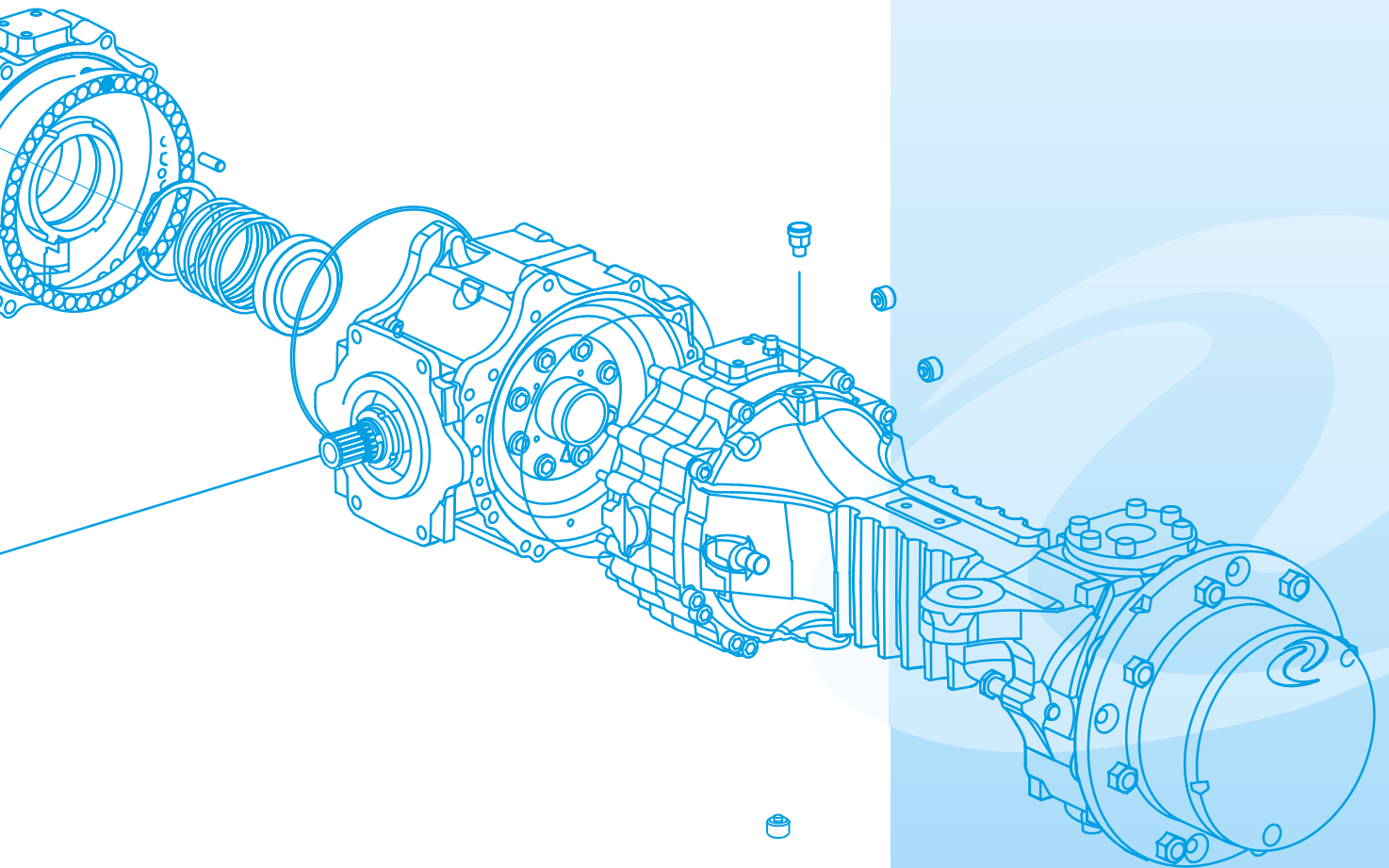
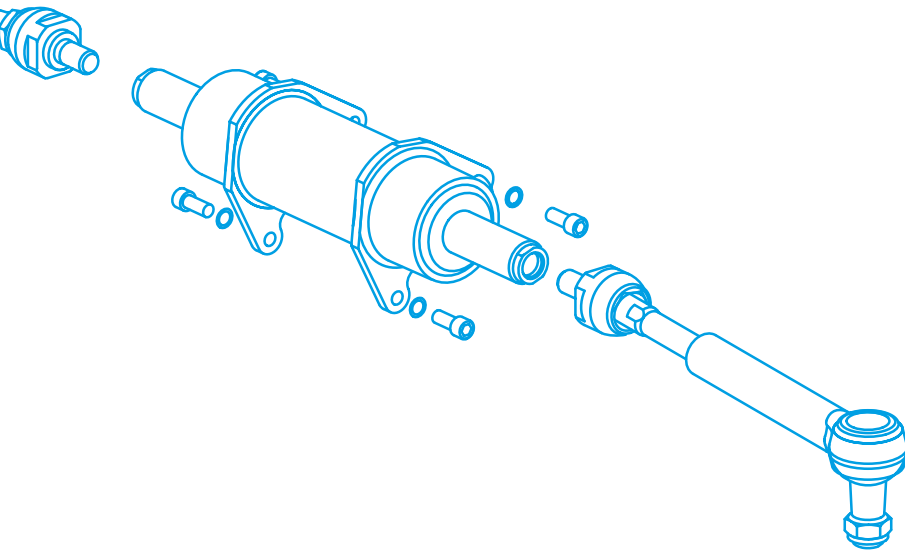











