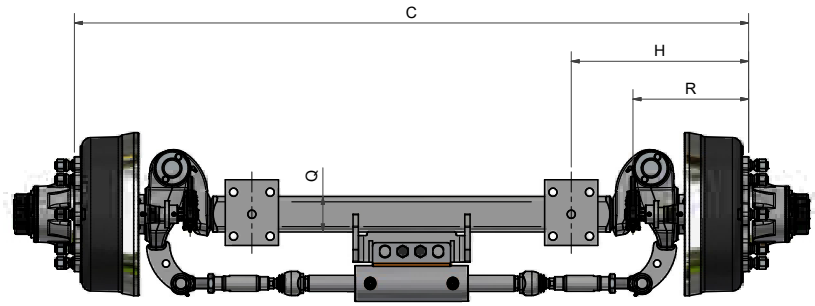
Assali sterzanti comandati SQR _ SQR forced steering axles

25-40 km/h



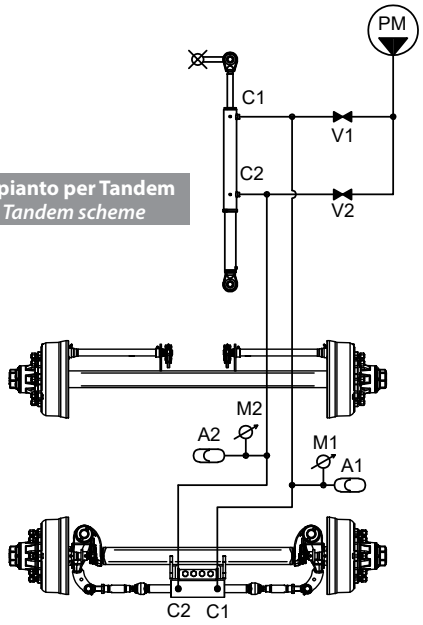
QUADRI - SQUARES





CODICE Code	Q QUADRO Square (mm)	PORTATA - Capacity (kg)		H SBALZO Overhang (mm)
		25 km/h	40 km/h	
XC1008880	100	10500	10000	450
XC1010880	100	10500	10000	450
XC1008899	100	12500	11500	380
XC1010899	100	12500	11500	380
XC1110991	110	13000	12000	470
XC1110994	110	13000	12000	470
XC1208899	120x12	12500	11500	400
XC1210899	120x12	12500	11500	400
XC1310991	130x14	13000	12000	510
XC1310994	130x14	13000	12000	510

Impianto per Tandem
Tandem scheme



Sterzatura comandata

Tra la gamma di assali sterzanti TVZ è disponibile anche un assale studiato per la sterzatura comandata. L'assale con sistema di sterzatura comandata idraulicamente offre i seguenti vantaggi:

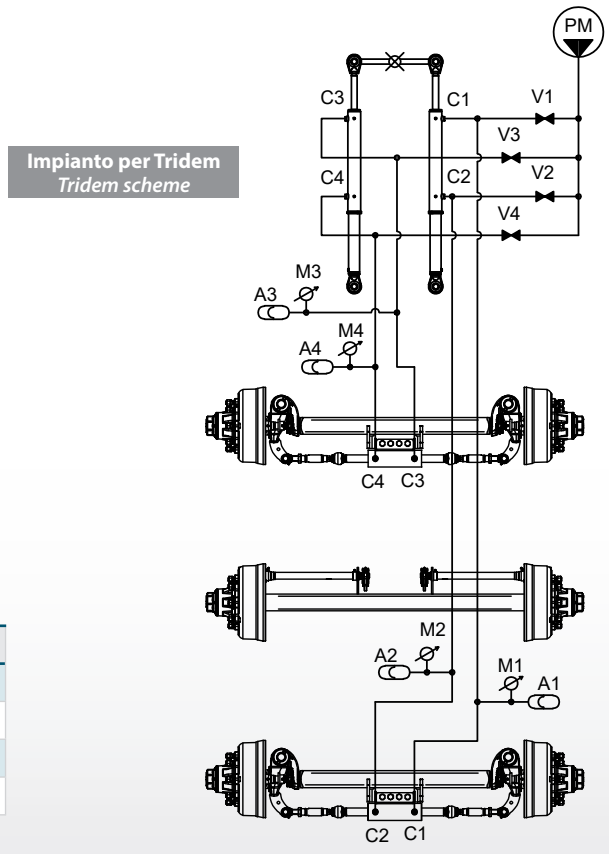
- conferisce una maggiore guidabilità del veicolo in entrambi i sensi di marcia, senza dover bloccare la sterzatura in retromarcia;
- permette un minor consumo dei pneumatici dovuto alla riduzione degli strisciamenti;
- permette raggi di sterzatura minori e quindi facilita le manovre;
- conferisce una maggiore stabilità al veicolo.

Forced steering

An axle designed for forced steering is also available within the TVZ steering axle range. The axle with an hydraulically operated forced steering system offers the following advantages:

- *provides for an easier vehicle drive in both running directions without having to lock the steering in reverse gear;*
- *allows less tyre wear thanks to the reduction of dragging;*
- *allows a smaller steering radius, therefore facilitating manoeuvring;*
- *provides for a vehicle greater stability.*

Impianto per Tridem
Tridem scheme



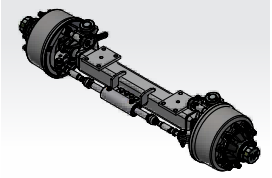
LEGENDA - LEGEND		
A1, A2, A3, A4	ACCUMULATORI A GAS	INERT GAS ACCUMULATOR
M1, M2, M3, M4	MANOMETRI DI CONTROLLO	PRESSURE GAUGE
V1, V2, V3, V4	VALVOLE A SFERA	TAP
PM	POMPA DI ALIMENTAZIONE	FEEDING PUMP

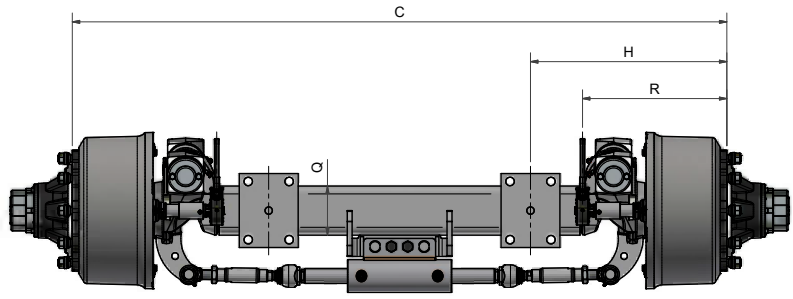
Assali sterzanti comandati SQS _ SQS forced steering axles

25-40 km/h



QUADRI - SQUARES





CODICE Code	Q QUADRO Square (mm)	PORTATA - Capacity (kg)		H SBALZO Overhang (mm)
		25 km/h	40 km/h	
VCA510994	150x16	14500	14000	700
VCA510998	150x16	16000	16000	630

Sterzatura comandata

Tra la gamma di assali sterzanti TVZ è disponibile anche un assale studiato per la sterzatura comandata. L'assale con sistema di sterzatura comandata idraulicamente offre i seguenti vantaggi:

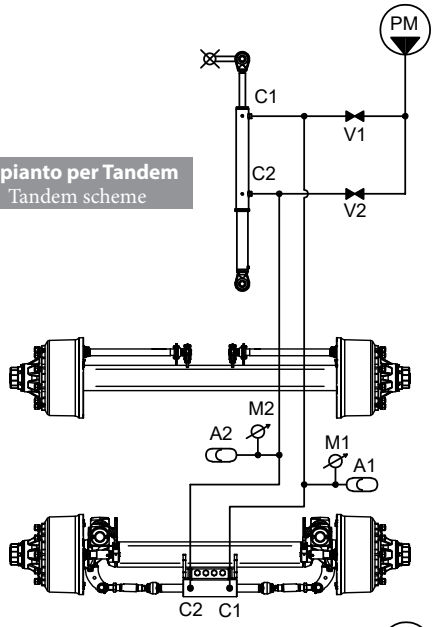
- conferisce una maggiore guidabilità del veicolo in entrambi i sensi di marcia, senza dover bloccare la sterzatura in retromarcia;
- permette un minor consumo dei pneumatici dovuto alla riduzione degli strisciamenti;
- permette raggi di sterzatura minori e quindi facilita le manovre;
- conferisce una maggiore stabilità al veicolo.

Forced steering

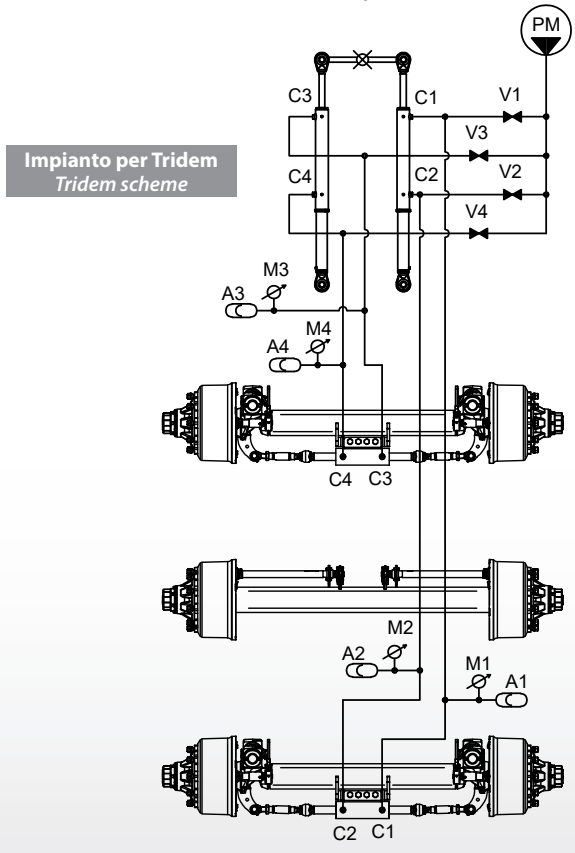
An axle designed for forced steering is also available within the TVZ steering axle range. The axle with an hydraulically operated forced steering system offers the following advantages:

- *provides for an easier vehicle drive in both running directions without having to lock the steering in reverse gear;*
- *allows less tyre wear thanks to the reduction of dragging;*
- *allows a smaller steering radius, therefore facilitating manoeuvring;*
- *provides for a vehicle greater stability.*

Impianto per Tandem
Tandem scheme



Impianto per Tridem
Tridem scheme



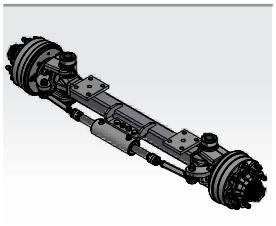
LEGENDA - LEGEND		
A1, A2, A3, A4	ACCUMULATORI A GAS	INERT GAS ACCUMULATOR
M1, M2, M3, M4	MANOMETRI DI CONTROLLO	PRESSURE GAUGE
V1, V2, V3, V4	VALVOLE A SFERA	TAP
PM	POMPA DI ALIMENTAZIONE	FEEDING PUMP

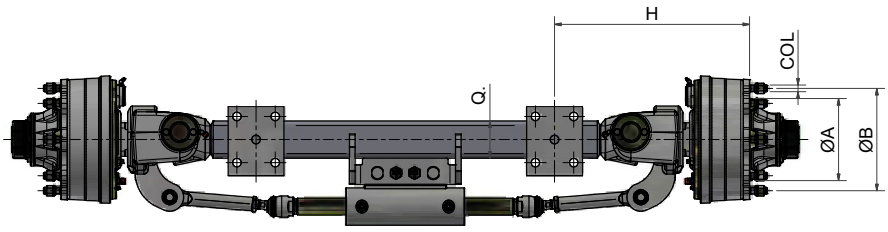
Assali sterzanti comandati tipo N _ SQR forced steering axles N-type

25-40 km/h



QUADRI - SQUARES





CODICE Code	Q QUADRO Square (mm)	PORTATA - Capacity (kg)		H SBALZO Overhang (mm)	ATTACCO - Fitting		
		25 km/h	40 km/h		NC	A	B
N10008671	100	9000	8500	520	8 M18	220	275
N10008880	100	10000	9500	475	8 M20	220	275
N10010880	100	10000	9500	475	10 M22	280	335
N11008899	110	11000	11000	525	8 M20	220	275
N11010899	110	11000	11000	525	10 M22	280	335

Sterzatura comandata tipo N

L'assale a sterzatura comandata di tipo N ha la caratteristica di avere la cerniera quasi in asse rispetto al corpo, soluzione che permette grandi angoli di sterzo e lo rende ideale per veicoli che devono fare manovre in spazi molto ristretti. È il caso, per esempio, dei carri miscelatori, sui quali è usato come primo asse.

Forced steering N-type

The N-type forced steering axle has the characteristic of having the hinge almost in line with the body, a solution that allows large steering angles and makes it ideal for vehicles that have to maneuver in very confined spaces. This is the case, for example, of mixers, on which it is used as the first axle.





ACCESSORI
optional

I vantaggi di una regolazione della pressione degli pneumatici

- Consumo di carburante ridotto in campo e su strada
- Ridotta resistenza al rotolamento in campo e su strada
- Maggiore stabilità di marcia su strada a velocità più elevate
- Riduzione della profondità della traccia permessa dalla maggiore impronta dello pneumatico
- Forte aumento della forza di traino dovuto al miglior incastro del profilo dello pneumatico con il terreno
- Nessuna/ridotta compattazione del suolo
- Minore usura degli pneumatici



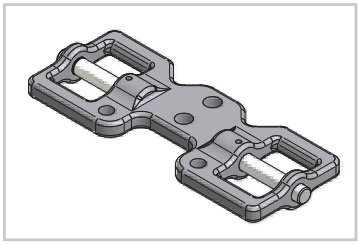
The advantages of an adjusted Tyre Pressure

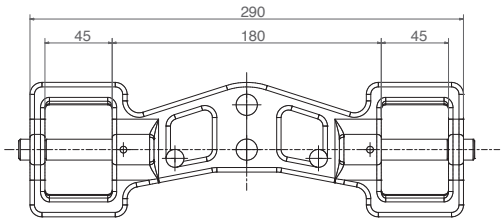
- *Reduced fuel consumption in the field and on the road*
- *Reduced rolling resistance in the field and on the road*
- *Higher ride stability on the road at higher speeds*
- *Reduction of track depth allowed through bigger footprint of the tyre*
- *Strong increase of towing force due to better interlocking of the tyre profile with the ground*
- *None/reduced soil compaction*
- *Less tyre wear*

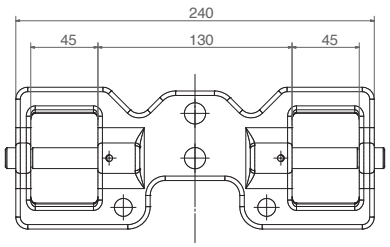




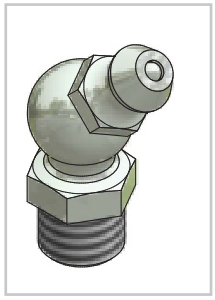
Bilancino _ Compensator

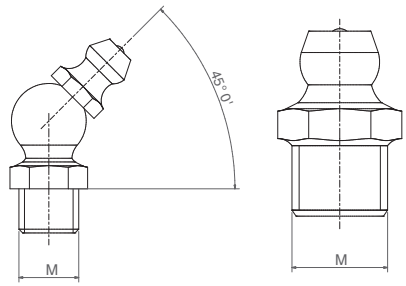




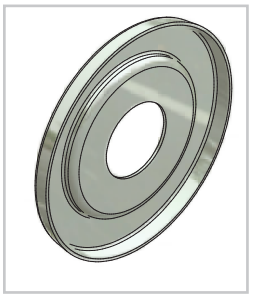


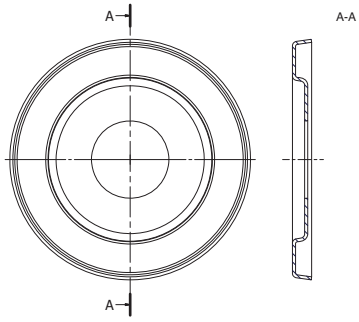
Ingrassatore _ Grease nipple



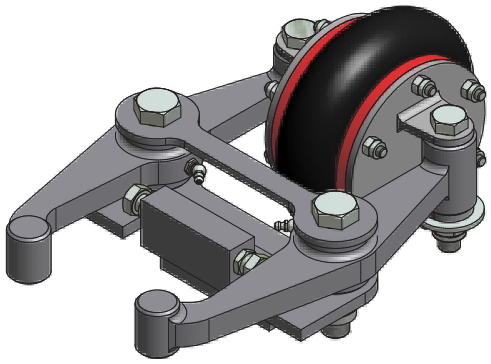


Tenuta parafango _ Mud guard

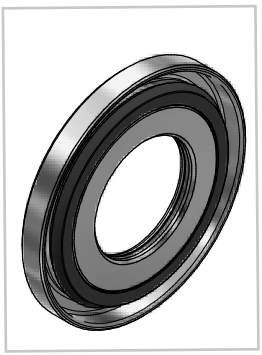


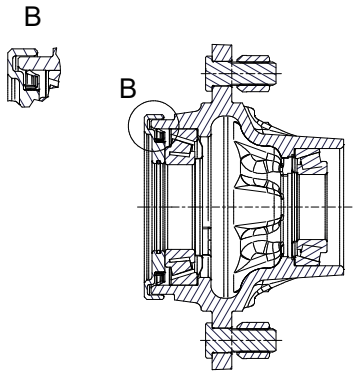


Correttore di sterzata _ Steering corrector



Tenute con paraterra _ Seals with dust cover

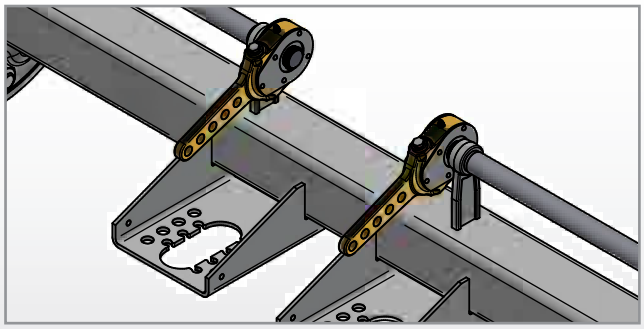




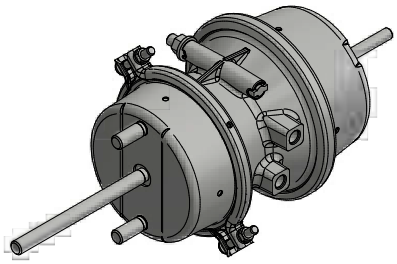
Calotte filettate _ Threaded caps



Leve registrabili _ Adjustable levers

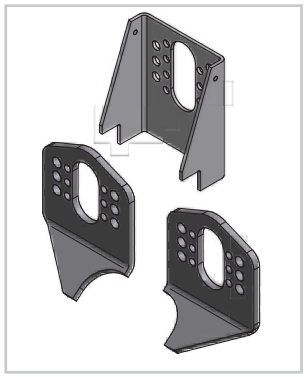


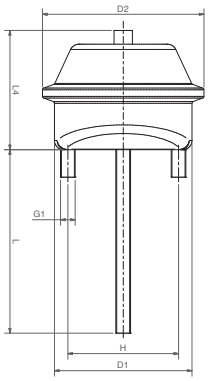
Bielementi frenanti _ Spring brakes actuators



CODICE Code	SERVIZIO - Service		PARCHEGGIO - Parking	
	TIPO Type	CORSA / Stroke (mm)	TIPO Type	CORSA / Stroke (mm)
TS1624	16"	75	24"	75
TS2024	20"	64	24"	64
TS2030	20"	75	30"	75
TS2424	24"	64	24"	64
TS2430	24"	75	30"	75
TS3030	30"	64	30"	64

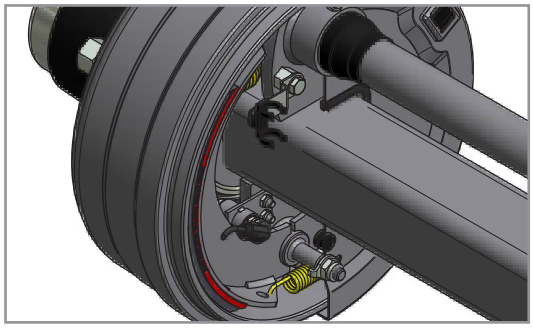
Brake chambers e supporti _ Brake chambers and supports





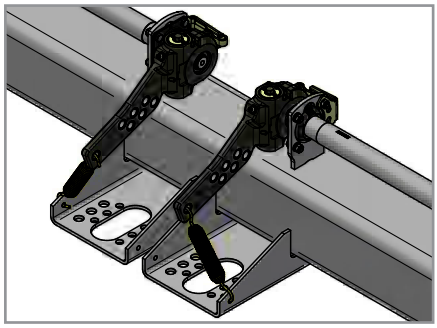
CODICE Code	DATI TECNICI - Technical data						
	TIPO Type	D1 (mm)	D2 (mm)	G1 (mm)	H (mm)	L4 (mm)	L (mm)
BC09	9"	114	133	M12x1,75	76,2	110	185
BC12	12"	121	145	M12x1,75	76,2	120	200
BC16	16"	138	163	M12x1,75	76,2	130	200
BC20	20"	150	176	M16x1,5	120,7	130	200
BC24	24"	161	185	M16x1,5	120,7	130	200
BC30	30"	182	208	M16x1,5	120,7	140	200

Sensore ABS e leve automatiche _ ABS sensor and automatic slack adjusters



I freni omologati ECE-R13 sono disponibili leve freno autoregistranti e anche con sensore ABS.

The brakes approved ECE-R13 are available with automatic slack adjusters and also with ABS sensor.