comer industries

powertrain

**POWERTRAIN
SOLUTIONS**



04/16 EDITION

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Comer Industries è leader a livello internazionale nella **progettazione e produzione di sistemi avanzati di ingegneria e soluzioni di mecatronica** per la trasmissione di potenza, destinati ai **principali costruttori mondiali di macchine per l'agricoltura e l'industria**.

La sede principale dell'azienda si trova a Reggiolo (Reggio Emilia).

Lo **sviluppo dei nuovi prodotti** è supportato dall'area Ricerca e Sviluppo, che ha uffici tecnici di progettazione a Reggiolo (Reggio Emilia), Cavriago (Reggio Emilia) e a Shaoxing (Cina). Per sviluppare e testare soluzioni all'avanguardia, Comer Industries si avvale del proprio **Centro Ricerche di Meccatronica** di Reggiolo. Comer Industries può inoltre contare sul proprio **Laboratorio Metallografico** per le analisi tecniche e sui materiali.

L'attività produttiva è strutturata su **quattro unità operative in Italia**, nelle province di Reggio Emilia, Mantova e a Matera - specializzate per linee di prodotto - e **due in Cina e India**.

Le Operations sono organizzate secondo la **metodologia Lean dei modelli produttivi giapponesi** (World Class Manufacturing, Toyota Production System) per l'**eccellenza di prodotto e processo**, con standard e procedure mutuati dalle aziende automotive. In particolare per il mercato **Powertrain**, l'**unità operativa Planetary Drives & Axles** di Cavriago e lo **stabilimento di Bangalore (India)**, sono dedicati alla **progettazione e produzione di trasmissioni altamente personalizzate, versatili ed evolute**, come riduttori epicicloidali modulari, motoruote epicicloidali, riduttori epicicloidali per rotazione, riduttori epicicloidali speciali per applicazioni industriali, assali motore e assali trainati rigidi e sterzanti, destinati all'impiego su macchine operatrici mobili e impianti fissi industriali.

La linea di prodotti **Powertrain** è stata sviluppata per fornire ai costruttori **soluzioni e sistemi completi** per l'intera driveline, con una vasta gamma di **assali rigidi e sterzanti**, con o senza riduzione epicicloidale, in combinazione con le più moderne **trasmissioni idrostatiche**.

Il loro impiego principale è nel settore delle macchine movimento terra e per l'edilizia, dei carrelli elevatori e delle attrezzature per la movimentazione materiali, delle attrezzature aeroportuali, delle macchine per municipalità, di gru e macchine per il sollevamento, da miniera e delle macchine forestali e agricole.

L'ampia conoscenza delle **applicazioni Off-Highway**, unita all'elevata capacità progettuale del team Comer Industries, consentono di rispondere alle esigenze dei clienti con l'**innovazione continua**, la **qualità** e l'offerta di **prodotti personalizzati e servizi evoluti** di consulenza ingegneristica, di ricerca e sviluppo e di progettazione, che permettono agli OEM di ottimizzare le prestazioni della macchina, di ridurre i costi e il time-to-market.

Comer Industries presidia i principali mercati esteri con le proprie **filiali commerciali** in Francia, Germania, Regno Unito, Stati Uniti, Brasile e Cina.



*Comer Industries is a global leader in the design and production of **advanced engineering systems and mechatronic solutions for power transmission**, supplied to **major manufacturers of agricultural equipment and industrial machinery worldwide**.*

Comer Industries' Headquarters is based in Reggiolo (Reggio Emilia), Italy.

***New product development** is supported by the Research & Development Dpt., which has technical design offices in Reggiolo (Reggio Emilia), Cavriago (Reggio Emilia) and in Shaoxing (China). To develop and test advanced product solutions, Comer Industries relies on its **Mechatronics Research Center**, established in 1996 in Reggiolo and equipped with the latest technologies and experimental tools. The company **Metallographic Lab** carries out chemical and metallographic analysis, mechanical tests on metals and alloys.*

*Industrial operations in **Italy** are structured in four **operating units** specialized by product line, located in the provinces of Reggio Emilia, Mantua and Matera – plus **two facilities in China and India**.*

*They are organized according to **Lean methods** inspired by **Japanese manufacturing models** (World Class Manufacturing, Toyota Production System) for **product and process excellence**, with standards and procedures borrowed from the automotive industry. In particular for the **Powertrain** market, Comer Industries' **Planetary Drives & Axles operating unit**, located in Cavriago, and the **manufacturing plant in Bangalore (India)** design and manufacture **rigid and steering axles, hydrostatic drop-boxes and transmissions**. These solutions are mainly used to drive construction & earth moving equipment, forklift trucks and material handling equipment, airport equipment, municipality equipment, cranes and lifting equipment, forestry, mining and agricultural equipment.*

*The **Powertrain product line** has been developed in order to support OEM's with **full driveline system product solutions** with an extensive range of **rigid and steering axles**, with or without planetary reduction, in combination with the latest technology of **hydrostatic transmissions**.*

These solutions are mainly used to drive construction & earth moving equipment, forklift trucks and material handling equipment, airport equipment, municipality equipment, cranes and lifting equipment, forestry, mining and agricultural equipment.

*Thanks to extensive knowledge of Off-Highway applications combined with cutting-edge design expertise, Comer Industries meets all customer requirements through **constant innovation, quality and comprehensive service**. Comer Industries is a **flexible and innovative organization** that works in close collaboration and continuous partnership with OEMs, offering customized products and advanced R&D and design services which allow the customer to optimize machine performances and to reduce costs and time-to-market.*

*Comer Industries operates in the main world markets through its own **sales subsidiaries** in France, Germany, United Kingdom, United States, Brazil and China.*



AZIENDA _____	Numero di telefono _____
Indirizzo _____	E-mail _____
Contatto _____	Data _____

Tipo di veicolo _____	Consegna prototipo _____
Quantità anno (unità) _____	Inizio produzione _____

Tipo di applicazione _____				Motore _____				
Distribuzione dei pesi	a vuoto	a carico	picco ⁽¹⁾	rimorchio	Potenza [kW]	_____	@ [rpm]	_____
Anteriore [Kg]	_____	_____	_____	_____	Coppia [daNm]	_____	@ [rpm]	_____
Posteriore [Kg]	_____	_____	_____	_____	Pompa trasmissione ldr.			
Totale ⁽²⁾ [Kg]	_____	_____	_____	_____	Cilindrata minima [cc]	_____	_____	_____
Velocità [Km/h]	_____	_____	_____	_____	Cilindrata massima [cc]	_____	_____	_____
Pendenza [%]	_____	_____	_____	_____	Pressione max @ rpm [bar]	_____	_____	_____

⁽¹⁾ Break-Out anteriore, Crowd posteriore, altro - ⁽²⁾ si intende anteriore + posteriore

Forza di trazione [Kg] _____

_____ anteriore _____ posteriore

Peso massimo su singola ruota (DX/SX se asim.) [kg] _____

Duty Cycle

Fase di lavoro	Tempo %	Vel. % ⁽³⁾	Pend. % ⁽³⁾
1.			
2.			
3.			
4.			
5.			
6.			
Vita attesa [ore]	_____	_____	_____

⁽³⁾ percentuali rispetto ai valori a vuoto

Pneumatici

	anteriore	posteriore
Modello	_____	_____
Raggio statico a carico [mm]	_____	_____
Raggio di rotolamento [mm]	_____	_____
Offset cerchioni ET ⁽⁴⁾ [mm]	_____	_____
Riempimento (Aria, Acqua, Schiuma, etc.)	_____	_____

⁽⁴⁾ valori negativi per offset esterni

Motore trasmissione ldr.

Cilindrata minima [cc]	_____	_____
Cilindrata massima [cc]	_____	_____
Pressione max @ rpm [bar]	_____	_____
Coppia uscita @ rpm [daNm]	_____	_____
Velocità massima [rpm]	_____	_____

Convertitore rapporto stallo

Massima coppia uscita [daNm] _____ :1

Modello frizione

Coppia slittamento [daNm] _____

Cambio sincronizzato

Rapporto massimo _____ :1

Rapporto minimo _____ :1

Dimensioni

	anteriore	posteriore
Carreggiata a terra [mm]	_____	_____
Fuori tutto pneumatici [mm]	_____	_____
Altezza baricentro [mm]	_____	_____
Passo [mm]	_____	_____