Altre opzioni disponibili _ Other options available

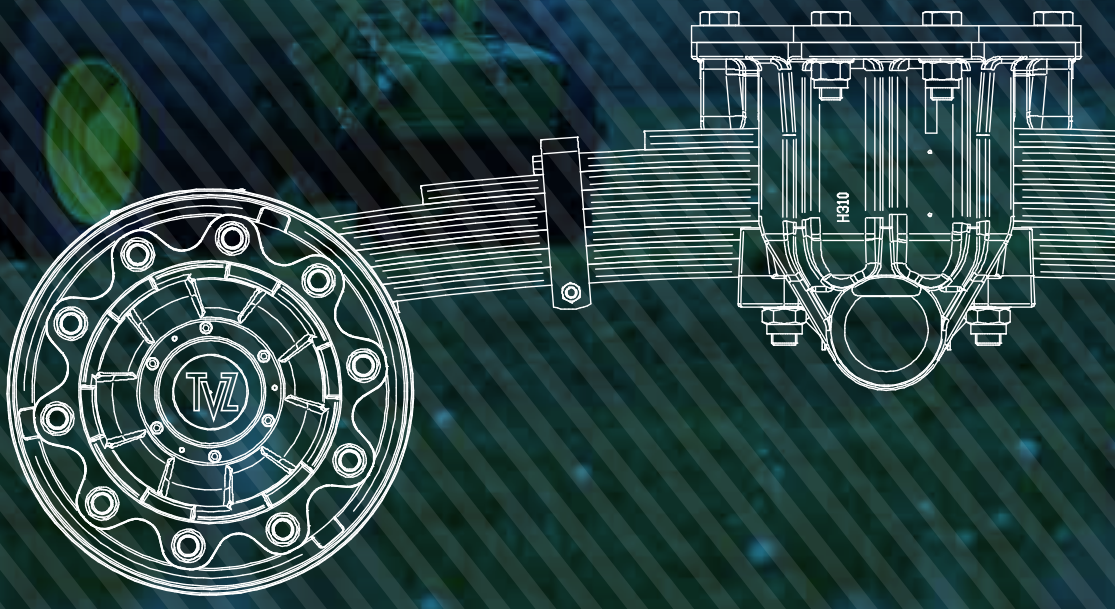
- Cavallino - *Camber*
- Verniciatura antiruggine - *Antirust paint*
- Verniciatura di finitura - *Finishing paint*

Per altre opzioni prego contattare il nostro ufficio commerciale
For other options please take contact with our sales office





SOSPENSIONI BOGIE
bogie suspensions



Sospensioni bogie _ Bogie suspensions

I BOGIE
La sospensione bogie è un tipo di sospensione meccanica oscillante nel senso di marcia, con balestre multi foglia, utilizzata in agricoltura per equipaggiare veicoli tandem. Il vantaggio principale è che può viaggiare su terreni particolarmente sconnessi, grazie alla sua possibilità di compiere ampie oscillazioni, adattandosi alle asperità.

GAMMA BOGIE TVZ
- Bogie modello 1 con portate da 06.0 a 13.0 Ton. Con passi da 760 a 1300 mm.
- Bogie modello 1B con portate da 11.5 a 16.0 Ton. Con passi da 900 a 1320 mm.
- Bogie modello 2 con portate da 15.5 a 17.5 Ton. Con passi da 1200 a 1480 mm.
- Bogie modello 3 con portate da 17.5 a 21.5 Ton. Con passi da 1360 a 1480 mm.
- Bogie modello 4 con portate da 18.5 a 22.0 Ton. Con passi da 1500 a 1700 mm.
- Bogie modello 5 con portate da 23.0 a 28.0 Ton. Con passi da 1500 a 1820 mm.

FORNITURA
I bogie TVZ vengono forniti assemblati con gli assali entrambi fissi o fisso più sterzante, pronti per essere fissati al telaio del veicolo. Su richiesta i bogie possono essere forniti smontati. TVZ può fornire su richiesta le contropiastre complete di bulloneria per il fissaggio del bogie al telaio. I bogie possono essere forniti con assetto normale (gli assali sono sotto le balestre) o con assetto ribassato (gli assali sono sopra le balestre).

MONTAGGIO DEL BOGIE
Per assicurare la massima affidabilità, durata e sicurezza di tutti i componenti del veicolo è importante che i bogie vengano installati correttamente. L'allineamento del bogie è eseguito dal costruttore del veicolo, gli assali del bogie devono risultare paralleli tra di loro e paralleli con il trattore, questo garantisce un buon controllo del veicolo e una vita maggiore dei pneumatici. Per eventuali mal funzionamenti o danni al bogie, agli assali, ai freni o ai pneumatici, derivanti dal montaggio non corretto del bogie è responsabile solo l'installatore.

BOGIES
The bogie suspension is a type of oscillating mechanical suspension with multi-leaf springs which is used in agriculture to fit tandem vehicles. Its main advantage is that vehicles can travel across particularly rough terrain, thanks to the wide oscillation movements which adapt to the roughness of the ground.

RANGE
- *Bogie model 1 with capacity ranging from 06.0 to 13.0 Tonnes with wheel base from 760 to 1,300 mm.*
- *Bogie model 1B with capacity ranging from 11.5 to 16 Tonnes with wheel base from 900 to 1,320 mm.*
- *Bogie model 2 with capacity ranging from 15.5 to 17.5 Tonnes with wheel base from 1,200 to 1,480 mm.*
- *Bogie model 3 with capacity ranging from 17.5 to 21.5 Tonnes with wheel base from 1,360 to 1,480 mm.*
- *Bogie model 4 with capacity ranging from 18.5 to 22.0 Tonnes with wheel base from 1,500 to 1,700 mm.*
- *Bogie model 5 with capacity ranging from 23.0 to 28.0 Tonnes with wheel base from 1,500 to 1,820 mm.*

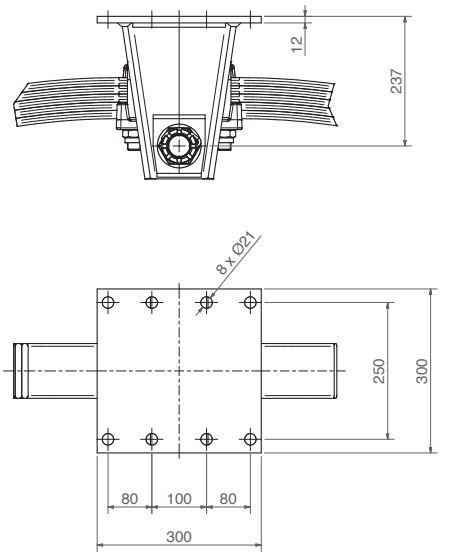
SUPPLY
The T.V.Z. bogies are either supplied with both axles fixed or with fixed and steering axles, ready to be fitted to the vehicle frame. Upon request, the bogies can also be supplied not assembled.
T.V.Z. can provide the counter plates with bolts and nuts to fix the bogie to the frame.
The bogies can be provided in a normal arrangement (the axles under the leaf springs) or low arrangement (the axles on top of the springs).

BOGIE ASSEMBLY
The correct installation of the bogie is important to ensure maximum reliability, duration and safety of all the vehicle components. The vehicle manufacturer must align the bogie. The bogie axles must be parallel with each other and the tractor. This guarantees good vehicle control and a longer life for the tyres. In case of any failures or damage to the bogie, axles, brakes or tyres due to an incorrect assembly of the bogie, the installer bears full responsibility.

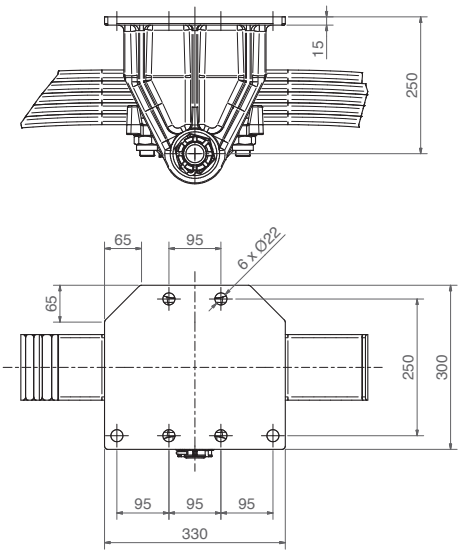


Supporti centrali _ Central supports

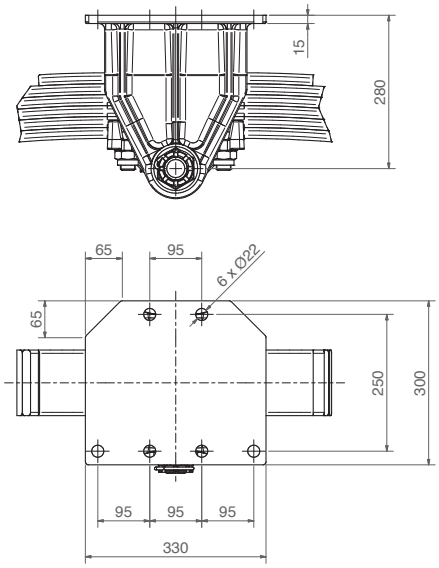
Mod. 1



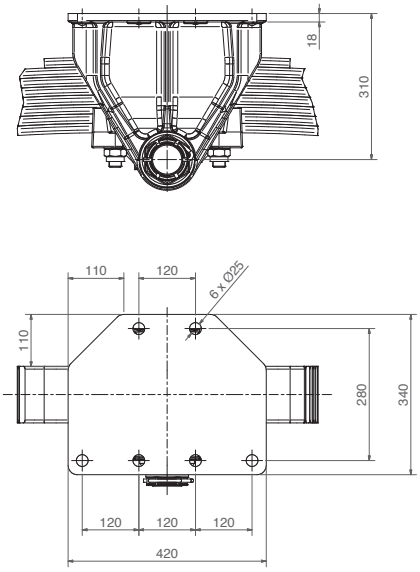
Mod. 1b



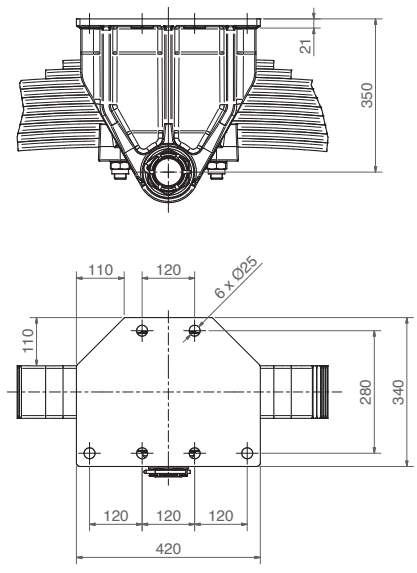
Mod. 2



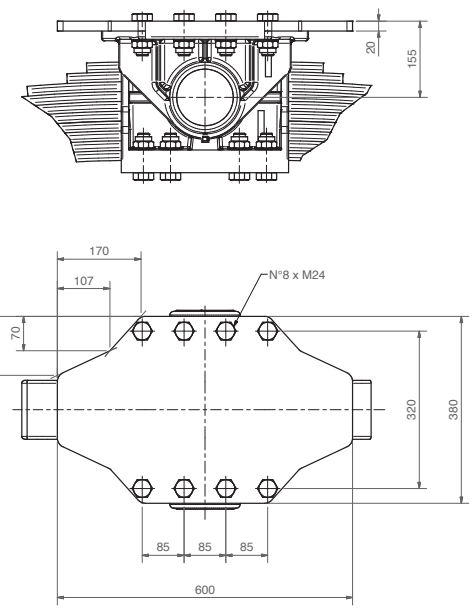
Mod. 3

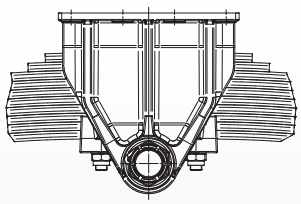


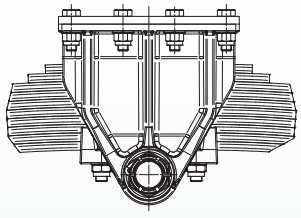
Mod. 4



Mod. 5







I supporti possono essere forniti:
- Forati
- Forati con contropiastra completa di bulloneria

The brackets can be delivered:
- *With holes*
- *With holes and counterplate including bolts and nuts*

Mod. 1 - 6/13 ton.

STANDARD

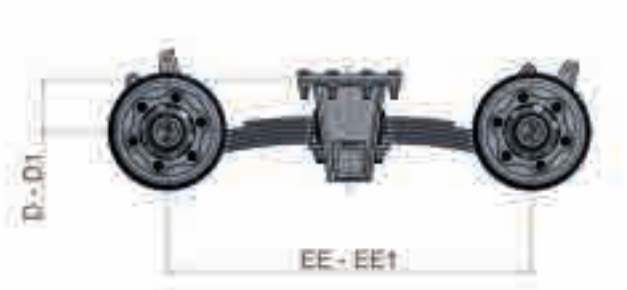




C	EE	LF		Q.60			Q.70			Q.80			Q.90		
				D	D1	EE1	D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
6000	760	L100-BT03	3x15 (3LM)	260	244	765	266	250	763						
8000	920	L100-B805	4x15 (3LM)				302	281	884	307	286	881			
8500	1000	L100-B803	5x15 (3LM)				302	277	988	307	282	985			
10500	1300	L100-B800	3x15 3x20 (3LM)							307	268	1294	312	273	1292
11500	1200	L100-B801	3x15 3x20 (3LM)							307	276	1182	312	281	1179
12000	1000	L100-BT01	5x18 (3LM)							305	278	990	310	283	987
13000	1100	L100-B802	3x15 3x20 (3LM)							307	281	1079	312	286	1076

RIBASSATO / UNDERSLUNG





C	EE	LF		Q.60			Q.70			Q.80			Q.90		
				D	D1	EE1	D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
6000	760	L100-BT03	3x15 (3LM)	128	112	800	122	106	802						
8000	920	L100-B805	4x15 (3LM)				157	136	918	152	131	922			
8500	1000	L100-B803	5x15 (3LM)				157	132	1052	152	127	1055			
10500	1300	L100-B800	3x15 3x20 (3LM)							152	113	1346	147	108	1348
11500	1200	L100-B801	3x15 3x20 (3LM)							152	121	1238	147	116	1241
12000	1000	L100-BT01	5x18 (3LM)							144	117	1060	139	112	1063
13000	1100	L100-B802	3x15 3x20 (3LM)							152	126	1141	147	121	1144

C	PORTATA DI DUE BALESTRE	CAPACITY OF TWO SPRINGS
EE	PASSO	WHEEL BASE
EE1	PASSO A VUOTO	WHEEL BASE WHEN EMPTY
LF	TIPO DI BALESTRA	LEAF SPRING

D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED
Q	LATO QUADRO ASSALE	AXLE SQUARE BEAM

Sospensioni bogie _ Bogie suspensions

Mod. 1b – 11,5/16 ton.

STANDARD





C	EE	LF		Q.80			Q.90			Q.100		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
11500	1200	L100-B801	3x15 3x20 (3 LM)	315	284	1182	320	289	1179			
13500	1320	L120-B551	5x20 (3 LM)	310	275	1293	315	280	1291			
15000	1200	L120-B551	5x20 (3 LM)				303	275	1174	308	280	1171
16000	900	L100-B695	7x16 (3 LM)				300	283	867	305	287	865

RIBASSATO / UNDERSLUNG





C	EE	LF		Q.80			Q.90			Q.100		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
11500	1200	L100-B801	3x15 3x20 (3 LM)	160	129	1238	155	124	1241			
13500	1320	L120-B551	5x20 (3 LM)	140	105	1347	135	100	1349			
15000	1200	L120-B551	5x20 (3 LM)				123	95	1226	118	90	1229
16000	900	L100-B695	7x16 (3 LM)				132	115	933	127	109	935

C	PORTATA DI DUE BALESTRE	CAPACITY OF TWO SPRINGS
EE	PASSO	WHEEL BASE
EE1	PASSO A VUOTO	WHEEL BASE WHEN EMPTY
LF	TIPO DI BALESTRA	LEAF SPRING
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED
Q	LATO QUADRO ASSALE	AXLE SQUARE BEAM

Mod. 2 – 15,5/17,5 ton.

STANDARD

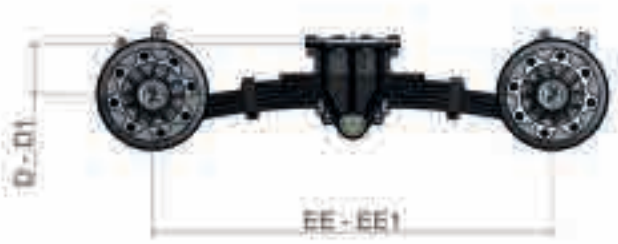




C	EE	LF		Q=90			Q=100		
				D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
15500	1360	L120-B523	6x20 (3LM)	360	323	1328	365	328	1325
16500	1200	L120-B560	7x20 (3LM)	328	307	1178	333	312	1177
16500	1360	L120-B541	7x20 (3LM)	345	311	1345	350	316	1342
16500	1480	L120-B524	7x20 (3LM)	360	315	1451	365	320	1449
17500	1240	L120-B523	6x20 (3LM)	345	315	1211	350	320	1209
17500	1360	L120-B556	7x20 (4LM)	345	309	1332	350	314	1330

RIBASSATO / UNDERSLUNG





C	EE	LF		Q=90			Q=100		
				D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
15500	1360	L120-B523	6x20 (3LM)	180	143	1392	175	138	1395
16500	1200	L120-B560	7x20 (3LM)	148	127	1222	143	122	1223
16500	1360	L120-B541	7x20 (3LM)	165	131	1395	160	126	1398
16500	1480	L120-B524	7x20 (3LM)	180	135	1509	175	130	1511
17500	1240	L120-B523	6x20 (3LM)	165	135	1269	160	130	1271
17500	1360	L120-B556	7x20 (4LM)	165	129	1388	160	124	1390

C	PORTATA DI DUE BALESTRE	CAPACITY OF TWO SPRINGS
EE	PASSO	WHEEL BASE
EE1	PASSO A VUOTO	WHEEL BASE WHEN EMPTY
LF	TIPO DI BALESTRA	LEAF SPRING
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED
Q	LATO QUADRO ASSALE	AXLE SQUARE BEAM

Mod. 3 – 17,5/21,5 ton.

STANDARD





C	EE	LF		Q=100			Q=110			Q=130		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
17500	1450	L120-B228	7x20 (4LM)	383	343	1422	388	348	1420			
18500	1480	L120-B554	4x20 3x22 (4LM)	378	338	1455	383	343	1454			
19000	1360	L120-B556	7x20 (4LM)	378	343	1330	383	348	1328			
19500	1480	L120-B533	8x20 (4LM)	378	336	1455	383	341	1453	391	349	1451
21500	1360	L120-B549	8x20 (4LM)	378	344	1330	383	349	1328	391	357	1326

RIBASSATO / UNDERSLUNG





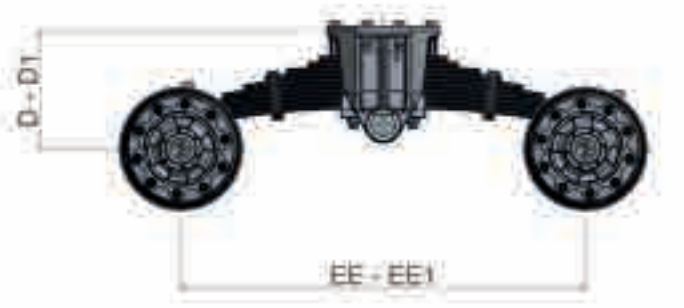
C	EE	LF		Q=100			Q=110			Q=130		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
17500	1450	L120-B228	7x20 (4LM)	173	133	1478	168	128	1480			
18500	1480	L120-B554	4x20 3x22 (4LM)	168	128	1505	163	123	1506			
19000	1360	L120-B556	7x20 (4LM)	168	133	1390	163	128	1392			
19500	1480	L120-B533	8x20 (4LM)	168	126	1505	163	121	1507	154	112	1515
21500	1360	L120-B549	8x20 (4LM)	168	134	1390	163	129	1392	154	120	1400

C	PORTATA DI DUE BALESTRE	CAPACITY OF TWO SPRINGS
EE	PASSO	WHEEL BASE
EE1	PASSO A VUOTO	WHEEL BASE WHEN EMPTY
LF	TIPO DI BALESTRA	LEAF SPRING
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED
Q	LATO QUADRO ASSALE	AXLE SQUARE BEAM

Mod. 4 – 18,5/22 ton.

STANDARD





C	EE	LF		Q=100			Q=110			Q=130		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
18500	1700	L120-B548	9x20 (4LM)	463	404	1661	468	409	1658			
20000	1600	L120-B548	9x20 (4LM)	448	396	1564	453	401	1561			
20500	1700	L120-B526	10x20 (4LM)	451	390	1687	456	395	1685	462	401	1683
21500	1500	L120-B542	9x20 (4LM)	438	390	1511	443	395	1508	451	403	1505
22000	1500	L120-B278	10x20 (4LM)	438	393	1511	443	398	1508	451	406	1505
22000	1600	L120-B526	10x20 (4LM)	438	385	1590	443	390	1587	451	398	1584

RIBASSATO / UNDERSLUNG





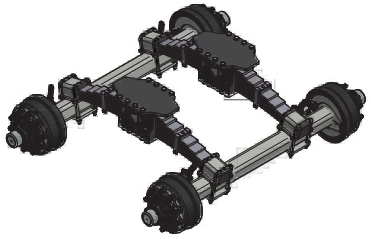
C	EE	LF		Q=100			Q=110			Q=130		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
18500	1700	L120-B548	9x20 (4LM)	253	194	1739	248	189	1742			
20000	1600	L120-B548	9x20 (4LM)	238	186	1636	233	181	1639			
20500	1700	L120-B526	10x20 (4LM)	241	180	1753	236	175	1755	224	163	1761
21500	1500	L120-B542	9x20 (4LM)	228	180	1575	223	175	1578	214	166	1587
22000	1500	L120-B278	10x20 (4LM)	228	183	1575	223	178	1578	214	169	1587
22000	1600	L120-B526	10x20 (4LM)	228	175	1650	223	170	1653	214	161	1661

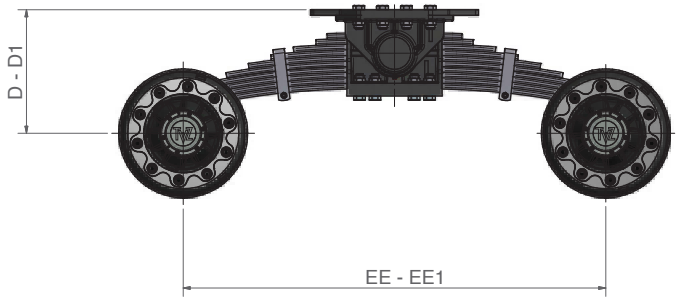
C	PORTATA DI DUE BALESTRE	CAPACITY OF TWO SPRINGS
EE	PASSO	WHEEL BASE
EE1	PASSO A VUOTO	WHEEL BASE WHEN EMPTY
LF	TIPO DI BALESTRA	LEAF SPRING
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED
Q	LATO QUADRO ASSALE	AXLE SQUARE BEAM

Sospensioni bogie _ Bogie suspensions

Mod. 5 – 23/28 ton.