Caratteristiche assali	Anteriore			Posteriore		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Folle / Traente	<input type="checkbox"/> Folle	<input type="checkbox"/> Traente		<input type="checkbox"/> Folle	<input type="checkbox"/> Traente	
Rigido / Sterzante	<input type="checkbox"/> Rigido	<input type="checkbox"/> Sterz.		<input type="checkbox"/> Rigido	<input type="checkbox"/> Sterz.	
Riduttore / Cambio affiancato	<input type="checkbox"/> 1 marcia	<input type="checkbox"/> 2 marcie	<input type="checkbox"/> no	<input type="checkbox"/> 1 marcia	<input type="checkbox"/> 2 marcie	<input type="checkbox"/> no
Rapporto totale I° marcia - II° marcia	:1					
Distanza flangia a flangia piani cerchione [mm]	_____			_____		
Distanza fuori tutto [mm]	_____			_____		
Angolo massimo di sterzo [°]	_____			_____		
Attacco al telaio oscillante / rigido	<input type="checkbox"/> superiore	<input type="checkbox"/> centrale	<input type="checkbox"/> rigido	<input type="checkbox"/> superiore	<input type="checkbox"/> centrale	<input type="checkbox"/> rigido
Distanza piastre attacco telaio [mm]	_____			_____		
N° di colonnette ruota	_____			_____		
Diametro circonferenza dadi ruota [mm]	_____			_____		
Diametro di centraggio cerchione [mm]	_____			_____		
Tipo di differenziale	<input type="checkbox"/> aperto	<input type="checkbox"/> LS	<input type="checkbox"/> 100%	<input type="checkbox"/> aperto	<input type="checkbox"/> LS	<input type="checkbox"/> 100%
Freni di servizio [s/n]	<input type="checkbox"/> si	<input type="checkbox"/> no		<input type="checkbox"/> si	<input type="checkbox"/> no	
Tipo freni di servizio	<input type="checkbox"/> tamburo	<input type="checkbox"/> b. olio	<input type="checkbox"/> a disco	<input type="checkbox"/> tamburo	<input type="checkbox"/> b. olio	<input type="checkbox"/> a disco
Freno di parcheggio	<input type="checkbox"/> mecc.	<input type="checkbox"/> idr. neg.	<input type="checkbox"/> no	<input type="checkbox"/> mecc.	<input type="checkbox"/> idr. neg.	<input type="checkbox"/> no
Tipo freno di parcheggio	<input type="checkbox"/> tamburo	<input type="checkbox"/> b. olio	<input type="checkbox"/> a disco	<input type="checkbox"/> tamburo	<input type="checkbox"/> b. olio	<input type="checkbox"/> a disco

Barrare solo le opzioni prescelte

Decelerazione veicolo a carico @ velocità max [m/sec ²]	_____
Massima pendenza di stazionamento a carico [%]	_____
Requisiti di omologazione	_____

COMPANY _____ Phone number _____
 Address _____ E-mail _____
 Personal Contact _____ Date _____

Vehicle Model _____ Prototype delivery _____
 Annual forecast (unit) _____ Start of Production _____

Type of Vehicle

Load Distribution	empty	laden	peak load ⁽¹⁾	towing
Front [Kg]				
Rear [Kg]				
Total ⁽²⁾ [Kg]				
Speed [Km/h]				
Slope [%]				

(1) Break-Out front, Crowd rear, other operating condition - (2) must be front + rear
 Tractive effort [daN] _____
 front rear
 Max weight on one wheel (if asymmetric LH-RH) [kg] _____

Duty Cycle

Operating mode	Time %	Speed % ⁽³⁾	Slope % ⁽³⁾
1.			
2.			
3.			
4.			
5.			
6.			
Total life [Hrs]			

⁽³⁾ percentage are respect to empty condition

Tires

	front	rear
Model		
Static loaded radius [mm]		
Rolling radius [mm]		
Rim offset ET ⁽⁴⁾ [mm]		
Filling (AIR, FOAM, WATER, SOLID, etc)		

⁽⁴⁾ negative value stand for outward

Engine model

Max power [kW] _____ '@ [rpm] _____
 Ma torque [daNm] _____ '@ [rpm] _____

Hydrostatic Pump

Min displacement [cc] _____
 Max displacement [cc] _____
 Max pressure @ rpm [bar] _____
 Max speed [rpm] _____

Hydrostatic Motor

Min displacement [cc] _____
 Max displacement [cc] _____
 Max pressure [bar] _____
 Output torque @ rpm [daNm] _____
 Max speed [rpm] _____