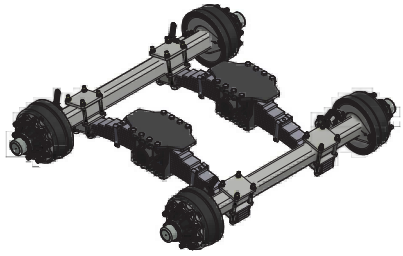
STANDARD

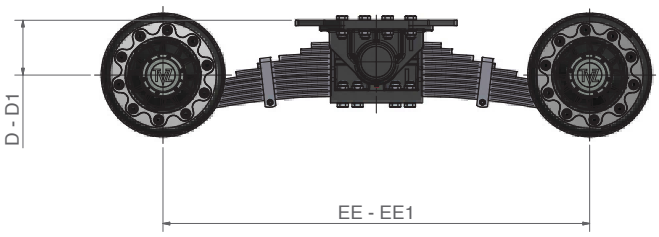




C	EE	LF		Q=110			Q=130			Q=150		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
23000	1700	L120-B525	11x20 (4LM)	466	403	1691	472	409	1687	482	419	1683
23000	1820	L120-B562	8x25 (4LM)	453	395	1819	461	403	1815	471	413	1811
24000	1500	L120-B278	10x20 (4LM)	433	383	1512	441	391	1508	451	401	1504
25000	1600	L120-B525	11x20 (4LM)	453	397	1591	461	405	1587	471	415	1583
26000	1500	L120-B532	11x20 (7LM)	453	404	1515	461	412	1511	471	422	1507
26000	1700	L120-B546	8x25 (4LM)	446	396	1691	452	402	1687	462	412	1683
26000	1820	L120-B561	9x25 (4LM)	490	440	1819	486	436	1815	496	446	1811
28000	1600	L120-B546	8x25 (4LM)	433	389	1591	441	397	1587	451	407	1583

RIBASSATO / UNDERSLUNG





C	EE	LF		Q=110			Q=130			Q=150		
				D	D1	EE1	D	D1	EE1	D	D1	EE1
(kg)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
23000	1700	L120-B525	11x20 (4LM)	246	183	1755	234	171	1761	225	162	1765
23000	1820	L120-B562	8x25 (4LM)	213	155	1884	204	146	1894	194	136	1898
24000	1500	L120-B278	10x20 (4LM)	213	163	1578	204	154	1587	194	144	1591
25000	1600	L120-B525	11x20 (4LM)	233	177	1653	224	168	1661	214	158	1665
26000	1500	L120-B532	11x20 (7LM)	173	124	1578	163	114	1583	153	104	1587
26000	1700	L120-B546	8x25 (4LM)	206	156	1755	194	144	1763	184	134	1767
26000	1820	L120-B561	9x25 (4LM)	250	200	1884	229	179	1894	219	169	1898
28000	1600	L120-B546	8x25 (4LM)	193	149	1653	184	140	1663	174	130	1667

C	PORTATA DI DUE BALESTRE	CAPACITY OF TWO SPRINGS
EE	PASSO	WHEEL BASE
EE1	PASSO A VUOTO	WHEEL BASE WHEN EMPTY
LF	TIPO DI BALESTRA	LEAF SPRING
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED
Q	LATO QUADRO ASSALE	AXLE SQUARE BEAM





SOSPENSIONI MECCANICHE
mechanical suspensions



Sospensioni meccaniche _ Mechanical suspensions

LE SOSPENSIONI MECCANICHE

Sono sospensioni il cui organo elastico è una balestra, operante per flessione, composta da foglie di materiale elastico. La sospensione meccanica, data la sua notevole rigidezza, è particolarmente adatta a veicoli pesanti, il sistema risulta essere particolarmente leggero, facile da istallare e garantisce un buon comfort di marcia anche a velocità elevate.

GAMMA SOSPENSIONI TVZ

- Sospensioni monoasse da 5 a 12 Ton.
- Sospensioni tandem da 10 a 24 Ton.
- Sospensioni tridem da 24 a 36 Ton.
- Sospensioni quadrem da 32 a 48 Ton.
- Con passi da 990 a 1525 mm.
- Con balestre da 76, 80 o 100 mm.

IMBALLO E CONTENUTO

Le sospensioni TVZ vengono fornite smontate come kit, con i sottogruppi già montati. Il contenuto del kit comprende:

- Bilanciere centrale completo, con perno di fissaggio non chiuso.
- Tiranti fissi (su sospensioni tipo 2).
- Tiranti regolabili (su sospensioni tipo 2).
- Viti di supporto balestre montate sui supporti.
- Kit per il fissaggio degli assali sulla balestra (cavallotti, dadi, piastre).
- Attacchi per tirante sugli assali.

MONTAGGIO DEGLI ASSALI

E' estremamente importante, per evitare collassi strutturali del corpo dell'assale, che le saldature dei componenti della sospensione sugli assali siano eseguite evitando le zone di massima sollecitazione. Per assicurare la massima affidabilità, durata e sicurezza di tutti i componenti del veicolo è importante che gli assali vengano installati correttamente. L'allineamento degli assali è eseguito dal costruttore del veicolo, gli assali devono risultare paralleli tra di loro e paralleli con il trattore, questo garantisce un buon controllo del veicolo e una vita maggiore dei pneumatici. Per garantire la massima efficienza frenante e durata dei freni, ed evitare rumorosità e vibrazioni anomale, le leve freno devono avere lo stesso senso di rotazione dei pneumatici. Per eventuali mal funzionamenti o danni alle sospensioni, agli assali, ai freni o ai pneumatici, derivanti dal montaggio non corretto degli assali è responsabile solo l'installatore.

MECHANICAL SUSPENSIONS

These are suspensions with an elastic part (a leaf spring), which works by flexion and is composed of elastic leaves. Since the mechanical suspension is significantly rigid, it is particularly ideal for heavy vehicles. The system is especially light, easy to install and guarantees comfort while running even at high speed.

RANGE

- *Single-axle suspensions with a weight of 5 to 12 Tonnes.*
- *Tandem suspensions with a weight of 10 to 24 Tonnes.*
- *Tridem suspensions with a weight of 24 to 36 Tonnes.*
- *Quadrem suspensions with a weight of 32 to 48 Tonnes.*
- *With wheel base from 990 to 525 mm.*
- *With leaf springs from 76, 80 or 100 mm.*

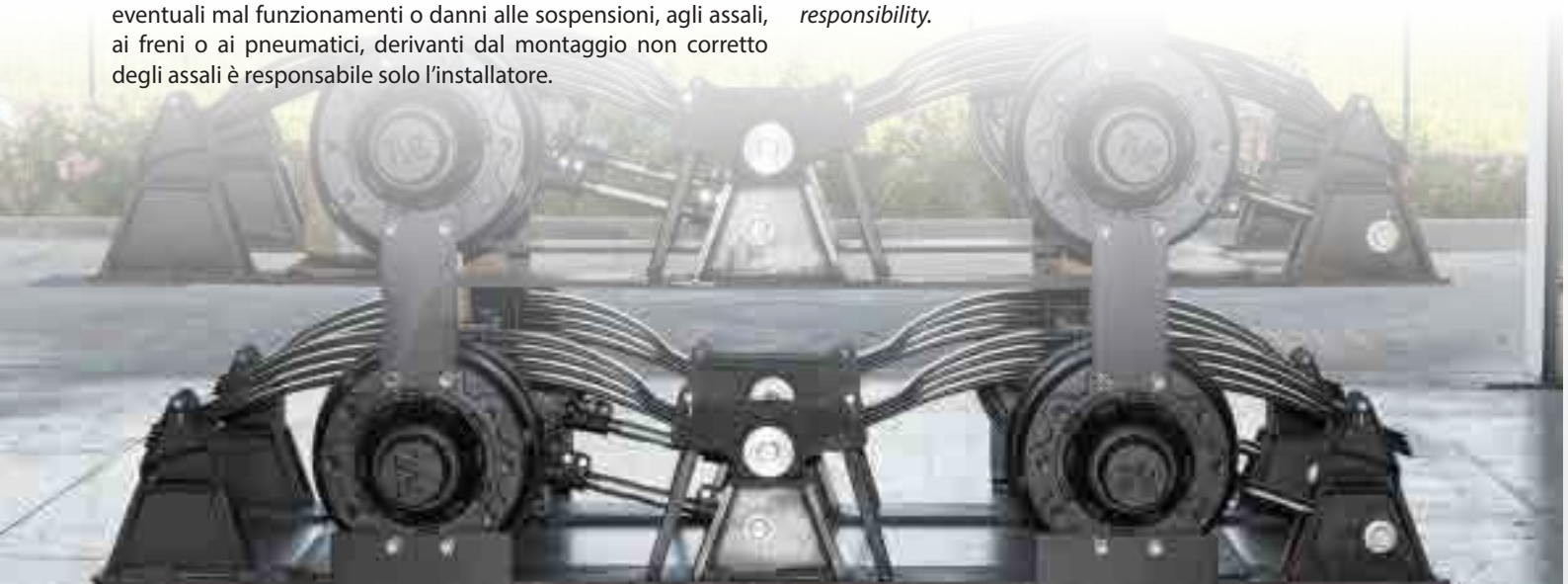
PACKING AND CONTENT

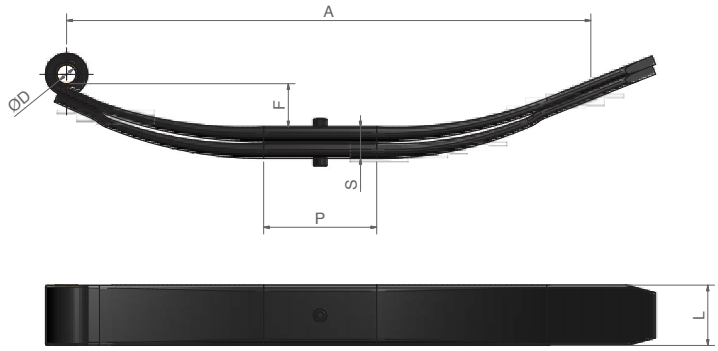
The T.V.Z. suspensions are supplied not assembled as a kit, with the subgroups already assembled.
The kit content includes:

- *Complete central rocker arms, with fixing pin not closed.*
- *Fixed torque arms (on type 2 suspensions).*
- *Adjustable torque arms (on type 2 suspensions).*
- *Screws holding the leaf springs fitted on the supports.*
- *Kit fixing the axles onto the leaf spring (U-bolts, nuts, plates).*
- *Torque arm connections to the axles.*

AXLE ASSEMBLY

In order to avoid the structural collapse of the axle body, it is extremely important that the welding of the suspension components on the axles do not take place in the areas of maximum stress. The correct installation of the axles is important to ensure maximum reliability, duration and safety of all the vehicle components.
The alignment of the axles is carried out by the vehicle manufacturer. The axles must be parallel with each other and with the tractor. This guarantees good vehicle control and a longer life of the tyres.
The brake levers must rotate in the same direction as the tyres to guarantee maximum braking efficiency and duration and to avoid noise and anomalous vibrations.
In case of any failure or damage to the suspensions, axles, brakes or tyres due to an incorrect assembly of the axles, the installer bears full responsibility.



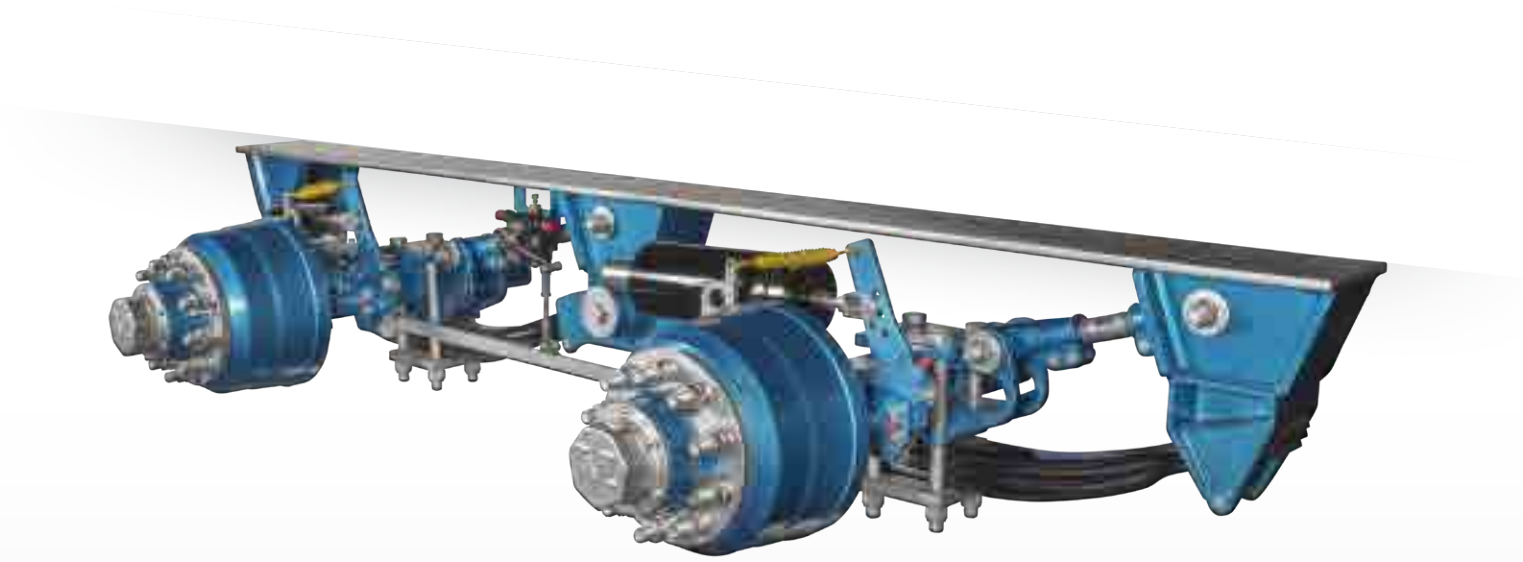




CODICE Code	PORTATA Capacity (kg)	A (mm)	D (mm)	F (mm)	L (mm)	S (mm)	P (mm)	N° DI FOGLIE N° of leafs	PESO Weight (kg)
T4188V001	2500	590	25	40	80	32	150	2	13,2
T4188V002	3500	679	25	55	80	42	150	2	17,0
T4188V003	4000	884	25	55	80	52	150	2	23,4
T4181V003	5250	915	32	55	100	54	200	2	37,9

NOTE
Le altezze delle sospensioni indicate in questo catalogo, si riferiscono alle condizioni di carico nullo o pieno carico, sempre considerando il veicolo orizzontale. Qualora la sospensione non risulti essere orizzontale, potrebbero sorgere problemi di funzionamento, occorre valutare con precisione l'inclinazione del telaio del veicolo.

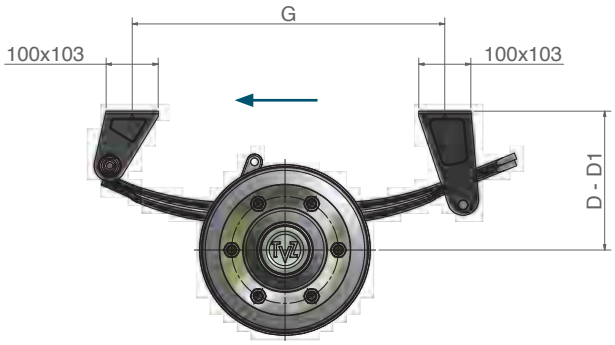
NOTE
The height of suspensions indicated in this catalogue refers to the empty or full loading condition, always taking into consideration that the vehicle is in a horizontal position. If the suspension is not in a horizontal position, operating problems could arise; it is necessary to exactly verify the vehicle frame inclination.



MONO — Balestra - Spring 80 mm

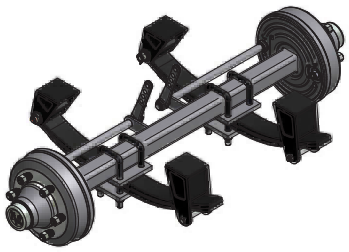
STANDARD

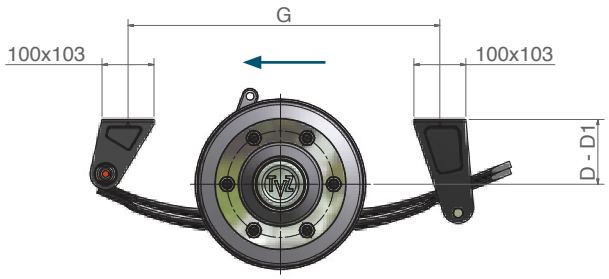




C (kg) PORTATA Capacity	G (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	CODICE Code
5000	530	70	242	224	80G408 T4188V001	**SED05N7408**
		80	247	229		**SED05N8408**
7000	600	70	265	252	80G403 T4188V002	**SED07N7403**
		80	270	257		**SED07N8403**
		90	275	262		**SED07N9403**
8000	810	70	275	254	80G410 T4188V003	**SED08N7410**
		80	280	259		**SED08N8410**
		90	285	264		**SED08N9410**

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C (kg) PORTATA Capacity	G (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	CODICE Code
5000	530	70	110	92	80G408 T4188V001	**SED05R7408**
		80	105	87		**SED05R8408**
7000	600	70	123	110	80G403 T4188V002	**SED07R7403**
		80	118	105		**SED07R8403**
		90	113	100		**SED07R9403**
8000	810	70	123	102	80G410 T4188V003	**SED08R7410**
		80	118	97		**SED08R8410**
		90	113	92		**SED08R9410**

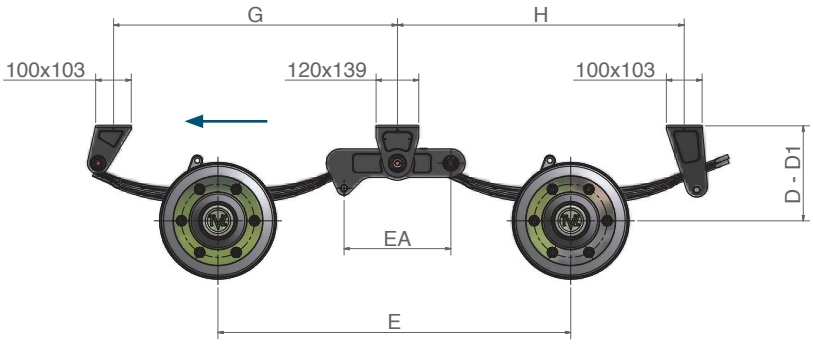
C	PORTATA DI 2 BALESTRE	CAPACITY OF 2 SPRINGS
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

Sospensioni meccaniche agricole _ Agricultural mechanical suspensions

Balestra - Spring 80 mm — TANDEM

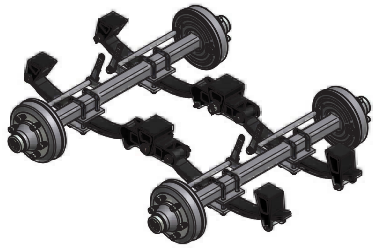
STANDARD

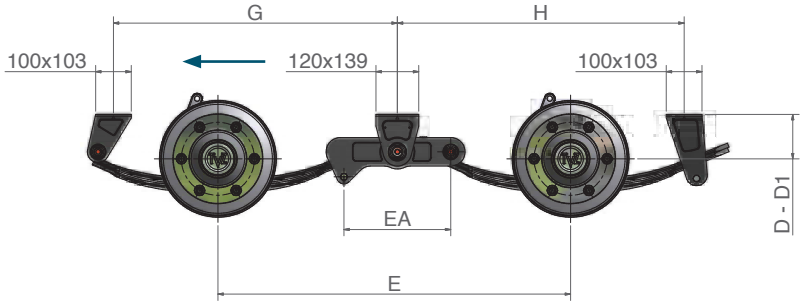




C (kg) PORTATA Capacity	E (mm)	G (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
10000	910	717	725	70	242	224	80G408 T4188V001	310	TED10N7408C
				80	247	229			TED10N8408C
	1060	787	795	70	242	224		470	TED10N7408L
				80	247	229			TED10N8408L
14000	990	797	805	70	265	252	80G403 T4188V002	310	TED14N7403C
				80	270	257			TED14N8403C
				90	275	262			TED14N9403C
	1150	877	885	70	265	252		470	TED14N7403L
				80	270	257			TED14N8403L
				90	275	262			TED14N9403L
16000	1200	1007	1015	80	280	259	80G410 T4188V003	310	TED16N8410C
				90	285	264			TED16N9410C
				100	290	269			TED16NA410C
	1350	1077	1085	80	280	259		470	TED16N8410L
				90	285	264			TED16N9410L
				100	290	269			TED16NA410L