Torque converter stall ratio _____ :1
 Max output torque [daNm] _____

Clutch model

Slipping torque [daNm] _____

Synchromesh gear

Max ratio _____ :1
 Min ratio _____ :1

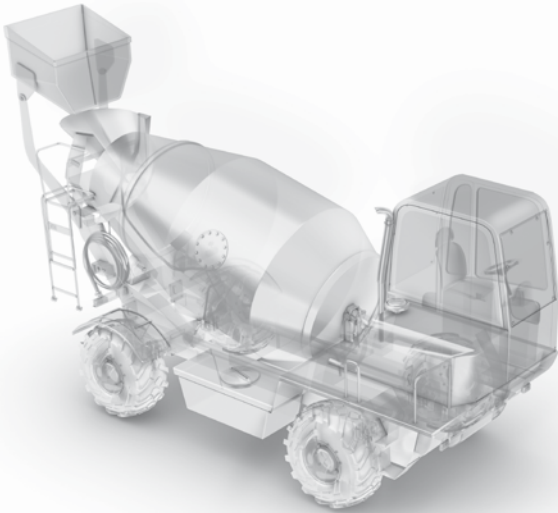
Dimensions

	front	rear
Tire track [mm]		
Overall tire width [mm]		
Center of gravity height [mm]		
Wheel base [mm]		










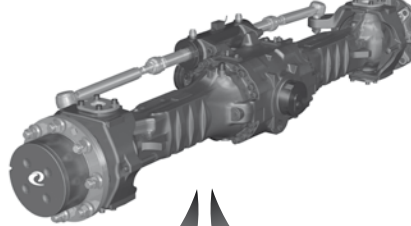

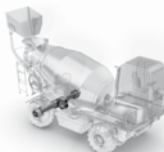
Axles feature	Front			Rear		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dead / Driven	<input type="checkbox"/> Dead	<input type="checkbox"/> Driven		<input type="checkbox"/> Dead	<input type="checkbox"/> Driven	
Rigid / Steering	<input type="checkbox"/> Rigid	<input type="checkbox"/> Steer.		<input type="checkbox"/> Rigid	<input type="checkbox"/> Steer.	
Flanged splitting gearbox	<input type="checkbox"/> 1 speed	<input type="checkbox"/> 2 speeds	<input type="checkbox"/> no	<input type="checkbox"/> 1 speed	<input type="checkbox"/> 2 speeds	<input type="checkbox"/> no
Total ratio 1st speed - 2nd speed	:1					
Rim planes (flange to flange) distance	[mm]					
Axles Overall	[mm]					
Max steering angle	[°]					
Frame mounting pivoting / rigid	<input type="checkbox"/> upper	<input type="checkbox"/> central	<input type="checkbox"/> rigid	<input type="checkbox"/> upper	<input type="checkbox"/> central	<input type="checkbox"/> rigid
Pads mounting distance	[mm]					
N° of studs						
Studs BCD	[mm]					
Pilot diameter	[mm]					
Differential type	<input type="checkbox"/> open	<input type="checkbox"/> LS	<input type="checkbox"/> 100%	<input type="checkbox"/> open	<input type="checkbox"/> LS	<input type="checkbox"/> 100%
Service brake	[y/n]					
Type of service brake	<input type="checkbox"/> drum	<input type="checkbox"/> wet	<input type="checkbox"/> dry	<input type="checkbox"/> drum	<input type="checkbox"/> wet	<input type="checkbox"/> dry
Parking brake	<input type="checkbox"/> Mech.	<input type="checkbox"/> S.A.H.R.	<input type="checkbox"/> no	<input type="checkbox"/> Mech.	<input type="checkbox"/> S.A.H.R.	<input type="checkbox"/> no
Type of parking brake	<input type="checkbox"/> drum	<input type="checkbox"/> wet	<input type="checkbox"/> dry	<input type="checkbox"/> drum	<input type="checkbox"/> wet	<input type="checkbox"/> dry