RIBASSATO / UNDERSLUNG



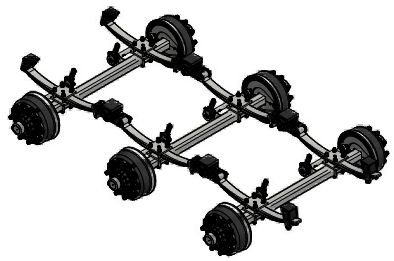


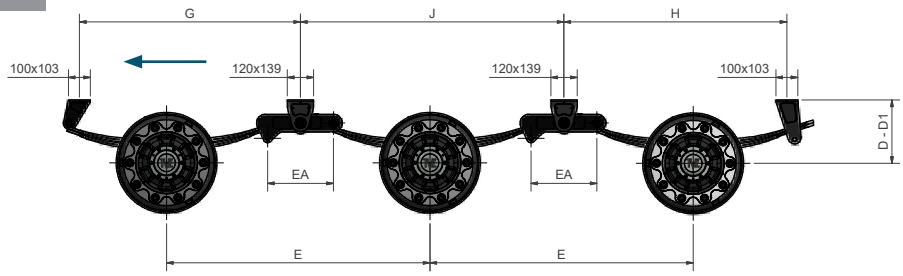
C (kg) PORTATA Capacity	E (mm)	G (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
10000	910	717	725	70	110	92	80G408 T4188V001	310	TED10R7408C
				80	105	87			TED10R8408C
	1060	787	795	70	110	92		470	TED10R7408L
				80	105	87			TED10R8408L
14000	990	797	805	70	123	110	80G403 T4188V002	310	TED14R7403C
				80	118	105			TED14R8403C
				90	113	100			TED14R9403C
	1150	877	885	70	123	110		470	TED14R7403L
				80	118	105			TED14R8403L
				90	113	100			TED14R9403L
16000	1200	1007	1015	80	118	97	80G410 T4188V003	310	TED16R8410C
				90	113	92			TED16R9410C
				100	108	87			TED16RA410C
	1350	1077	1085	80	118	97		470	TED16R8410L
				90	113	92			TED16R9410L
				100	108	87			TED16RA410L

C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS

TRIDEM Balestra - Spring 80 mm

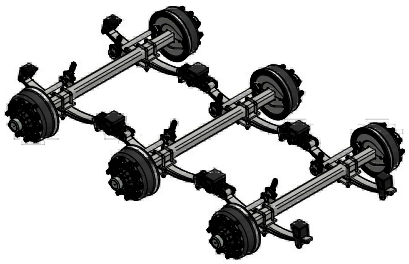
STANDARD

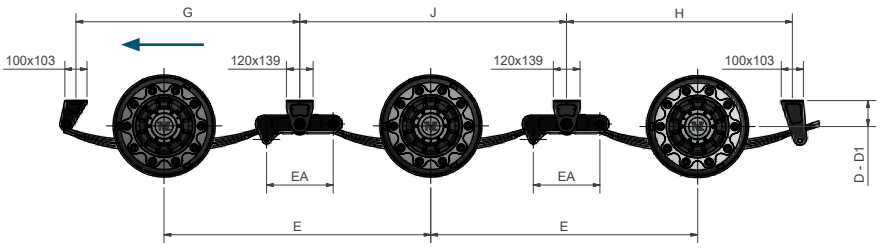




C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
15000	910	717	910	725	70	242	224	80G408 T4188V001	310	KED15N7408C
					80	247	229			KED15N8408C
	1060	787	1060	795	70	242	224		470	KED15N7408L
					80	247	229			KED15N8408L
21000	990	797	990	805	70	265	252	80G403 T4188V002	310	KED21N7403C
					80	270	257			KED21N8403C
					90	275	262			KED21N9403C
	1150	877	1150	885	70	265	252		470	KED21N7403L
					80	270	257			KED21N8403L
					90	275	262			KED21N9403L
24000	1200	1007	1200	1015	80	280	259	80G410 T4188V003	310	KED24N8410C
					90	285	264			KED24N9410C
					100	290	269			KED24NA410C
	1350	1077	1350	1085	80	280	259		470	KED24N8410L
					90	285	264			KED24N9410L
					100	290	269			KED24NA410L

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C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
15000	910	717	910	725	70	110	92	80G408 T4188V001	310	KED15R7408C
					80	105	87			KED15R8408C
	1060	787	1060	795	70	110	92		470	KED15R7408L
					80	105	87			KED15R8408L
21000	990	797	990	805	70	123	110	80G403 T4188V002	310	KED21R7403C
					80	118	105			KED21R8403C
					90	113	100			KED21R9403C
	1150	877	1150	885	70	123	110		470	KED21R7403L
					80	118	105			KED21R8403L
					90	113	100			KED21R9403L
24000	1200	1007	1200	1015	80	118	97	80G410 T4188V003	310	KED24R8410C
					90	113	92			KED24R9410C
					100	108	87			KED24RA410C
	1350	1077	1350	1085	80	118	97		470	KED24R8410L
					90	113	92			KED24R9410L
					100	108	87			KED24RA410L

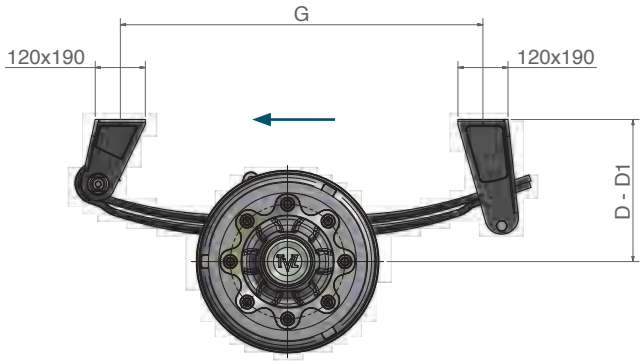
C	PORTATA DI 6 BALESTRE	CAPACITY OF 6 SPRINGS

Sospensioni meccaniche agricole _ Agricultural mechanical suspensions

Balestra - Spring 100 mm — MONO

STANDARD

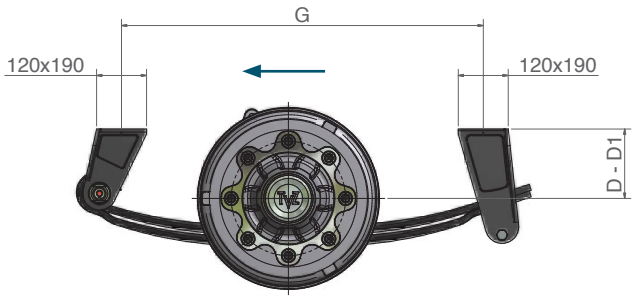




C (kg) PORTATA Capacity	G (mm)	ASSALE Axle	D (mm) (mm)	D1	BALESTRA Spring	CODICE Code
10500	870	90	341	323	100G115 T4181V003	**SFE10N9115**
		100	346	328		**SFE10NA115**
		110	351	333		**SFE10NB115**
		120	361	343		**SFE10NC115**

RIBASSATO / UNDERSLUNG





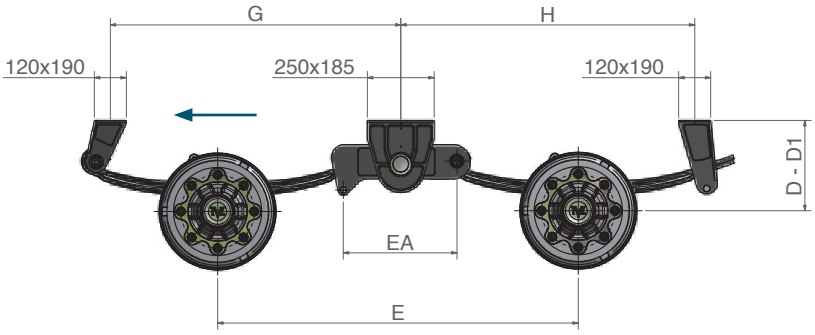
C (kg) PORTATA Capacity	G (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	CODICE Code
10500	870	90	167	149	100G115 T4181V003	**SFE10R9115**
		100	162	144		**SFE10RA115**
		110	157	139		**SFE10RB115**
		120	147	129		**SFE10RC115**

C	PORTATA DI 2 BALESTRE	CAPACITY OF 2 SPRINGS
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

TANDEM Balestra - Spring 100 mm

STANDARD

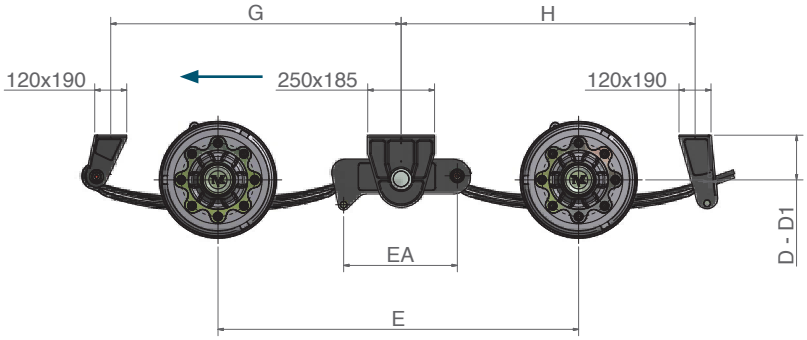




C (kg) PORTATA Capacity	E (mm)	G (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
21000	1350	1087	1100	90	341	323	100G115 T4181V003	420	TFE21N9115C
				100	346	328			TFE21NA115C
				110	351	333			TFE21NB115C
				120	361	343			TFE21NC115C
	1480	1152	1165	90	341	323	100G115 T4181V003	550	TFE21N9115M
				100	346	328			TFE21NA115M
				110	351	333			TFE21NB115M
				120	361	343			TFE21NC115M
	1570	1202	1215	90	341	323	100G115 T4181V003	630	TFE21N9115L
				100	346	328			TFE21NA115L
				110	351	333			TFE21NB115L
				120	361	343			TFE21NC115L

RIBASSATO / UNDERSLUNG





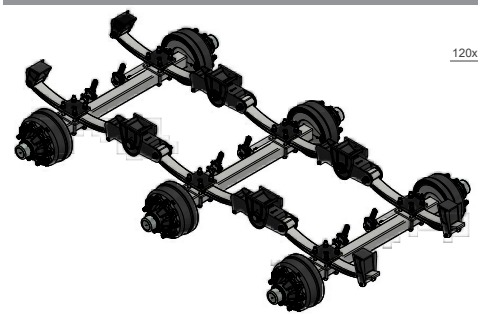
C (kg) PORTATA Capacity	E (mm)	G (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
21000	1350	1087	1100	90	167	149	100G115 T4181V003	420	TFE21R9115C
				100	162	144			TFE21RA115C
				110	157	139			TFE21RB115C
				120	147	129			TFE21RC115C
	1480	1152	1165	90	167	149	100G115 T4181V003	550	TFE21R9115M
				100	162	144			TFE21RA115M
				110	157	139			TFE21RB115M
				120	147	129			TFE21RC115M
	1570	1202	1215	90	167	149	100G115 T4181V003	630	TFE21R9115L
				100	162	144			TFE21RA115L
				110	157	139			TFE21RB115L
				120	147	129			TFE21RC115L

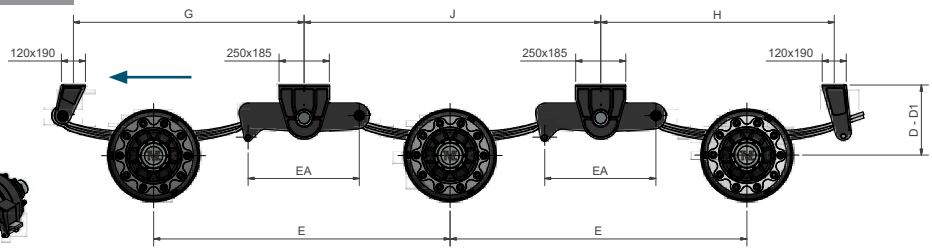
C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS

Sospensioni meccaniche agricole _ Agricultural mechanical suspensions

Balestra - Spring 100 mm — TRIDEM

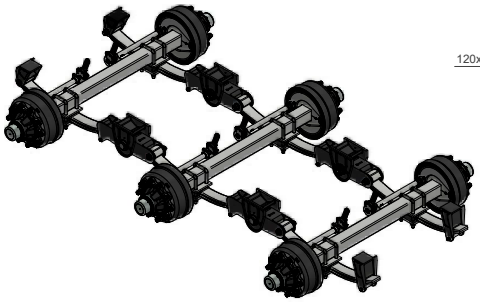
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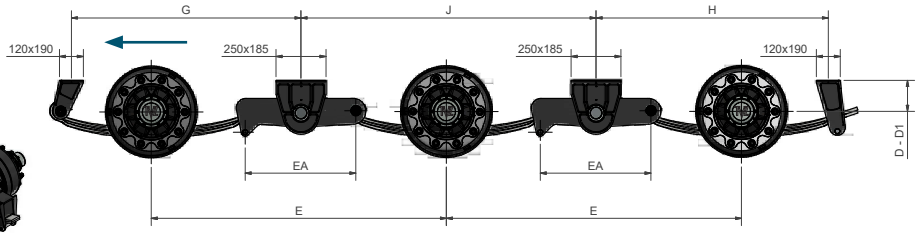




C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
31000	1350	1087	1350	1100	90	341	323	100G115 T4181V003	420	KFE31N9115C
					100	346	328			KFE31NA115C
					110	351	333			KFE31NB115C
					120	361	343			KFE31NC115C
	1480	1152	1480	1165	90	341	323	100G115 T4181V003	550	KFE31N9115M
					100	346	328			KFE31NA115M
					110	351	333			KFE31NB115M
					120	361	343			KFE31NC115M
	1570	1202	1570	1215	90	341	323	100G115 T4181V003	630	KFE31N9115L
					100	346	328			KFE31NA115L
					110	351	333			KFE31NB115L
					120	361	343			KFE31NC115L

RIBASSATO / UNDERSLUNG

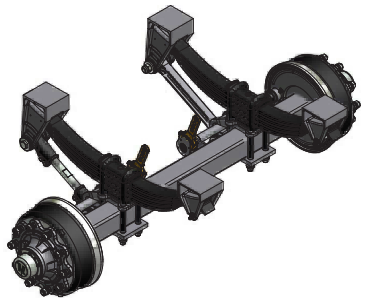


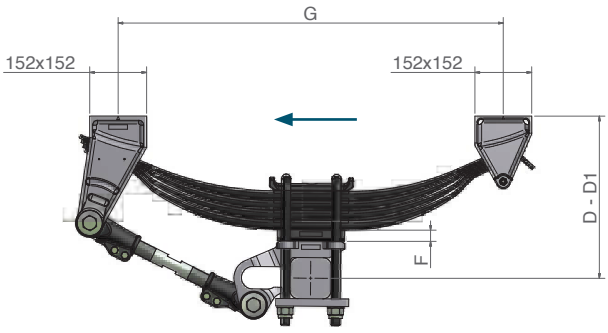


C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	H (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	EA (mm)	CODICE Code
31000	1350	1087	1350	1100	90	167	149	100G115 T4181V003	420	KFE31R9115C
					100	162	144			KFE31RA115C
					110	157	139			KFE31RB115C
					120	147	129			KFE31RC115C
	1480	1152	1480	1165	90	167	149	100G115 T4181V003	550	KFE31R9115M
					100	162	144			KFE31RA115M
					110	157	139			KFE31RB115M
					120	147	129			KFE31RC115M
	1570	1202	1570	1215	90	167	149	100G115 T4181V003	630	KFE31R9115L
					100	162	144			KFE31RA115L
					110	157	139			KFE31RB115L
					120	147	129			KFE31RC115L

C	PORTATA DI 6 BALESTRE	CAPACITY OF 6 SPRINGS

MONO Balestra – Spring 76 mm





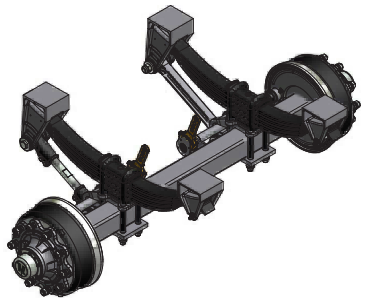
C (kg) PORTATA Capacity	G (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA Spring	CODICE - Code
8000	825	90	0	315	280	3x23x1000	**ST1E5N0932**
			30	345	310		**ST1E5N0935**
			60	375	340		**ST1E5N0938**
		100	0	315	280	3x23x1000	**ST1E5N1032**
			30	345	310		**ST1E5N1035**
			60	375	340		**ST1E5N1038**
		120	0	315	280	3x23x1000	**ST1E5N1232**
			30	345	310		**ST1E5N1235**
			60	375	340		**ST1E5N1238**
		Ø127	0	315	280	3x23x1000	**ST1E5NT132**
			30	345	310		**ST1E5NT135**
			60	375	340		**ST1E5NT138**
10000	990	90	0	365	315	3x25x1150	**ST1E7N0937**
			30	395	345		**ST1E7N0940**
			60	425	375		**ST1E7N0943**
		100	0	365	315	3x25x1150	**ST1E7N1037**
			30	395	345		**ST1E7N1040**
			60	425	375		**ST1E7N1043**
		110	0	365	315	3x25x1150	**ST1E7N1137**
			30	395	345		**ST1E7N1140**
			60	425	375		**ST1E7N1143**
		120	0	365	315	3x25x1150	**ST1E7N1237**
			30	395	345		**ST1E7N1240**
			60	425	375		**ST1E7N1243**
		130	0	365	315	3x25x1150	**ST1E7N1337**
			30	395	345		**ST1E7N1340**
			60	425	375		**ST1E7N1343**
		Ø127	0	365	315	3x25x1150	**ST1E7NT137**
			30	395	345		**ST1E7NT140**
			60	425	375		**ST1E7NT143**

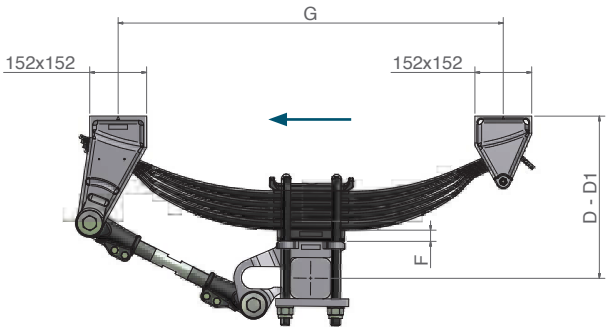
C	PORTATA DI 2 BALESTRE	CAPACITY OF 2 SPRINGS
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

Sospensioni meccaniche industriali _ Industrial mechanical suspensions

Balestra - Spring 76 mm

MONO

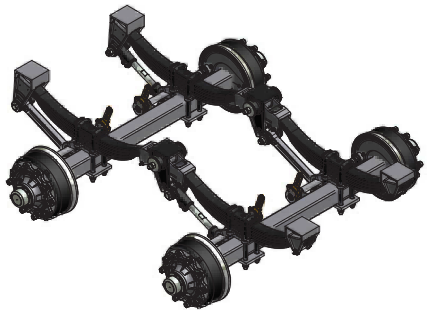


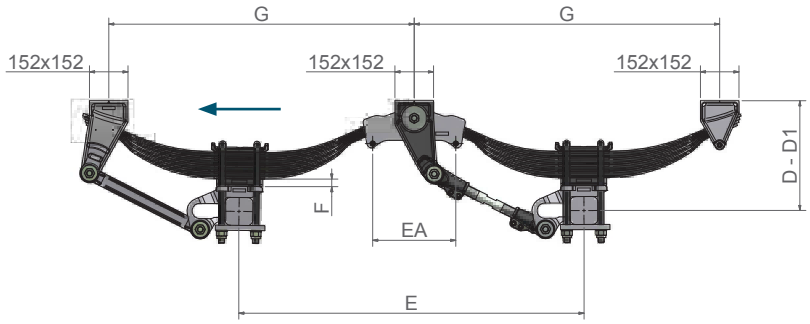


C (kg) PORTATA Capacity	G (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA Spring	CODICE - Code
10000	1030	90	0	370	323	3X25X1197	ST1E1N0938
			30	400	353		ST1E1N0941
			60	430	383		ST1E1N0944
		100	0	370	323	3X25X1197	ST1E1N1038
			30	400	353		ST1E1N1041
			60	430	383		ST1E1N1044
		110	0	370	323	3X25X1197	ST1E1N1138
			30	400	353		ST1E1N1141
			60	430	383		ST1E1N1144
		120	0	370	323	3X25X1197	ST1E1N1238
			30	400	353		ST1E1N1241
			60	430	383		ST1E1N1244
		130	0	370	323	3X25X1197	ST1E1N1338
			30	400	353		ST1E1N1341
			60	430	383		ST1E1N1344
		Ø127	0	370	323	3X25X1197	ST1E1NT138
			30	400	353		ST1E1NT141
			60	430	383		ST1E1NT144
12000	1030	100	0	400	340	4x25x1197	ST1E4N1040
			30	430	370		ST1E4N1043
			60	460	400		ST1E4N1046
		110	0	400	340	4x25x1197	ST1E4N1140
			30	430	370		ST1E4N1143
			60	460	400		ST1E4N1146
		120	0	400	340	4x25x1197	ST1E4N1240
			30	430	370		ST1E4N1243
			60	460	400		ST1E4N1246
		130	0	400	340	4x25x1197	ST1E4N1340
			30	430	370		ST1E4N1343
			60	460	400		ST1E4N1346
		Ø127	0	400	340	4x25x1197	ST1E4NT140
			30	430	370		ST1E4NT143
			60	460	400		ST1E4NT146

C	PORTATA DI 2 BALESTRE	CAPACITY OF 2 SPRINGS
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