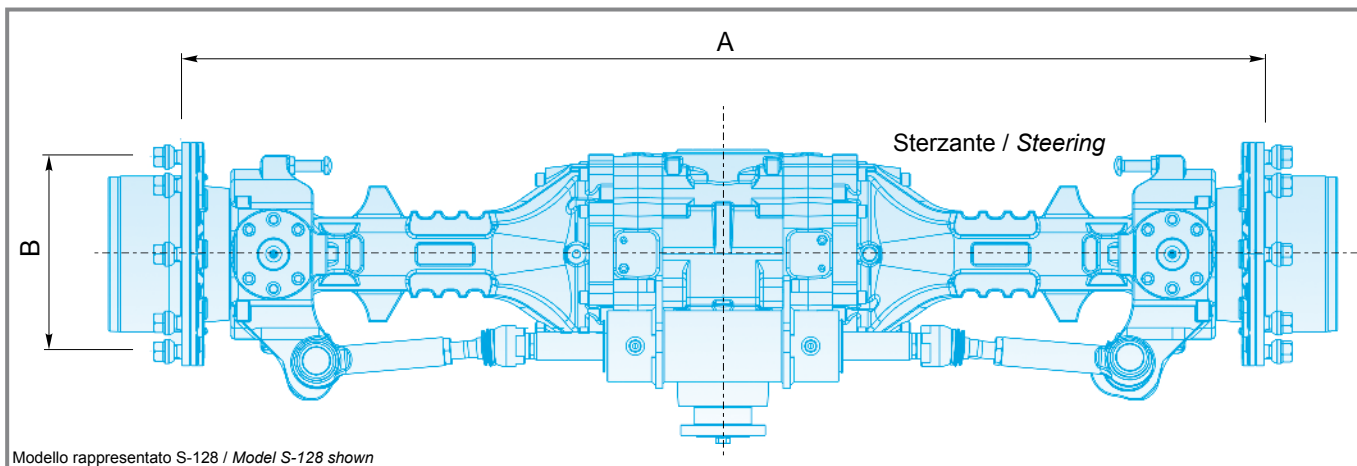
Tick only the selected option

Deceleration with laden vehicle @ max speed [m/sec²] _____
 Max parking slope with laden vehicle [%] _____
 Homologation requirements _____



- Elevati standard di performance per autobetoniere.
- *High standards of performances for concrete mixers.*

Cubatura Concrete yield [m³]	Trasmissioni Transmissions		Assali Axles
	Doppia velocità Double speed	Singola velocità Single speed	
< 2.5	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-128</p>   Anteriore/Front  Posteriore/Rear
2.5 ÷ 5.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-238</p>   Anteriore/Front  Posteriore/Rear



Modello rappresentato S-128 / Model S-128 shown

Assali Axles	Portata dinamica max. Max. dynamic load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Rapp. rid. totale Total red. ratio	A [mm]	B [mm]
S-128	5800	2400	6.00:1	13.41:1 ÷ 24.66:1	1530 ÷ 1810	∅ 275
S-238	9300	3400			1790 ÷ 2050	∅ 275 ∅ 335






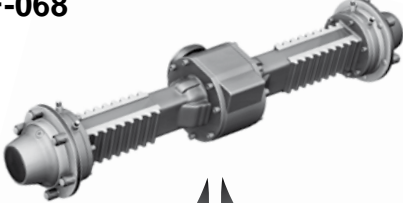

I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles

Trasmissioni Transmission	Cilindrata motore Motor displacement [cc]	Numero velocità Number of speed	Rapp. rid. cambio Gearbox reduction ratio	Modalità cambio Shifting mode
S-428	up to 115	1	1.92:1 ÷ 2.50:1	n/a
S-528	up to 115	2	1.02:1 ÷ 4.78:1	Stand Still Easy Shift
S-628	up to 160	1	1.20:1 ÷ 2.46:1	n/a



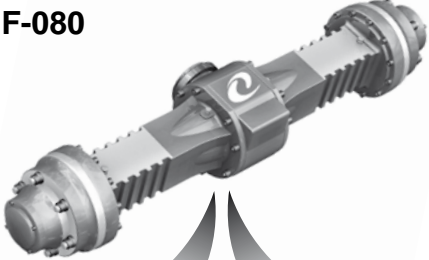





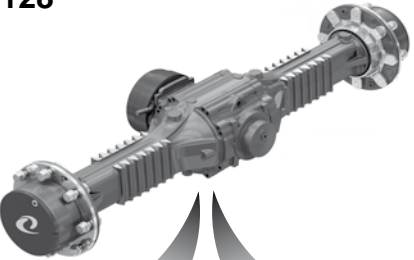








I dati di cui sopra sono puramente indicativi. Le applicazioni individuali sono soggette alla approvazione della Comer Industries S.p.a.
Above figures are an indication only. Individual applications are subjects to approval by Comer Industries S.p.a.

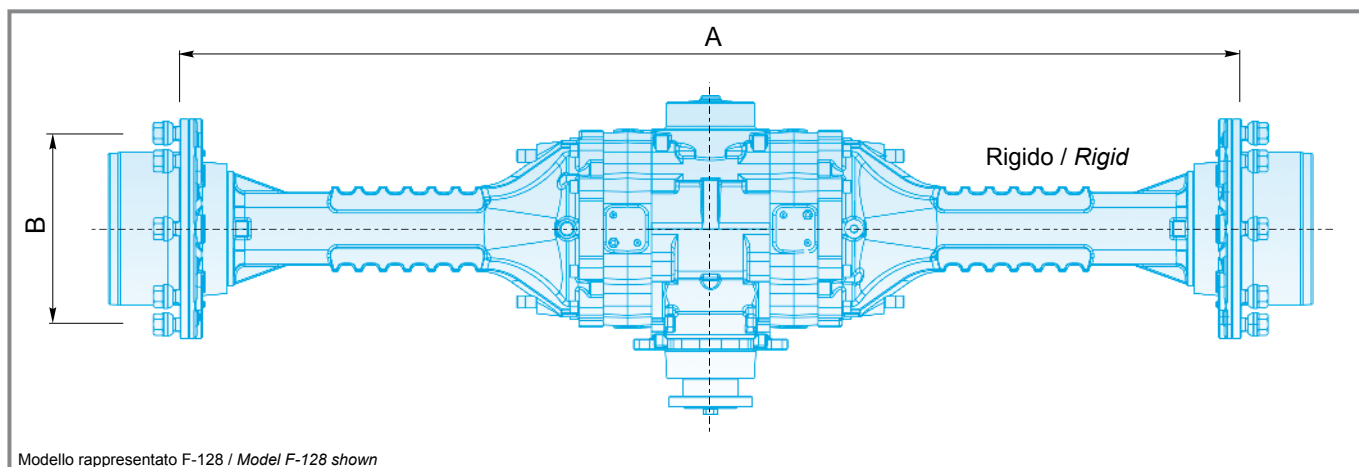


- Assali off-highway specificatamente progettati per dumper.
- *Specialized off-highway axles for dumpers.*

Capacità di carico Load capacity [t]	Trasmissioni Transmissions		Assali Axles
	Doppia velocità Double speed	Singola velocità Single speed	
< 2.0	-	S-420 	F-046   Anteriore/Front Posteriore/Rear
2.0 ÷ 3.0	S-500 	S-420 	F-068   Anteriore/Front Posteriore/Rear



Capacità di carico Load capacity [t]	Trasmissioni Transmissions		Assali Axles
	Doppia velocità Double speed	Singola velocità Single speed	
3.0 ÷ 4.5	<p>S-500</p> 	<p>S-420</p> 	<p>F-080</p>   <p>Anteriore/Front</p>  <p>Posteriore/Rear</p>
4.5 ÷ 7.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>F-128</p>   <p>Anteriore/Front</p>  <p>Posteriore/Rear</p>
7.0 ÷ 10.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>F-238</p>   <p>Anteriore/Front</p>  <p>Posteriore/Rear</p>

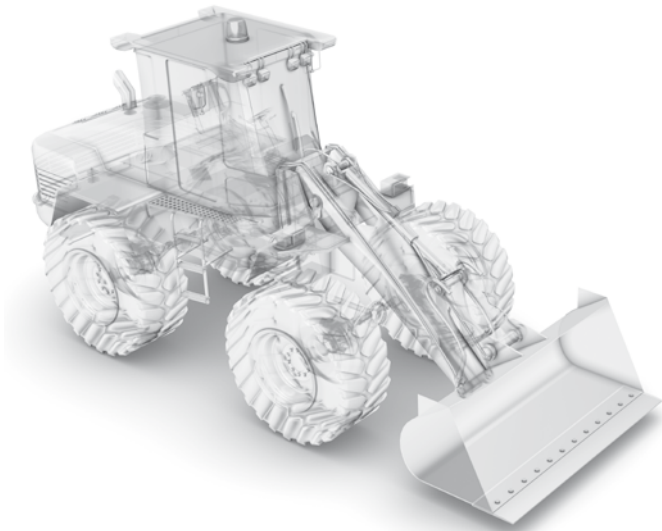


Assali Axles	Portata dinamica max. Max. dynamic load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Rapp. rid. totale Total red. ratio	A [mm]	B [mm]
F-046	2500	440	-	2.23:1 ÷ 5.57:1	750 890	ø 205
F-068	2700	850	4.31:1	9.63:1 ÷ 24.00:1	806 ÷ 1263	
F-080	4800	2100	4.80:1	10.73:1 ÷ 26.74:1	850 ÷ 1575	
F-128	5800	2400	6.00:1	13.41:1 ÷ 24.66:1	1010 ÷ 1810	ø 275
F-238	9300	3400			1660 ÷ 2050	ø 275 ø 335