TANDEM Balestra – Spring 76 mm



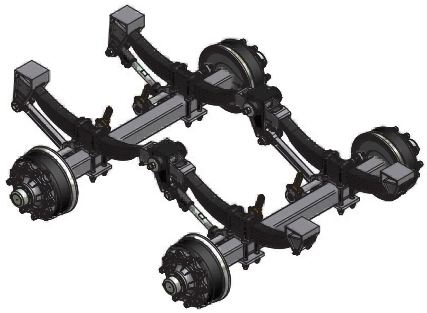


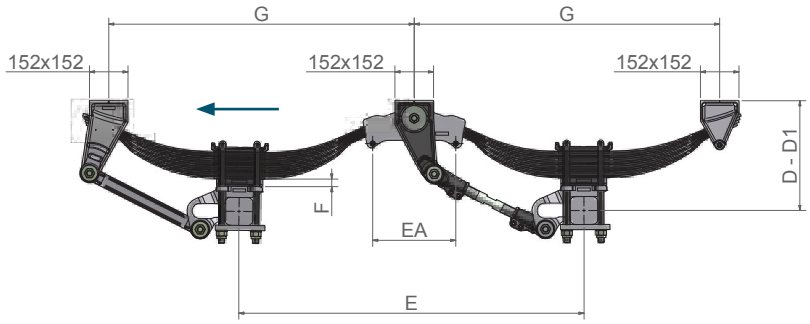
C PORTATA Capacity (kg)	E (mm)	G (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	EA (mm)	CODICE - Code
16000	1145	990	90	0	315	280	3x23x1000	336	**ST2E5N0932**
				30	345	310			**ST2E5N0935**
				60	375	340			**ST2E5N0938**
		990	100	0	315	280	3x23x1000	336	**ST2E5N1032**
				30	345	310			**ST2E5N1035**
				60	375	340			**ST2E5N1038**
		990	120	0	315	280	3x23x1000	336	**ST2E5N1232**
				30	345	310			**ST2E5N1235**
				60	375	340			**ST2E5N1238**
		990	Ø127	0	315	280	3x23x1000	336	**ST2E5NT132**
				30	345	310			**ST2E5NT135**
				60	375	340			**ST2E5NT138**
	1200	1045	90	0	315	280	3x23x1000	400	**ST2E6N0932**
				30	345	310			**ST2E6N0935**
				60	375	340			**ST2E6N0938**
		1045	100	0	315	280	3x23x1000	400	**ST2E6N1032**
				30	345	310			**ST2E6N1035**
				60	375	340			**ST2E6N1038**
		1045	120	0	315	280	3x23x1000	400	**ST2E6N1232**
				30	345	310			**ST2E6N1235**
				60	375	340			**ST2E6N1238**
		1045	Ø127	0	315	280	3x23x1000	400	**ST2E6NT132**
				30	345	310			**ST2E6NT135**
				60	375	340			**ST2E6NT138**
	1310	1075	90	0	315	280	3x23x1000	490	**ST2E7N0932**
				30	345	310			**ST2E7N0935**
				60	375	340			**ST2E7N0938**
		1075	100	0	315	280	3x23x1000	490	**ST2E7N1032**
				30	345	310			**ST2E7N1035**
				60	375	340			**ST2E7N1038**
		1075	120	0	315	280	3x23x1000	490	**ST2E7N1232**
				30	345	310			**ST2E7N1235**
				60	375	340			**ST2E7N1238**
		1075	Ø127	0	315	280	3x23x1000	490	**ST2E7NT132**
				30	345	310			**ST2E7NT135**
				60	375	340			**ST2E7NT138**
20000	1310	1155	90	0	365	315	3x25x1150	336	**ST2E7N0937**
				30	395	345			**ST2E7N0940**
				60	425	375			**ST2E7N0943**
		1155	100	0	365	315	3x25x1150	336	**ST2E7N1037**
				30	395	345			**ST2E7N1040**
				60	425	375			**ST2E7N1043**
		1155	110	0	365	315	3x25x1150	336	**ST2E7N1137**
				30	395	345			**ST2E7N1140**
				60	425	375			**ST2E7N1143**
		1155	120	0	365	315	3x25x1150	336	**ST2E7N1237**
				30	395	345			**ST2E7N1240**
				60	425	375			**ST2E7N1243**
		1155	130	0	365	315	3x25x1150	336	**ST2E7N1337**
				30	395	345			**ST2E7N1340**
				60	425	375			**ST2E7N1343**
		1155	Ø127	0	365	315	3x25x1150	336	**ST2E7NT137**
				30	395	345			**ST2E7NT140**
				60	425	375			**ST2E7NT143**

C PORTATA DI 4 BALESTRE CAPACITY OF 4 SPRINGS

Sospensioni meccaniche industriali _ Industrial mechanical suspensions

Balestra - Spring 76 mm — TANDEM



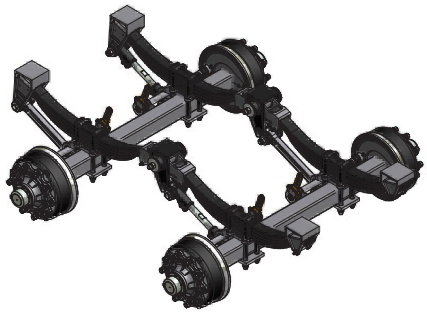


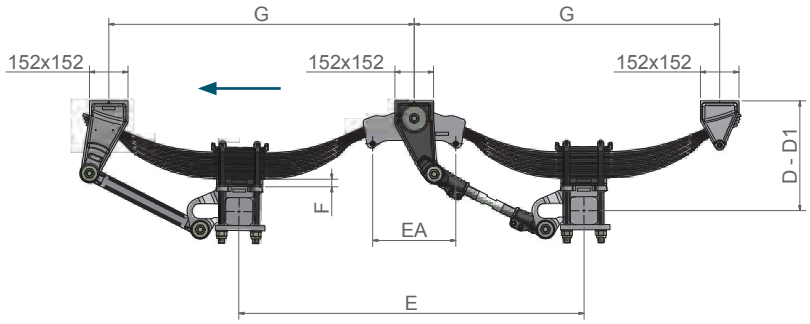
C PORTATA Capacity (kg)	E (mm)	G (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	EA (mm)	CODICE - Code
20000	1360	1205	90	0	370	323	3x25x1197	336	ST2E1N0938
				30	400	353			ST2E1N0941
				60	430	383			ST2E1N0944
		1205	100	0	370	323	3x25x1197	336	ST2E1N1038
				30	400	353			ST2E1N1041
				60	430	383			ST2E1N1044
		1205	110	0	370	323	3x25x1197	336	ST2E1N1138
				30	400	353			ST2E1N1141
				60	430	383			ST2E1N1144
		1205	120	0	370	323	3x25x1197	336	ST2E1N1238
				30	400	353			ST2E1N1241
				60	430	383			ST2E1N1244
		1205	130	0	370	323	3x25x1197	336	ST2E1N1338
				30	400	353			ST2E1N1341
				60	430	383			ST2E1N1344
		1205	Ø127	0	370	323	3x25x1197	336	ST2E1NT138
				30	400	353			ST2E1NT141
				60	430	383			ST2E1NT144
	1400 (1410)[1]	1225	90	0	370	323	3x25x1197	400	ST2E8N0938
				30	400	353			ST2E8N0941
				60	430	383			ST2E8N0944
		1225	100	0	370	323	3x25x1197	400	ST2E8N1038
				30	400	353			ST2E8N1041
				60	430	383			ST2E8N1044
		1225	110	0	370	323	3x25x1197	400	ST2E8N1138
				30	400	353			ST2E8N1141
				60	430	383			ST2E8N1144
		1225	120	0	370	323	3x25x1197	400	ST2E8N1238
				30	400	353			ST2E8N1241
				60	430	383			ST2E8N1244
		1225	130	0	370	323	3x25x1197	400	ST2E8N1338
				30	400	353			ST2E8N1341
				60	430	383			ST2E8N1344
		1225	Ø127	0	370	323	3x25x1197	400	ST2E8NT138
				30	400	353			ST2E8NT141
				60	430	383			ST2E8NT144
	1525 (1480)[1]	1285	90	0	370	323	3x25x1197	490	ST2E2N0938
				30	400	353			ST2E2E0941
				60	430	383			ST2E2N0944
		1285	100	0	370	323	3x25x1197	490	ST2E2N1038
				30	400	353			ST2E2N1041
				60	430	383			ST2E2N1044
		1285	110	0	370	323	3x25x1197	490	ST2E2N1138
				30	400	353			ST2E2N1141
				60	430	383			ST2E2N1144
		1285	120	0	370	323	3x25x1197	490	ST2E2N1238
				30	400	353			ST2E2N1241
				60	430	383			ST2E2N1244
		1285	130	0	370	323	3x25x1197	490	ST2E2N1338
				30	400	353			ST2E2N1341
				60	430	383			ST2E2N1344
		1285	Ø127	0	370	323	3x25x1197	490	ST2E2NT138
				30	400	353			ST2E2NT141
				60	430	383			ST2E2NT144

[1]Valori di passo tra parentesi ottenibili modificando le lunghezze dei tiranti e/o le quote delle posizioni G, prego contattare l'ufficio tecnico.
[1]Wheelbase values in brackets obtainable by modifying the lengths of the tie rods and / or the dimension of the positions G, please contact the technical office.

C PORTATA DI 4 BALESTRE CAPACITY OF 4 SPRINGS

TANDEM Balestra – Spring 76 mm





C PORTATA Capacity (kg)	E (mm)	G (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	EA (mm)	CODICE - Code
24000	1360	1205	100	0	400	340	4x25x1197	336	**ST2E4N1040**
				30	430	370			**ST2E4N1043**
				60	460	400			**ST2E4N1046**
		1205	110	0	400	340	4x25x1197	336	**ST2E4N1140**
				30	430	370			**ST2E4N1143**
				60	460	400			**ST2E4N1146**
		1205	120	0	400	340	4x25x1197	336	**ST2E4N1240**
				30	430	370			**ST2E4N1243**
				60	460	400			**ST2E4N1246**
		1205	130	0	400	340	4x25x1197	336	**ST2E4N1340**
				30	430	370			**ST2E4N1343**
				60	460	400			**ST2E4N1346**
		1205	Ø127	0	400	340	4x25x1197	336	**ST2E4NT140**
				30	430	370			**ST2E4NT143**
				60	460	400			**ST2E4NT146**
	1400 (1410)[1]	1225	100	0	400	340	4x25x1197	400	**ST2E9N1040**
				30	430	370			**ST2E9N1043**
				60	460	400			**ST2E9N1046**
		1225	110	0	400	340	4x25x1197	400	**ST2E9N1140**
				30	430	370			**ST2E9N1143**
				60	460	400			**ST2E9N1146**
		1225	120	0	400	340	4x25x1197	400	**ST2E9N1240**
				30	430	370			**ST2E9N1243**
				60	460	400			**ST2E9N1246**
		1225	130	0	400	340	4x25x1197	400	**ST2E9N1340**
				30	430	370			**ST2E9N1343**
				60	460	400			**ST2E9N1346**
		1225	Ø127	0	400	340	4x25x1197	400	**ST2E9NT140**
				30	430	370			**ST2E9NT143**
				60	460	400			**ST2E9NT146**
	1525 (1480)[1]	1285	100	0	400	340	4x25x1197	490	**ST2E5N1040**
				30	430	370			**ST2E5N1043**
				60	460	400			**ST2E5N1046**
		1285	110	0	400	340	4x25x1197	490	**ST2E5N1140**
				30	430	370			**ST2E5N1143**
				60	460	400			**ST2E5N1146**
		1285	120	0	400	340	4x25x1197	490	**ST2E5N1240**
				30	430	370			**ST2E5N1243**
				60	460	400			**ST2E5N1246**
		1285	130	0	400	340	4x25x1197	490	**ST2E5N1340**
				30	430	370			**ST2E5N1343**
				60	460	400			**ST2E5N1346**
		1285	Ø127	0	400	340	4x25x1197	490	**ST2E5NT140**
				30	430	370			**ST2E5NT143**
				60	460	400			**ST2E5NT146**

[1]Valori di passo tra parentesi ottenibili modificando le lunghezze dei tiranti e/o le quote delle posizioni G, prego contattare l'ufficio tecnico.
[1]Wheelbase values in brackets obtainable by modifying the lengths of the tie rods and / or the dimension of the positions G, please contact the technical office.

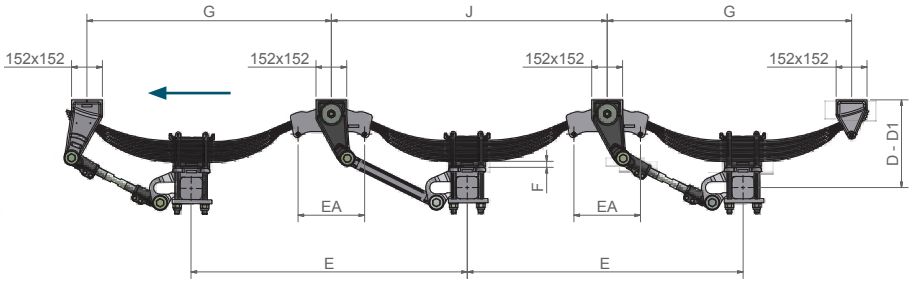
C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS
E	PASSO	WHEEL BASE
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

Sospensioni meccaniche industriali _ Industrial mechanical suspensions

Balestra - Spring 76 mm

TRIDEM



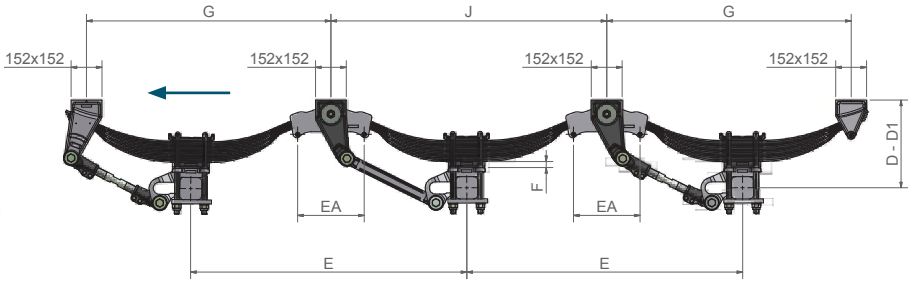


C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	BALESTRA IN MEZZO Spring in half	EA (mm)	CODICE - Code
24000	1145	990	1145	90	0	315	280	3x23x1000	3x23x972	336	**ST3E5N0932**
					30	345	310				**ST3E5N0935**
					60	375	340				**ST3E5N0938**
		990	1145	100	0	315	280	3x23x1000	3x23x972	336	**ST3E5N1032**
					30	345	310				**ST3E5N1035**
					60	375	340				**ST3E5N1038**
		990	1145	120	0	315	280	3x23x1000	3x23x972	336	**ST3E5N1232**
					30	345	310				**ST3E5N1235**
					60	375	340				**ST3E5N1238**
		990	1145	Ø127	0	315	280	3x23x1000	3x23x972	336	**ST3E5NT132**
					30	345	310				**ST3E5NT135**
					60	375	340				**ST3E5NT138**
	1200	1045	1200	90	0	315	280	3x23x1000	3x23x972	400	**ST3E6N0932**
					30	345	310				**ST3E6N0935**
					60	375	340				**ST3E6N0938**
		1045	1200	100	0	315	280	3x23x1000	3x23x972	400	**ST3E6N1032**
					30	345	310				**ST3E6N1035**
					60	375	340				**ST3E6N1038**
		1045	1200	120	0	315	280	3x23x1000	3x23x972	400	**ST3E6N1232**
					30	345	310				**ST3E6N1235**
					60	375	340				**ST3E6N1238**
		1045	1200	Ø127	0	315	280	3x23x1000	3x23x972	400	**ST3E6NT132**
					30	345	310				**ST3E6NT135**
					60	375	340				**ST3E6NT138**
	1310	1075	1310	90	0	315	280	3x23x1000	3x23x972	490	**ST3E7N0932**
					30	345	310				**ST3E7N0935**
					60	375	340				**ST3E7N0938**
		1075	1310	100	0	315	280	3x23x1000	3x23x972	490	**ST3E7N1032**
					30	345	310				**ST3E7N1035**
					60	375	340				**ST3E7N1038**
		1075	1310	120	0	315	280	3x23x1000	3x23x972	490	**ST3E7N1232**
					30	345	310				**ST3E7N1235**
					60	375	340				**ST3E7N1238**
		1075	1310	Ø127	0	315	280	3x23x1000	3x23x972	490	**ST3E7NT132**
					30	345	310				**ST3E7NT135**
					60	375	340				**ST3E7NT138**

C	PORTATA DI 6 BALESTRE	CAPACITY OF 6 SPRINGS
E	PASSO	WHEEL BASE
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

TRIDEM Balestra – Spring 76 mm





C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	BALESTRA IN MEZZO Spring in half	EA (mm)	CODICE - Code
30000	1360	1205	1360	100	0	370	323	3x25x1197	3x25x1175	336	**ST3E8N1038**
					30	400	353				**ST3E8N1041**
					60	430	383				**ST3E8N1044**
		1205	1360	110	0	370	323	3x25x1197	3x25x1175	336	**ST3E8N1138**
					30	400	353				**ST3E8N1141**
					60	430	383				**ST3E8N1144**
		1205	1360	120	0	370	323	3x25x1197	3x25x1175	336	**ST3E8N1238**
					30	400	353				**ST3E8N1241**
					60	430	383				**ST3E8N1244**
		1205	1360	130	0	370	323	3x25x1197	3x25x1175	336	**ST3E8N1338**
					30	400	353				**ST3E8N1341**
					60	430	383				**ST3E8N1344**
		1205	1360	Ø127	0	370	323	3x25x1197	3x25x1175	336	**ST3E8NT138**
					30	400	353				**ST3E8NT141**
					60	430	383				**ST3E8NT144**
	1400 (1410)[1]	1225	1400	100	0	370	323	3x25x1197	3x25x1175	400	**ST3E3N1038**
					30	400	353				**ST3E3N1041**
					60	430	383				**ST3E3N1044**
		1225	1400	110	0	370	323	3x25x1197	3x25x1175	400	**ST3E3N1138**
					30	400	353				**ST3E3N1141**
					60	430	383				**ST3E3N1144**
		1225	1400	120	0	370	323	3x25x1197	3x25x1175	400	**ST3E3N1238**
					30	400	353				**ST3E3N1241**
					60	430	383				**ST3E3N1244**
		1225	1400	130	0	370	323	3x25x1197	3x25x1175	400	**ST3E3N1338**
					30	400	353				**ST3E3N1341**
					60	430	383				**ST3E3N1344**
		1225	1400	Ø127	0	370	323	3x25x1197	3x25x1175	400	**ST3E3NT138**
					30	400	353				**ST3E3NT141**
					60	430	383				**ST3E3NT144**
	1525 (1480)[1]	1285	1525	100	0	370	323	3x25x1197	3x25x1175	490	**ST3E9N1038**
					30	400	353				**ST3E9N1041**
					60	430	383				**ST3E9N1044**
		1285	1525	110	0	370	323	3x25x1197	3x25x1175	490	**ST3E9N1138**
					30	400	353				**ST3E9N1141**
					60	430	383				**ST3E9N1144**
		1285	1525	120	0	370	323	3x25x1197	3x25x1175	490	**ST3E9N1238**
					30	400	353				**ST3E9N1241**
					60	430	383				**ST3E9N1244**
		1285	1525	130	0	370	323	3x25x1197	3x25x1175	490	**ST3E9N1338**
					30	400	353				**ST3E9N1341**
					60	430	383				**ST3E9N1344**
		1285	1525	Ø127	0	370	323	3x25x1197	3x25x1175	490	**ST3E9NT138**
					30	400	353				**ST3E9NT141**
					60	430	383				**ST3E9NT144**

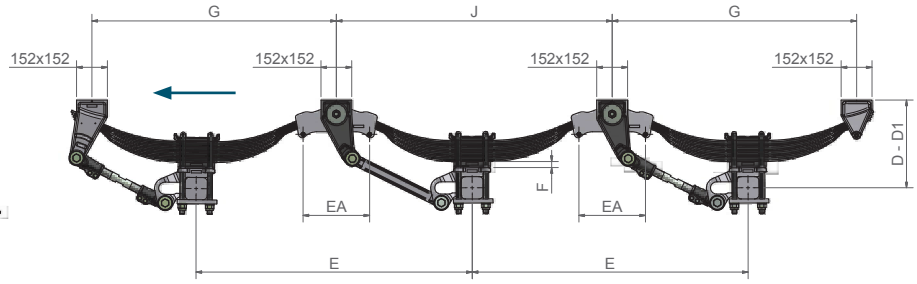
[1]Valori di passo tra parentesi ottenibili modificando le lunghezze dei tiranti e/o le quote delle posizioni G/J, prego contattare l'ufficio tecnico.
[1]Wheelbase values in brackets obtainable by modifying the lengths of the tie rods and / or the dimension of the positions G/J, please contact the technical office.

Sospensioni meccaniche industriali _ Industrial mechanical suspensions

Balestra - Spring 76 mm

TRIDEM



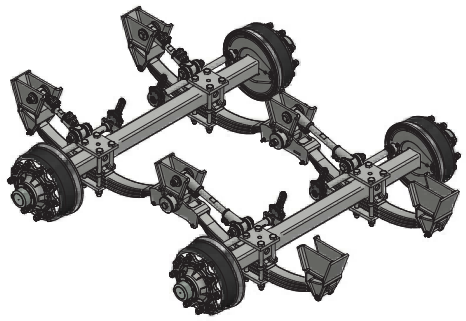


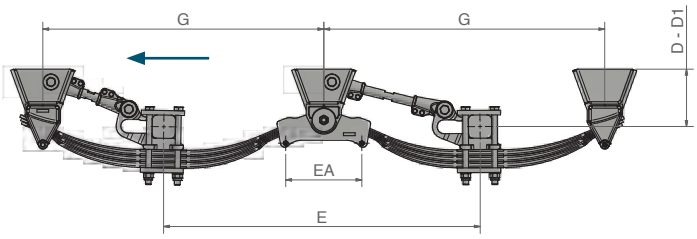
C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	BALESTRA IN MEZZO Spring in half	EA (mm)	CODICE - Code
36000	1360	1205	1360	100	0	400	340	4x25x1197	4x25x1175	336	ST3EAN1040
					30	430	370				ST3EAN1043
					60	460	400				ST3EAN1046
		1205	1360	110	0	400	340	4x25x1197	4x25x1175	336	ST3EAN1140
					30	430	370				ST3EAN1143
					60	460	400				ST3EAN1146
		1205	1360	120	0	400	340	4x25x1197	4x25x1175	336	ST3EAN1240
					30	430	370				ST3EAN1243
					60	460	400				ST3EAN1246
		1205	1360	130	0	400	340	4x25x1197	4x25x1175	336	ST3EAN1340
					30	430	370				ST3EAN1343
					60	460	400				ST3EAN1346
		1205	1360	Ø127	0	400	340	4x25x1197	4x25x1175	336	ST3EANT140
					30	430	370				ST3EANT143
					60	460	400				ST3EANT146
	1400 (1410)[1]	1225	1400	100	0	400	340	4x25x1197	4x25x1175	400	ST3E4N1040
					30	430	370				ST3E4N1043
					60	460	400				ST3E4N1046
		1225	1400	110	0	400	340	4x25x1197	4x25x1175	400	ST3E4N1140
					30	430	370				ST3E4N1143
					60	460	400				ST3E4N1146
		1225	1400	120	0	400	340	4x25x1197	4x25x1175	400	ST3E4N1240
					30	430	370				ST3E4N1243
					60	460	400				ST3E4N1246
		1225	1400	130	0	400	340	4x25x1197	4x25x1175	400	ST3E4N1340
					30	430	370				ST3E4N1343
					60	460	400				ST3E4N1346
		1225	1400	Ø127	0	400	340	4x25x1197	4x25x1175	400	ST3E4NT140
					30	430	370				ST3E4NT143
					60	460	400				ST3E4NT146
	1525 (1480)[1]	1285	1525	100	0	400	340	4x25x1197	4x25x1175	490	ST3EBN1040
					30	430	370				ST3EBN1043
					60	460	400				ST3EBN1046
		1285	1525	110	0	400	340	4x25x1197	4x25x1175	490	ST3EBN1140
					30	430	370				ST3EBN1143
					60	460	400				ST3EBN1146
		1285	1525	120	0	400	340	4x25x1197	4x25x1175	490	ST3EBN1240
					30	430	370				ST3EBN1243
					60	460	400				ST3EBN1246
		1285	1525	130	0	400	340	4x25x1197	4x25x1175	490	ST3EBN1340
					30	430	370				ST3EBN1343
					60	460	400				ST3EBN1346
		1285	1525	Ø127	0	400	340	4x25x1197	4x25x1175	490	ST3EBNT140
					30	430	370				ST3EBNT143
					60	460	400				ST3EBNT146

[1]Valori di passo tra parentesi ottenibili modificando le lunghezze dei tiranti e/o le quote delle posizioni G/J, prego contattare l'ufficio tecnico.
[1]Wheelbase values in brackets obtainable by modifying the lengths of the tie rods and / or the dimension of the positions G/J, please contact the technical office.

C PORTATA DI 6 BALESTRE CAPACITY OF 6 SPRINGS

TANDEM Balestra – Spring 76 mm





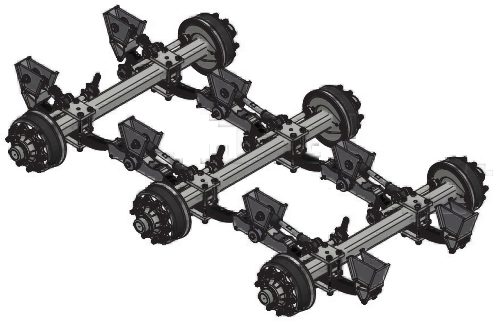
C (kg) PORTATA Capacity	E (mm)	G (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	EA (mm)	CODICE - Code
	1145	1015	90	230	195	3x23x1000	336	**ST2X7R0923**
			100	230	195			**ST2X7R1023**
			120	230	195			**ST2X7R1223**
	1200	1040	90	230	195	3x23x1000	400	**ST2X6R0923**
16000			100	230	195			**ST2X6R1023**
			120	230	195			**ST2X6R1223**
	1310	1095	90	230	195	3x23x1000	490	**ST2X5R0923**
			100	230	195			**ST2X5R1023**
			120	230	195			**ST2X5R1223**
	1360	1210	100	290	243	3x25x1197	336	**ST2X3R1029**
			110	290	243			**ST2X3R1129**
			120	290	243			**ST2X3R1229**
	1400	1230	100	290	243	3x25x1197	400	**ST2X1R1029**
20000			110	290	243			**ST2X1R1129**
			120	290	243			**ST2X1R1229**
	1525	1280	100	290	243	3x25x1197	490	**ST2X4R1029**
			110	290	243			**ST2X4R1129**
			120	290	243			**ST2X4R1229**
	1360	1210	110	290	230	4x25x1197	336	**ST2X8R1129**
			120	290	230			**ST2X8R1229**
			130	290	230			**ST2X8R1329**
	1400	1230	110	290	230	4x25x1197	400	**ST2X9R1129**
24000			120	290	230			**ST2X9R1229**
			130	290	230			**ST2X9R1329**
	1525	1280	110	290	230	4x25x1197	490	**ST2XAR1129**
			120	290	230			**ST2XAR1229**
			130	290	230			**ST2XAR1329**

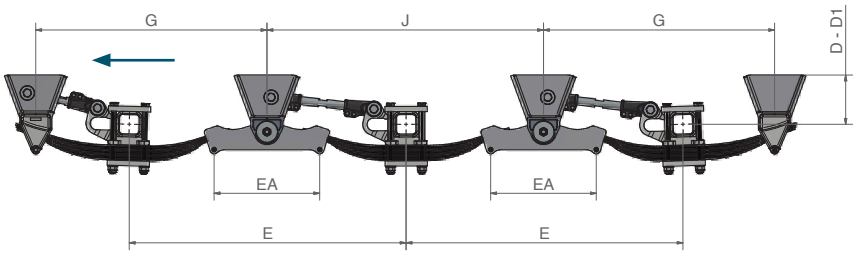
C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS
E	PASSO	WHEEL BASE
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

Sospensioni meccaniche industriali _ Industrial mechanical suspensions

Balestra - Spring 76 mm

TRIDEM

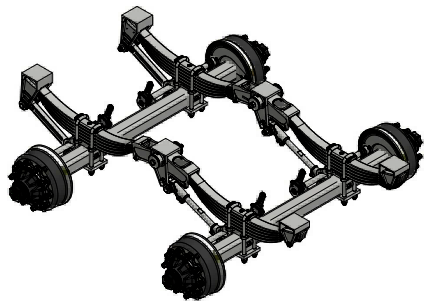


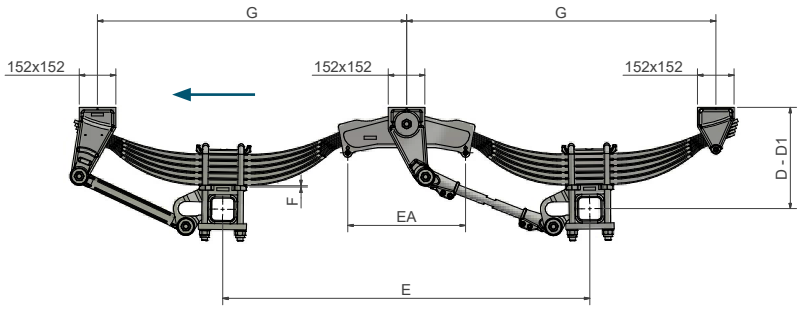


C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	BALESTRA IN MEZZO Spring in half	EA (mm)	CODICE - Code
24000	1145	1015	1155	90	230	195	3x23x1000	3x23x972	336	**ST3X7R0923**
				100	230	195				**ST3X7R1023**
				120	230	195				**ST3X7R1223**
	1200	1040	1210	90	230	195	3x23x1000	3x23x972	400	**ST3X6R0923**
				100	230	195				**ST3X6R1023**
				120	230	195				**ST3X6R1223**
	1310	1095	1310	90	230	195	3x23x1000	3x23x972	490	**ST3X5R0923**
				100	230	195				**ST3X5R1023**
				120	230	195				**ST3X5R1223**
30000	1360	1210	1365	100	290	243	3x25x1197	3x25x1175	336	**ST3X3R1029**
				110	290	243				**ST3X3R1129**
				120	290	243				**ST3X3R1229**
	1400	1230	1400	100	290	243	3x25x1197	3x25x1175	400	**ST3X1R1029**
				110	290	243				**ST3X1R1129**
				120	290	243				**ST3X1R1229**
	1525	1280	1525	100	290	243	3x25x1197	3x25x1175	490	**ST3X4R1029**
				110	290	243				**ST3X4R1129**
				120	290	243				**ST3X4R1229**
36000	1360	1210	1365	110	290	230	4x25x1197	4x25x1175	336	**ST3X8R1129**
				120	290	230				**ST3X8R1229**
				130	290	230				**ST3X8R1329**
	1400	1230	1400	110	290	230	4x25x1197	4x25x1175	400	**ST3X9R1129**
				120	290	230				**ST3X9R1229**
				130	290	230				**ST3X9R1329**
	1525	1280	1525	110	290	230	4x25x1197	4x25x1175	490	**ST3XAR1129**
				120	290	230				**ST3XAR1229**
				130	290	230				**ST3XAR1329**

C	PORTATA DI 6 BALESTRE	CAPACITY OF 6 SPRINGS
E	PASSO	WHEEL BASE
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

TANDEM Balestra – Spring 76 mm





C (kg) PORTATA Capacity	E (mm)	G (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	EA (mm)	CODICE - Code
24000	1360	1205	110	0	424	384	5x25x1187	336	**ST2C6N1142**
				30	454	414			**ST2C6N1145**
				60	484	444			**ST2C6N1148**
		1205	120	0	424	384	5x25x1187	336	**ST2C6N1242**
				30	454	414			**ST2C6N1245**
				60	484	444			**ST2C6N1248**
		1205	130	0	424	384	5x25x1187	336	**ST2C6N1342**
				30	454	414			**ST2C6N1345**
				60	484	444			**ST2C6N1348**
		1205	Ø127	0	424	384	5x25x1187	336	**ST2C6NT142**
				30	454	414			**ST2C6NT145**
				60	484	444			**ST2C6NT148**
	1400	1225	110	0	424	384	5x25x1187	400	**ST2C7N1142**
				30	454	414			**ST2C7N1145**
				60	484	444			**ST2C7N1148**
		1225	120	0	424	384	5x25x1187	400	**ST2C7N1242**
				30	454	414			**ST2C7N1245**
				60	484	444			**ST2C7N1248**
		1225	130	0	424	384	5x25x1187	400	**ST2C7N1342**
				30	454	414			**ST2C7N1345**
				60	484	444			**ST2C7N1348**
		1225	Ø127	0	424	384	5x25x1187	400	**ST2C7NT142**
				30	454	414			**ST2C7NT145**
				60	484	444			**ST2C7NT148**
	1525	1285	110	0	424	384	5x25x1187	490	**ST2C4N1142**
				30	454	414			**ST2C4N1145**
				60	484	444			**ST2C4N1148**
		1285	120	0	424	384	5x25x1187	490	**ST2C4N1242**
				30	454	414			**ST2C4N1245**
				60	484	444			**ST2C4N1248**
		1285	130	0	424	384	5x25x1187	490	**ST2C4N1342**
				30	454	414			**ST2C4N1345**
				60	484	444			**ST2C4N1348**
		1285	Ø127	0	424	384	5x25x1187	490	**ST2C4NT142**
				30	454	414			**ST2C4NT145**
				60	484	444			**ST2C4NT148**

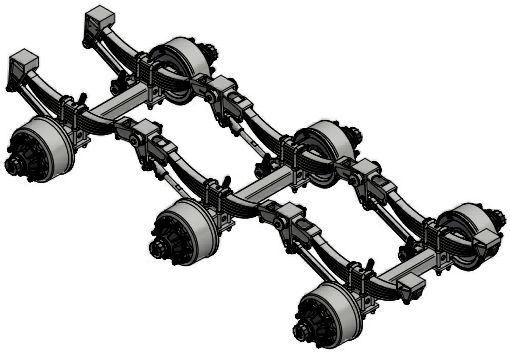
C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS
E	PASSO	WHEEL BASE

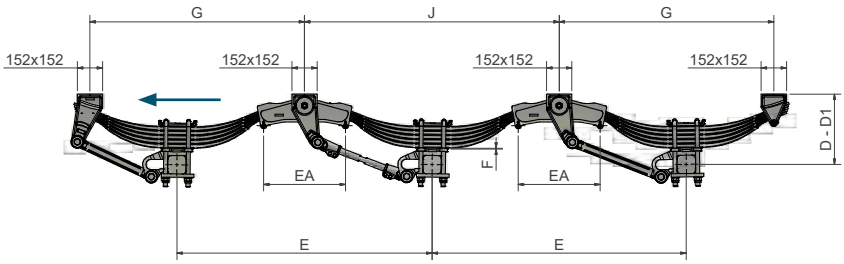
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

Sospensioni meccaniche industriali _ Industrial mechanical suspensions

Balestra - Spring 76 mm

TRIDEM





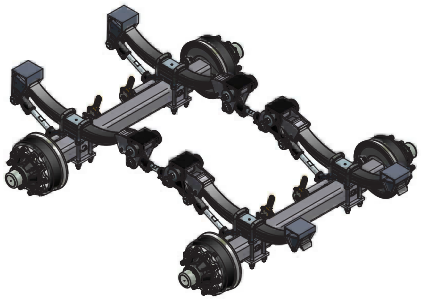
C (kg) PORTATA Capacity	E (mm)	G (mm)	J (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	BALESTRA IN MEZZO Spring in half	EA (mm)	CODICE - Code
36000	1360	1205	1360	110	0	424	384	5x25x1187	5x25x1176	336	**ST3C6N1142**
					30	454	414				**ST3C6N1145**
					60	484	444				**ST3C6N1148**
		1205	1360	120	0	424	384	5x25x1187	5x25x1176	336	**ST3C6N1242**
					30	454	414				**ST3C6N1245**
					60	484	444				**ST3C6N1248**
		1205	1360	130	0	424	384	5x25x1187	5x25x1176	336	**ST3C6N1342**
					30	454	414				**ST3C6N1345**
					60	484	444				**ST3C6N1348**
		1205	1360	Ø127	0	424	384	5x25x1187	5x25x1176	336	**ST3C6NT142**
					30	454	414				**ST3C6NT145**
					60	484	444				**ST3C6NT148**
	1400	1225	1400	110	0	424	384	5x25x1187	5x25x1176	400	**ST3C7N1142**
					30	454	414				**ST3C7N1145**
					60	484	444				**ST3C7N1148**
		1225	1400	120	0	424	384	5x25x1187	5x25x1176	400	**ST3C7N1242**
					30	454	414				**ST3C7N1245**
					60	484	444				**ST3C7N1248**
		1225	1400	130	0	424	384	5x25x1187	5x25x1176	400	**ST3C7N1342**
					30	454	414				**ST3C7N1345**
					60	484	444				**ST3C7N1348**
		1225	1400	Ø127	0	424	384	5x25x1187	5x25x1176	400	**ST3C7NT142**
					30	454	414				**ST3C7NT145**
					60	484	444				**ST3C7NT148**
	1525	1285	1525	110	0	424	384	5x25x1187	5x25x1187	490	**ST3C4N1142**
					30	454	414				**ST3C4N1145**
					60	484	444				**ST3C4N1148**
		1285	1525	120	0	424	384	5x25x1187	5x25x1187	490	**ST3C4N1242**
					30	454	414				**ST3C4N1245**
					60	484	444				**ST3C4N1248**
		1285	1525	130	0	424	384	5x25x1187	5x25x1187	490	**ST3C4N1342**
					30	454	414				**ST3C4N1345**
					60	484	444				**ST3C4N1348**
		1285	1525	Ø127	0	424	384	5x25x1187	5x25x1187	490	**ST3C4NT142**
					30	454	414				**ST3C4NT145**
					60	484	444				**ST3C4NT148**

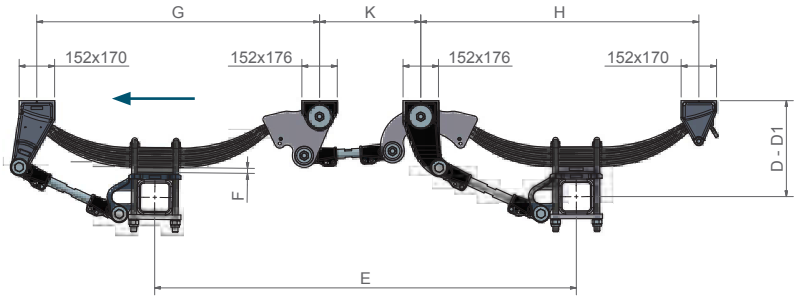
C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS
E	PASSO	WHEEL BASE

D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY
D1	ALTEZZA SOTTO CARICO	HEIGHT WHEN LOADED

TANDEM

Balestra - Spring 100 mm

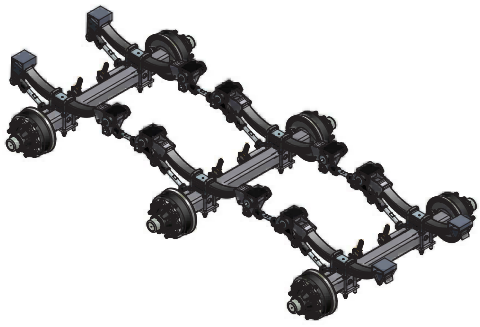


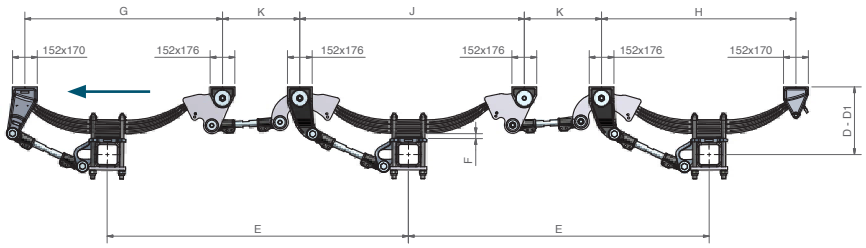


C (kg)	E (mm)	G (mm)	H (mm)	K (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	CODICE - Code
24000	1810	1215	1195	435	110	0	385	363	3x27x1180	**ST2F5N1141**
						30	415	393		**ST2F5N1144**
						60	445	423		**ST2F5N1147**
		1215	1195	435	120	0	385	363	3x27x1180	**ST2F5N1241**
						30	415	393		**ST2F5N1244**
						60	445	423		**ST2F5N1247**
		1215	1195	435	130	0	385	363	3x27x1180	**ST2F5N1341**
						30	415	393		**ST2F5N1344**
						60	445	423		**ST2F5N1347**

C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS

TRIDEM



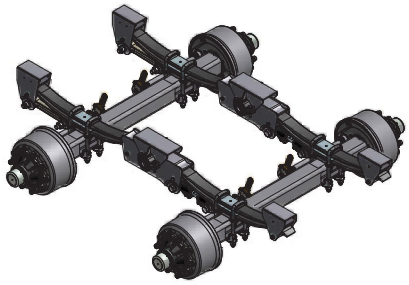


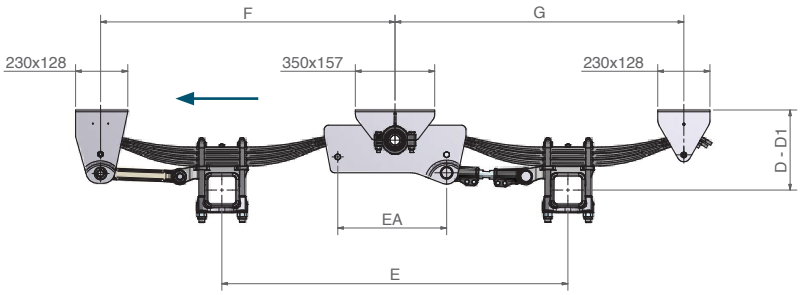
C (kg)	E (mm)	G (mm)	J (mm)	H (mm)	K (mm)	ASSALE Axle	F (mm)	D (mm)	D1 (mm)	BALESTRA DAVANTI + DIETRO Spring front+rear	BALESTRA IN MEZZO Spring in half	CODICE - Code
36000	1810	1215	1380	1195	435	110	0	385	363	3x27x1180	3x27x1180	**ST3F5N1141**
							30	415	393			**ST3F5N1144**
							60	445	423			**ST3F5N1147**
		1215	1380	1195	435	120	0	385	363	3x27x1180	3x27x1180	**ST3F5N1241**
							30	415	393			**ST3F5N1244**
							60	445	423			**ST3F5N1247**
		1215	1380	1195	435	130	0	385	363	3x27x1180	3x27x1180	**ST3F5N1341**
							30	415	393			**ST3F5N1344**
							60	445	423			**ST3F5N1347**

C	PORTATA DI 6 BALESTRE	*CAPACITY OF 6 SPRINGS*
E	PASSO	*WHEEL BASE*
D	ALTEZZA A VUOTO	*HEIGHT WHEN EMPTY*
D1	ALTEZZA SOTTO CARICO	*HEIGHT WHEN LOADED*

Sospensioni meccaniche industriali _ Industrial mechanical suspensions

Balestra - Spring 100 mm — TANDEM



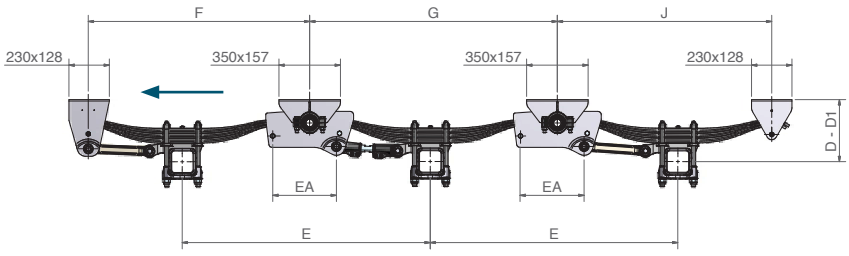


C (kg)	E (mm)	F (mm)	G (mm)	EA (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA 1-2 Spring 1-2	CODE
24000	1410	1260	1220	355	130	330	307	2x30x1180	**ST2C1N1331**
	1525	1298	1273	480					**ST2C2N1331**
32000	1410	1260	1220	355	150	350	320	3x27x1190	**ST2C1N1534**
	1525	1298	1273	480					**ST2C2N1534**

C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS

TRIDEM



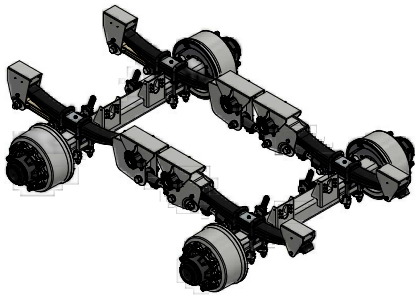


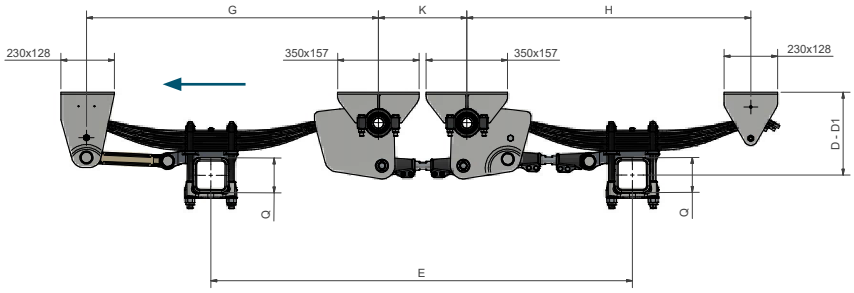
C (kg)	E (mm)	F (mm)	G (mm)	J (mm)	EA (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA 1-2-3 Spring 1-2-3	CODE
36000	1410	1260	1410	1220	355	130	330	307	2X30X1180	**ST3C1N1331**
	1525	1298	1525	1273	480					**ST3C2N1331**
48000	1410	1260	1410	1220	355	150	350	320	3X27X1190	**ST3C1N1534**
	1525	1298	1525	1273	480					**ST3C2N1534**

C	PORTATA DI 6 BALESTRE	CAPACITY OF 6 SPRINGS
E	PASSO	WHEEL BASE
D	ALTEZZA A VUOTO	HEIGHT WHEN EMPTY

TANDEM

Balestra - Spring 100 mm

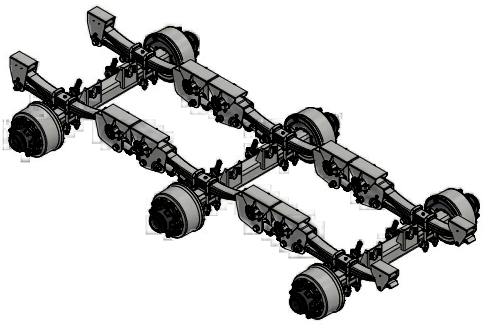


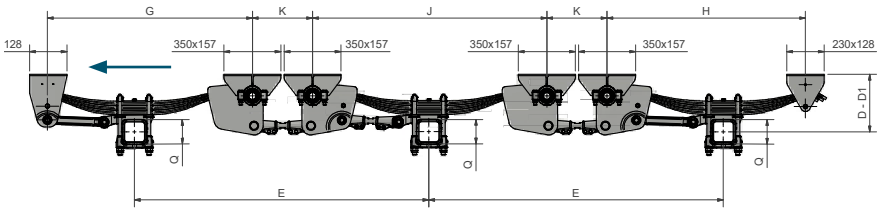


C (kg)	E (mm)	G (mm)	H (mm)	K (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	CODICE - Code
32000	1810	1255	1220	380	150	355	325	3x27x1190	**ST2D1N1535**
	1850	1255	1220	420	150	355	325		

C	PORTATA DI 4 BALESTRE	CAPACITY OF 4 SPRINGS

TRIDEM





C (kg)	E (mm)	G (mm)	J (mm)	H (mm)	K (mm)	ASSALE Axle	D (mm)	D1 (mm)	BALESTRA Spring	CODICE - Code
48000	1810	1260	1440	1220	370	150	350	320	3x27x1190	**ST3D1N1535**
	1850	1260	1440	1220	410	150	350	320		

C	PORTATA DI 6 BALESTRE	*CAPACITY OF 6 SPRINGS*
E	PASSO	*WHEEL BASE*
D	ALTEZZA A VUOTO	*HEIGHT WHEN EMPTY*
D1	ALTEZZA SOTTO CARICO	*HEIGHT WHEN LOADED*

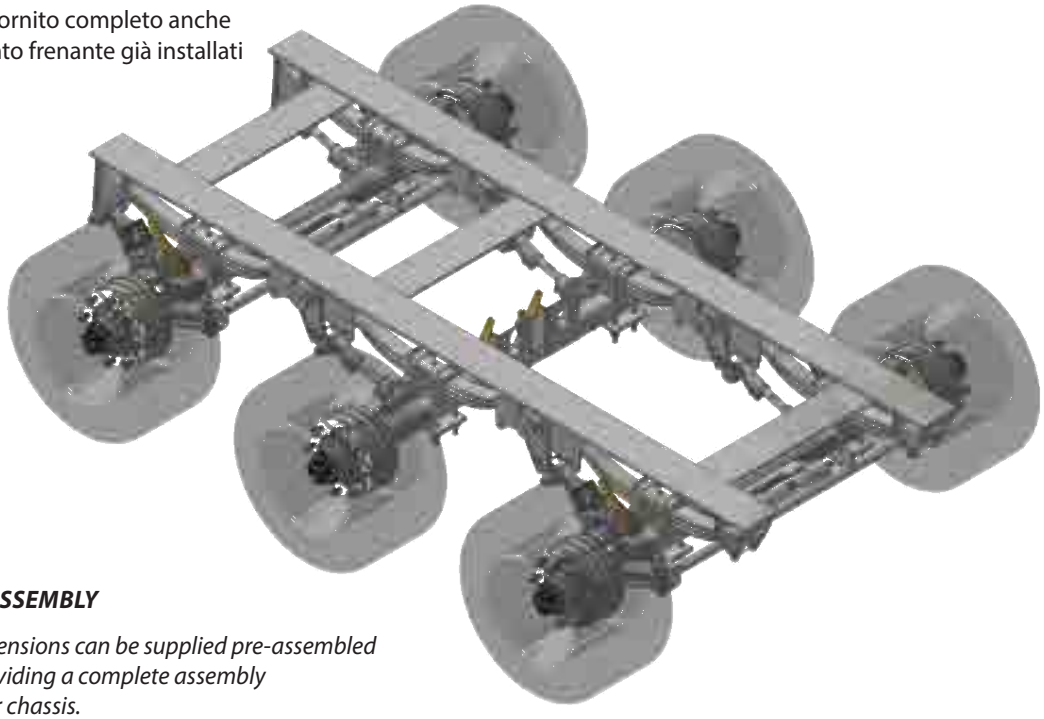
GRUPPO SOSPENSIONE PREASSEMBLATO

Su richiesta, le sospensioni meccaniche TVZ possono essere fornite preassemblate con gli assali, sia fissi che sterzanti, costituendo un gruppo completo pronto per l'installazione sul telaio del rimorchio.

L'assemblaggio viene eseguito su un telaio di trasporto realizzato principalmente con piatti in acciaio da 200 × 15 mm, opportunamente irrigidito mediante traversi di rinforzo. Questi elementi hanno la sola funzione di garantire la stabilità del gruppo durante le operazioni di movimentazione e trasporto, evitando deformazioni o spostamenti dei componenti.

Una volta posizionato il gruppo sospensione sul telaio del rimorchio, i traversi di rinforzo devono essere rimossi prima del fissaggio definitivo.

Su richiesta, il gruppo può essere fornito completo anche dei cilindri di comando dell'impianto frenante già installati



PRE-ASSEMBLED SUSPENSION ASSEMBLY

Upon request, TVZ mechanical suspensions can be supplied pre-assembled with fixed and/or steering axles, providing a complete assembly ready for installation onto the trailer chassis.

The suspension assembly is mounted on a transport frame mainly consisting of 200 × 15 mm steel flat bars, reinforced with cross-members. These reinforcement members are intended solely to ensure the stability of the assembly during handling and transportation, preventing any movement or deformation of the components.

Once the complete suspension assembly has been positioned on the trailer chassis, the reinforcement cross-members must be removed before the assembly is permanently secured.

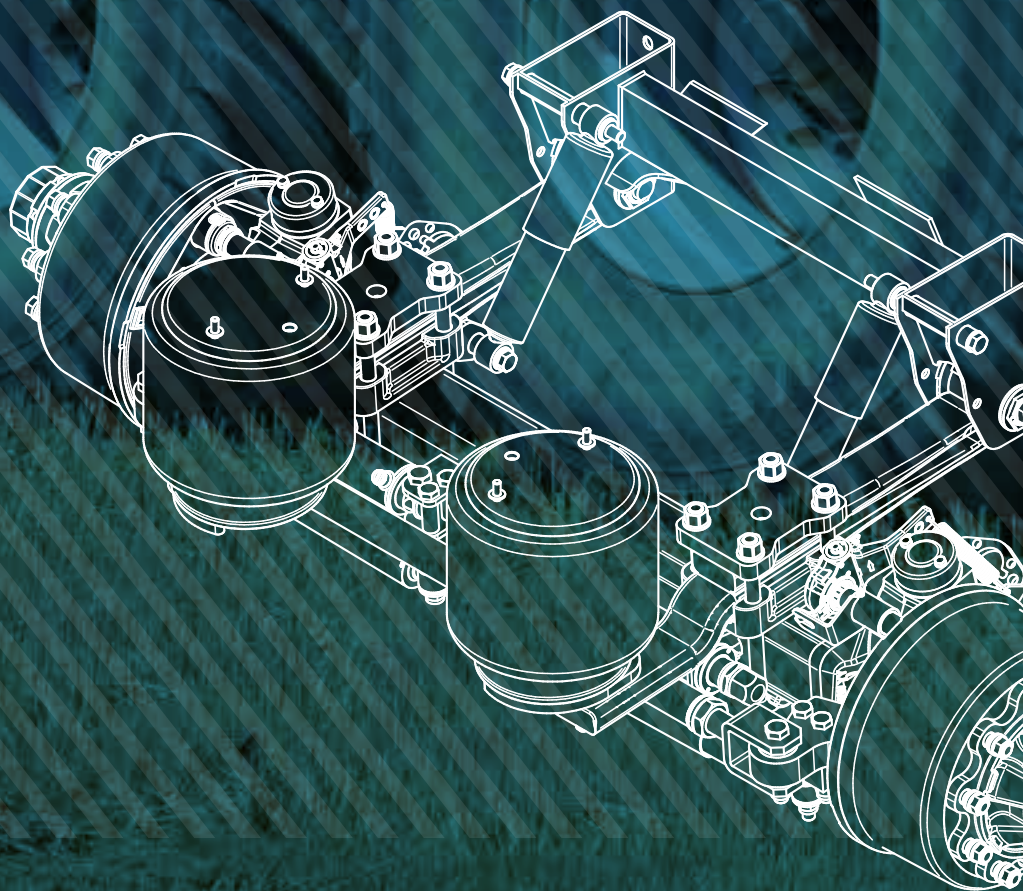
Upon request, the assembly can also be supplied with the brake actuating cylinders pre-installed.







SOSPENSIONI PNEUMATICHE
pneumatic suspensions



LE SOSPENSIONI PNEUMATICHE

Le sospensioni pneumatiche sono sospensioni integrate da soffietti in gomma rinforzata alimentati con aria compressa, offrono un comfort di marcia eccezionale rispetto ai normali sistemi a molla in acciaio.
Un apparato di questo tipo consente di impostare il livello di altezza del veicolo grazie al volume d'aria contenuto nei soffietti, ed è modulabile al punto di consentire la realizzazione di un veicolo con un numero illimitato di assi.

GAMMA SOSPENSIONI PNEUMATICHE TVZ

Moduli monoasse da 9 e 13 Ton
Altezze di marcia da 295 mm a 440 mm
Molle ad aria da Ø300 mm a Ø350 mm

FORNITURA

Le sospensioni TVZ vengono fornite smontate come kit, con i sottogruppi già montati.
Il contenuto del kit comprende:

- Attacchi al telaio anteriori
- Balestre
- Ammortizzatori
- Piastre sagomate tra assale e balestra
- Piastre dritte sopra balestra
- Cavallotti + dadi e rondelle
- Molle ad aria
- Attacchi molla ad aria al telaio
- Viteria varia

MONTAGGIO DELLE SOSPENSIONI PNEUMATICHE

E' importante, per evitare collassi strutturali del corpo dell'assale, che le saldature dei componenti della sospensione sugli assali siano eseguite evitando le zone di massima sollecitazione. Per assicurare la massima affidabilità, durata e sicurezza di tutti i componenti del veicolo è importante che gli assali vengano installati correttamente. L'allineamento degli assali è eseguito dal costruttore del veicolo, gli assali devono risultare paralleli tra di loro e paralleli con il trattore, questo garantisce un buon controllo del veicolo e una vita maggiore dei pneumatici. Per garantire la massima efficienza frenante e durata dei freni, ed evitare rumorosità e vibrazioni anomale, le leve freno devono avere lo stesso senso di rotazione dei pneumatici. Per eventuali mal funzionamenti o danni alle sospensioni, agli assali, ai freni o ai pneumatici, derivanti dal montaggio non corretto degli assali è responsabile solo l'installatore.

NOTE

Le altezze di marcia indicate in questo catalogo, si riferiscono al veicolo in piano.

THE PNEUMATIC SUSPENSIONS

The air suspensions are integrated suspensions with reinforced rubber bellows powered by compressed air, compared to normal steel spring systems they offer an exceptional ride comfort.
An apparatus of this type allows to set the height level of the vehicle thanks to the air volume contained in the bellows, and can be modulated allowing the construction of a vehicle with an unlimited number of axles.

TVZ PNEUMATIC SUSPENSIONS RANGE

Single axle module 9 Tons and 13 Tons
Ride height from 295 mm to 440 mm
Air spring bellows Ø300 mm and Ø350 mm

SUPPLY

TVZ pneumatic suspensions are supplied disassembled as a kit, with the subassemblies already assembled.
The contents of the kit include:

- *Anterior chassis fittings*
- *Springs*
- *Shock absorbers*
- *Shaped plates between axle and springs*
- *Flat plates mounted on the springs*
- *U-bolts + nuts and washers*
- *Air spring bellows*
- *Air springs fitting to the chassis*
- *miscellaneous screws*

AXLE ASSEMBLY

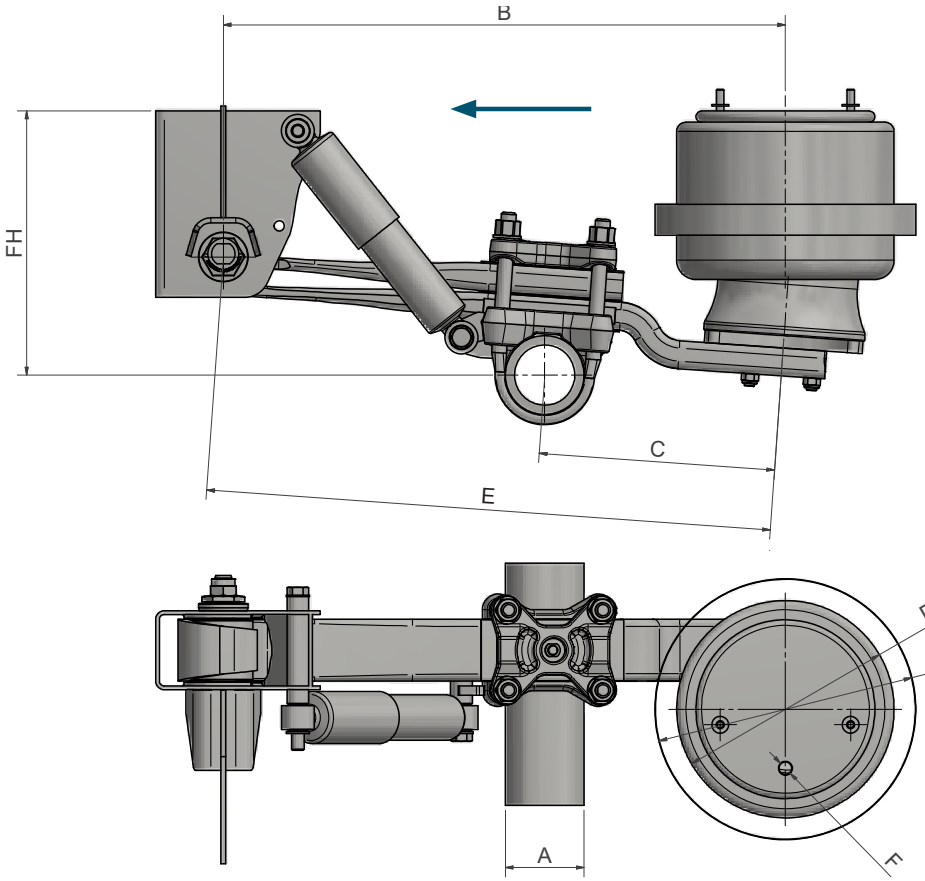
In order to avoid the structural collapse of the axle body, it is extremely important that the welding of the suspension components on the axles do not take place in the areas of maximum stress. The correct installation of the axles is important to ensure maximum reliability, duration and safety of all the vehicle components.
The alignment of the axles is carried out by the vehicle manufacturer. The axles must be parallel with each other and with the tractor. This guarantees good vehicle control and a longer life of the tyres.
The brake levers must rotate in the same direction as the tyres to guarantee maximum braking efficiency and duration and to avoid noise and anomalous vibrations.
In case of any failure or damage to the suspensions, axles, brakes or tyres due to an incorrect assembly of the axles, the installer bears full responsibility.

NOTES

The heights indicated in this catalogue refers to the vehicle is in a horizontal position.



Sospensioni pneumatiche _ Pneumatic suspensions



Attenzione: il disegno ha solo scopo illustrativo e può non rispecchiare l'immagine reale del prodotto.

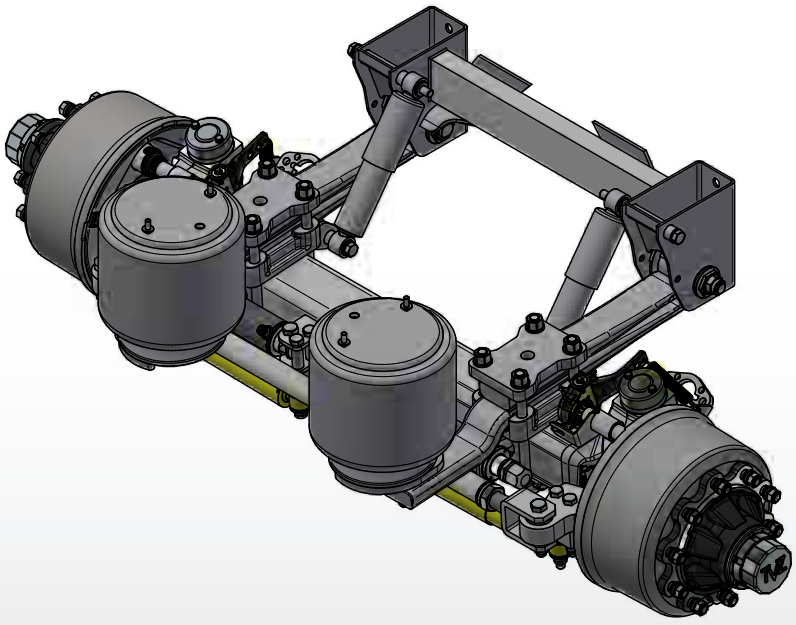
Attention: the drawing is for illustrative porpouses only, it may not respect the real image of the product.

PORTATA Capacity (kg)	A (mm)	FH (min-max) (mm)	D (mm)	D1 (mm)	B (mm)	C (mm)	E (mm)	F	CODICE Code
9000	Ø127	295-370	300	350	895	380	900	M22x1,5	**Z6109295370380**
13000	Ø127	395-440	350	420	905	380	910	M22x1,5	**Z6113395440380**

Attenzione: il modello da 9000 kg non è adatto per gli sterzanti - *Attention: the 9000 kg model is not suitable for steering axles*
La portata indicata è valida su 2 balestre - *The capacity indicated is valid on 2 springs*



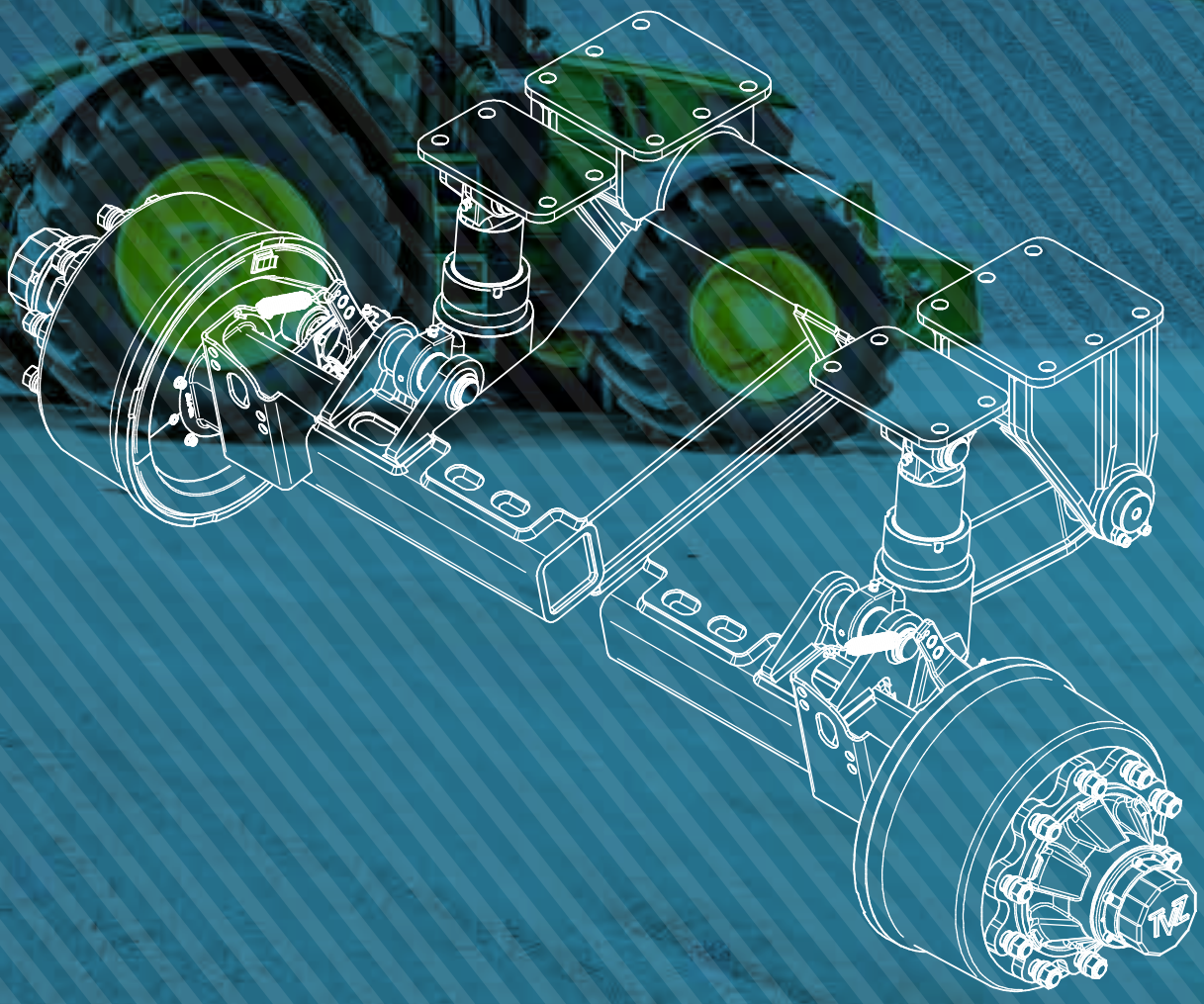
OPTIONAL:
Kit sollevamento assale - *Axle lift kit*
Cod. T92731031

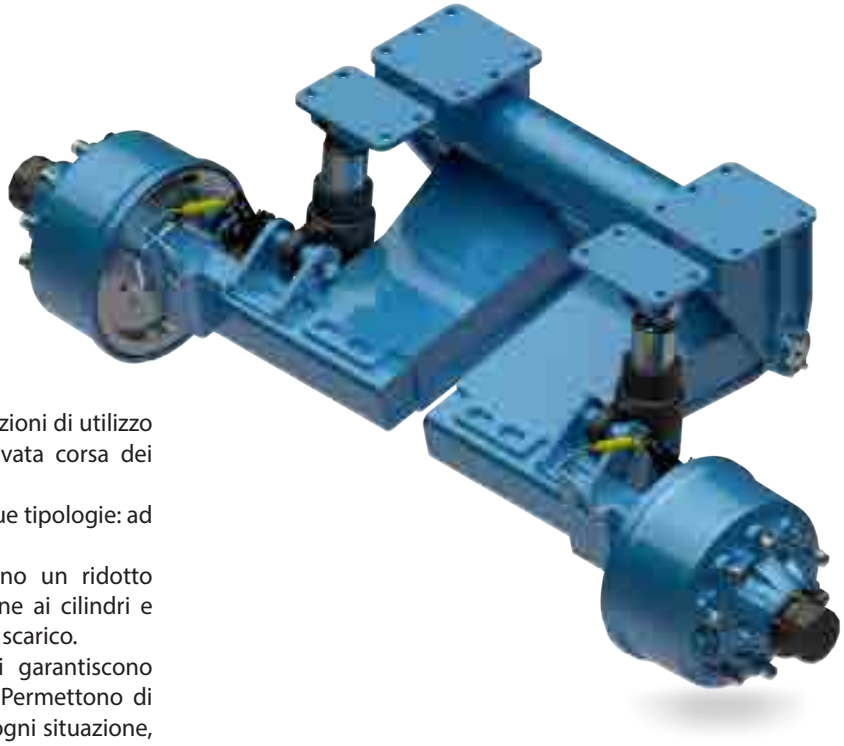






SOSPENSIONI IDRAULICHE
Hydraulic suspensions





SOSPENSIONI IDRAULICHE

Le sospensioni idrauliche sono adatte per le condizioni di utilizzo più severe, grazie alla struttura robusta e all'elevata corsa dei cilindri.

Le sospensioni idrauliche TVZ possono essere di due tipologie: ad assale intero oppure a ruote indipendenti.

Le sospensioni idrauliche ad assale intero hanno un ridotto ingombro in lunghezza, sono dotate di protezione ai cilindri e consentono il sollevamento dell'assale a rimorchio scarico.

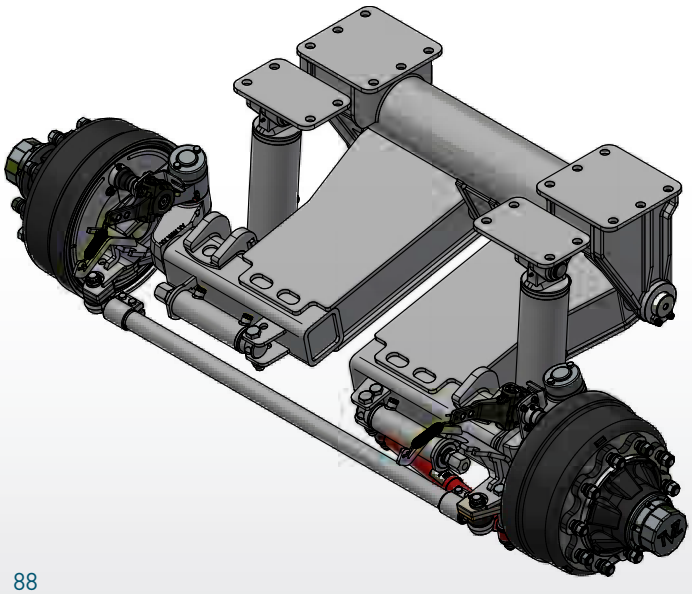
Le sospensioni idrauliche a ruote indipendenti garantiscono elevata stabilità, assenza di rollio e beccheggio. Permettono di distribuire uniformemente il carico sulle ruote in ogni situazione, durante la frenata mantengono le ruote in contatto con il terreno evitando il bloccaggio dovuto allo sbilanciamento del carico. Superano inoltre dislivelli di grande entità.

MONTAGGIO DELLE SOSPENSIONI IDRAULICHE A RUOTE INDIPENDENTI

Per assicurare la massima affidabilità, durata e sicurezza di tutti i componenti del veicolo è importante che le sospensioni e gli assali vengano installate correttamente. L'allineamento è eseguito dal costruttore del veicolo, le sospensioni e gli assali devono risultare paralleli tra di loro e paralleli con il trattore, questo garantisce un buon controllo del veicolo e una vita maggiore degli pneumatici. Per eventuali mal funzionamenti o danni alle sospensioni, agli assali, ai freni o agli pneumatici, derivanti dal montaggio non corretto è responsabile solo l'installatore.

NOTE

Le altezze di marcia indicate in questo catalogo, si riferiscono al veicolo in piano.



HYDRAULIC SUSPENSION

The hydraulic suspensions are suitable for the most severe conditions of use, thanks to the robust structure and the high stroke of the cylinders.

The TVZ hydraulic suspensions can be of two types: with full axle or with independent wheels.

The full axle hydraulic suspensions have a reduced overall length, are equipped with cylinder protection and allow the lifting of the axle when the trailer is unloaded.

The independent wheel hydraulic suspensions ensure high stability, no roll and pitch. They allow to evenly distribute the load on the wheels in every situation, during braking they keep the wheels in contact with the ground avoiding locking due to the unbalance of the load. They also overcome great differences in height.

ASSEMBLY OF THE HYDRAULIC SUSPENSIONS WITH INDEPENDENT WHEELS

To ensure maximum reliability, durability and safety of all vehicle components it is important that the suspension and the axles are installed correctly. The alignment is performed by the vehicle manufacturer, the suspensions and the axles must be parallel to each other and parallel to the tractor, this guarantees good vehicle control and longer tire life. For any malfunctions or damage to suspensions, axles, brakes or tires, resulting from incorrect assembly, the installer is the only responsible.

NOTE

The ride heights indicated in this catalog refer to the vehicle on level ground.

Sospensione idraulica a ruote indipendenti _ Hydraulic suspension with independent wheels

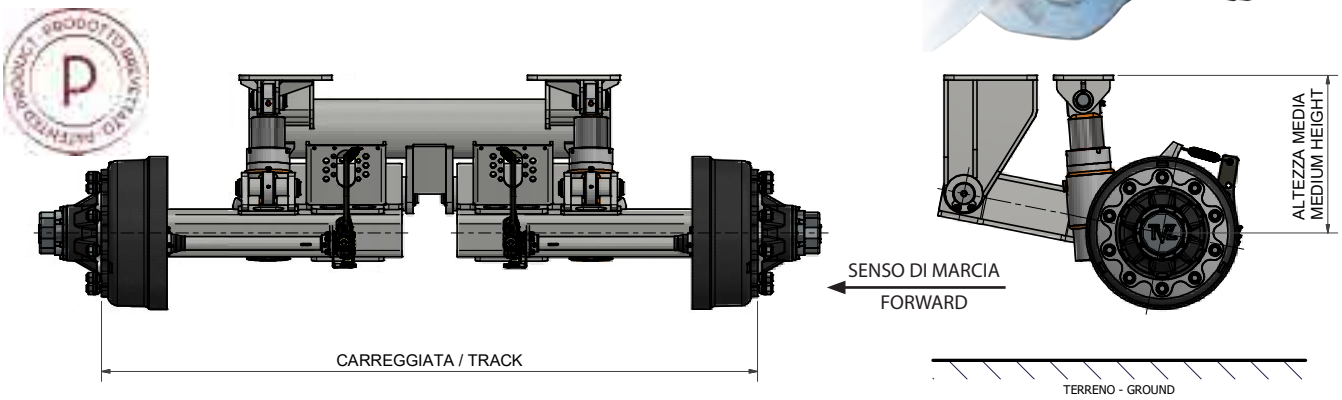


GAMMA SOSPENSIONI IDRAULICHE A RUOTE INDIPENDENTI
Moduli monoasse modulabili con portata di 10 ton e 14 ton a 40 km/h, nella versione fissa o autosterzante con freni omologati Eu2015/68 e ECE-R13 406x120, 406x140 e 420x180.

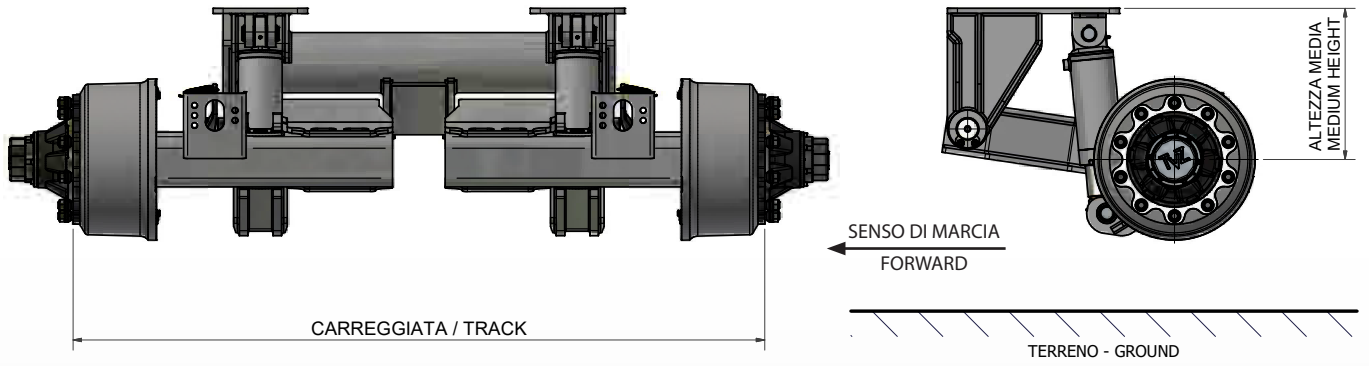
FORNITURA
Le sospensioni idrauliche TVZ vengono fornite assemblate e pronte all'installazione sul veicolo.

RANGE OF HYDRAULIC SUSPENSION WITH INDEPENDENT WHEELS
Modular single-axle modules with capacity of 10 tons and 14 tons at 40 km / h, in the fixed or self-steering version with Eu2015 / 68 and ECE-R13 406x120, 406x140 and 420x180 approved brakes.

SUPPLY
The TVZ hydraulic suspensions are supplied assembled and ready for installation on the vehicle.



TIPO type	VERSIONE version	VELOCITA' speed (km/h)	PORTATA capacity (kg)	FRENO brake	CARREGGIATA track (mm)	ALTEZZA MEDIA medium height (mm)	CORSA stroke (mm)
U12L	FISSA fixed	40	10000	406x140	1950 / 1980	476	±110
	STERZANTE steering				1950 / 1980		
	FISSA fixed			420x180	2050		
	STERZANTE steering				2050		



TIPO type	VERSIONE version	VELOCITA' speed (km/h)	PORTATA capacity (kg)	FRENO brake	CARREGGIATA track (mm)	ALTEZZA MEDIA medium height (mm)	CORSA stroke (mm)
U16L	FISSA fixed	40	14000	406x140	1950 / 1980	450	±140
	STERZANTE steering				1950 / 1980		
	FISSA fixed			420x180	1950 / 2050		
	STERZANTE steering				1950 / 2050		

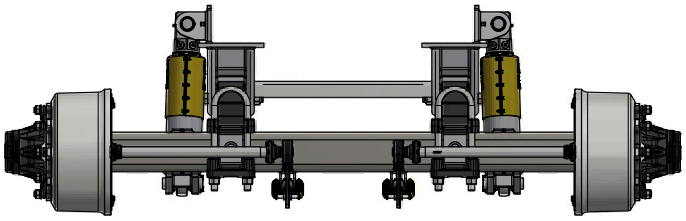
GAMMA SOSPENSIONI IDRAULICHE AD ASSALE INTERO
Moduli monoasse modulabili con portata da 12 ton e 14 ton a 40 km/h, disponibili in assetto normale e ribassato.

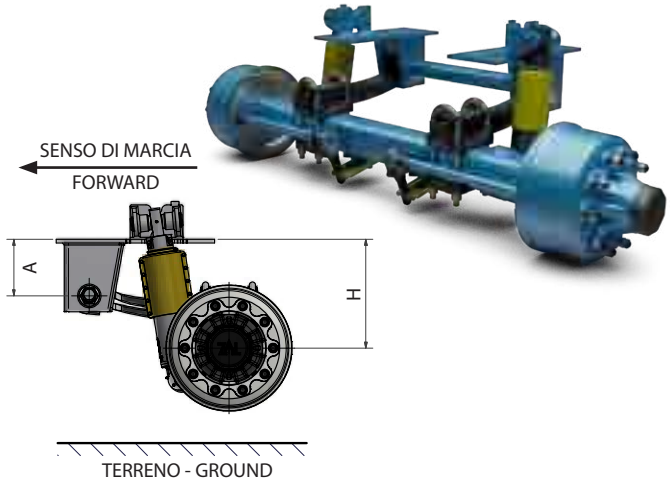
FORNITURA
Le sospensioni idrauliche TVZ vengono fornite smontate come kit, con i sottogruppi già montati.

FULL AXLE HYDRAULIC SUSPENSION RANGE
Modular single-axle modules with capacity from 12 ton and 14 ton at 40 km / h, available in normal and lowered configuration.

SUPPLY
The TVZ hydraulic suspensions are supplied disassembled as a kit, with the sub-assemblies already assembled.

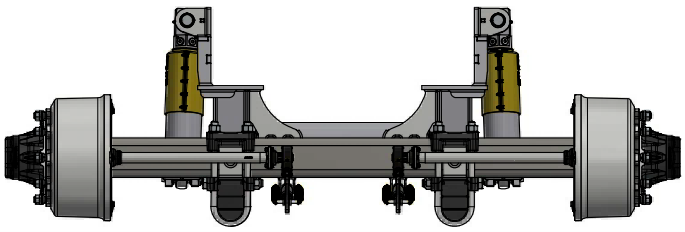
STANDARD

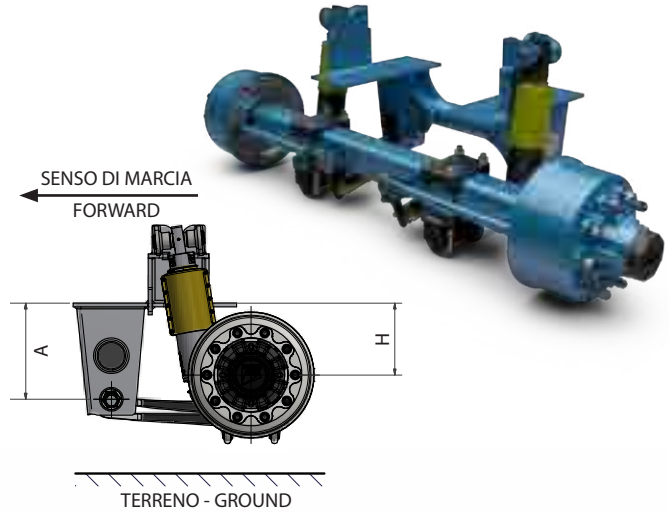




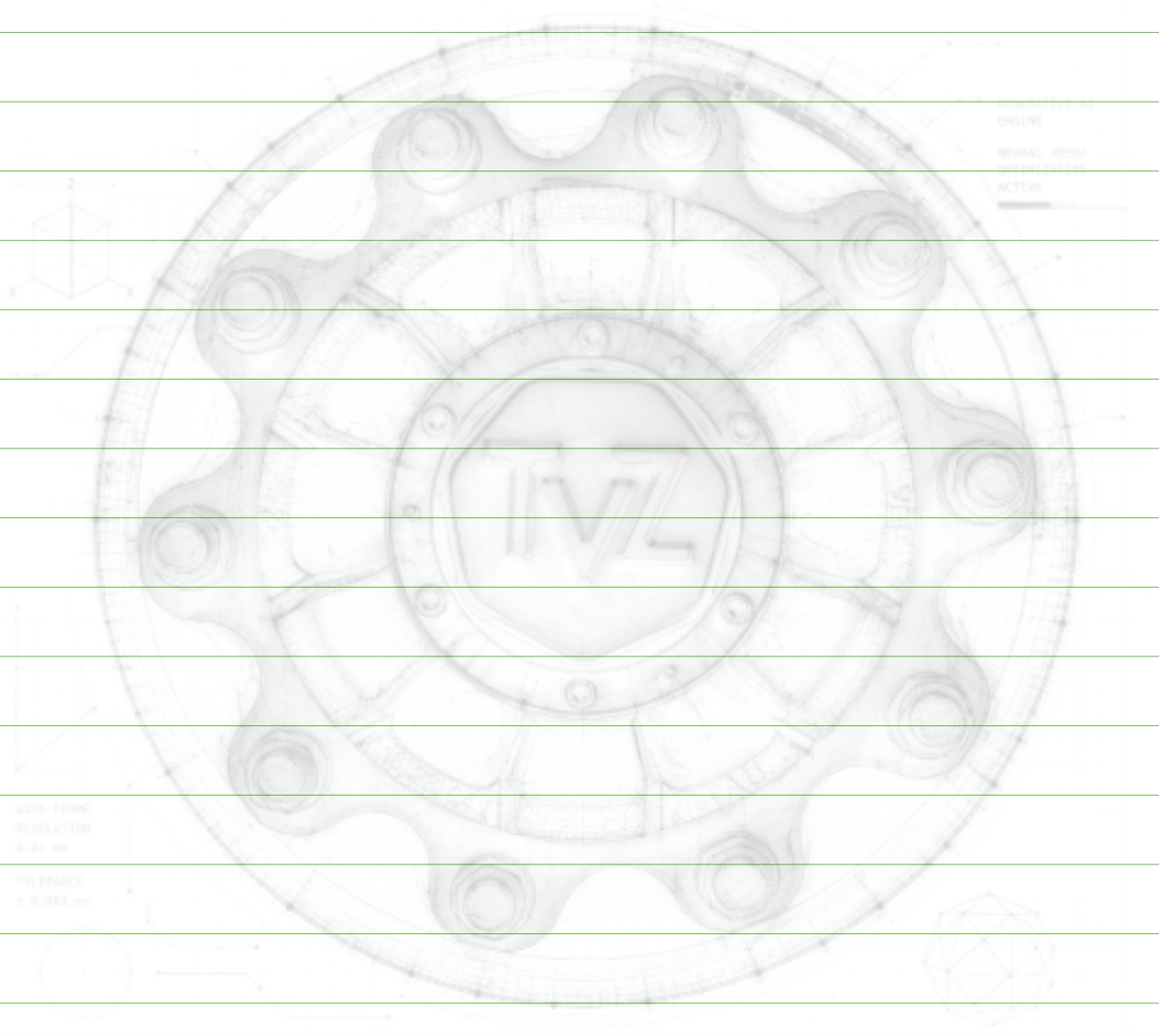
TIPO type	PORTATA Capacity (kg)	QUADRO Square (mm)	CILINDRI Cylinders (mm)	A (mm)	H (H min - H max) (mm)
KN12N	12000	130	Ø080 - Ø100	215	425 (295-645)
				265	475 (345-695)
				315	525 (365-745)
KN15N	15000	150	Ø100 - Ø120	215	415 (285-635)
				265	465 (335-685)
				315	515 (385-735)

RIBASSATO / UNDERSLUNG





TIPO type	PORTATA Capacity (kg)	QUADRO Square (mm)	CILINDRI Cylinders (mm)	A (mm)	H (H min - H max) (mm)
KN12R	12000	130	Ø080 - Ø100	365	290 (190-490)
				415	340 (240-540)
				465	390 (290-590)
KN15R	15000	150	Ø100 - Ø120	365	280 (180-490)
				415	330 (290-540)
				465	380 (280-590)



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