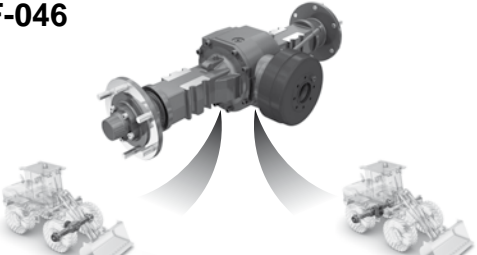


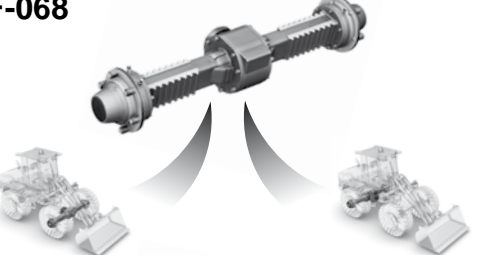


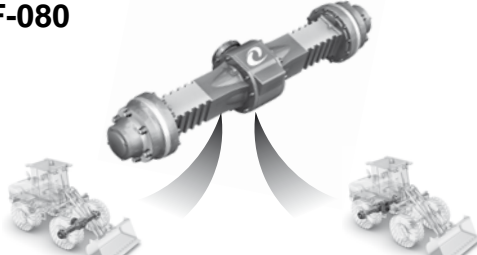



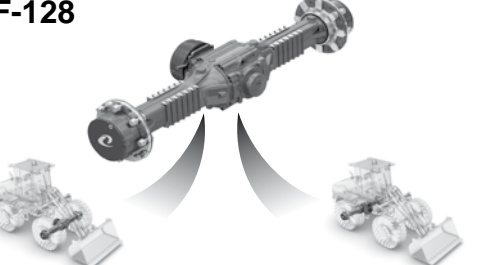
I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles


















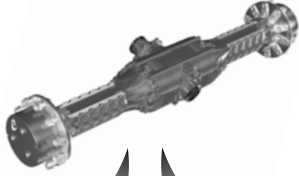











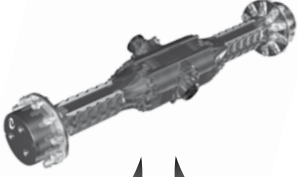


Trasmissioni <i>Transmission</i>	Cilindrata motore Motor displacement [cc]	Numero velocità <i>Number of speed</i>	Rapp. rid. cambio <i>Gearbox reduction ratio</i>	Modalità cambio <i>Shifting mode</i>
S-420	up to 115	1	2.33:1 ÷ 4.56:1	n/a
S-428	up to 115	1	1.92:1 ÷ 2.50:1	n/a
S-500	up to 115	2	1.00:1 ÷ 5.11:1	Stand Still
S-528	up to 115	2	1.02:1 ÷ 4.78:1	Stand Still Easy Shift
S-628	up to 160	1	1.20:1 ÷ 2.46:1	n/a

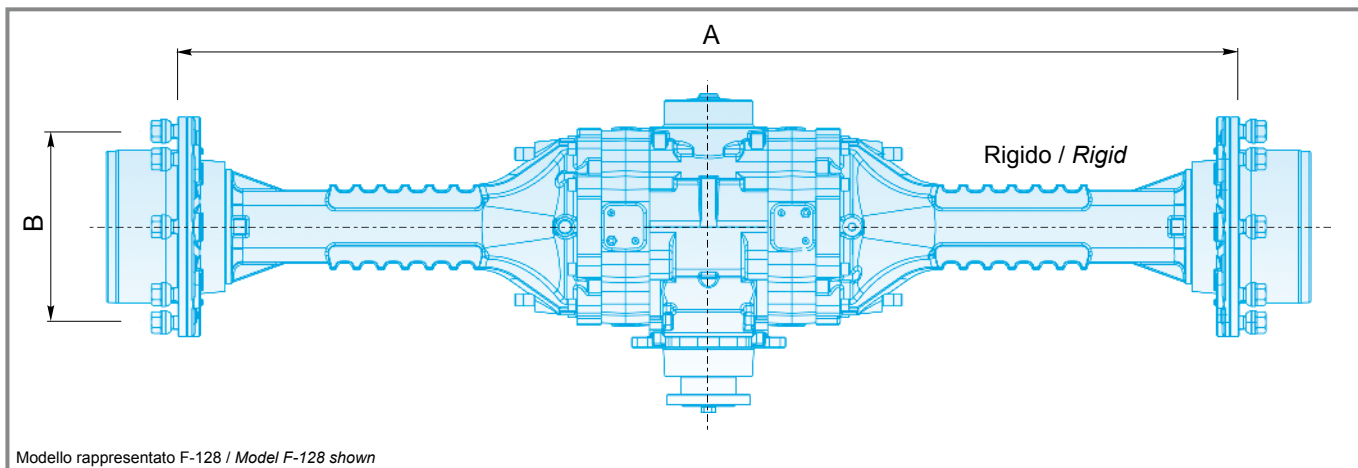


- Assali off-highway specificatamente progettati per caricatori frontali.
- *Specialized off-highway axles for front end loaders.*

Capacità di carico Load capacity [t]	Trasmissioni Transmissions		Assali Axles
	Doppia velocità Double speed	Singola velocità Single speed	
< 2.0	-	S-420 	F-046  Anteriore/Front Posteriore/Rear
2.0 ÷ 3.0	S-500 	S-420 	F-068  Anteriore/Front Posteriore/Rear
3.0 ÷ 4.5	S-500 	S-420 	F-080  Anteriore/Front Posteriore/Rear
4.5 ÷ 6.5	S-528 	S-428  S-628 	F-128  Anteriore/Front Posteriore/Rear



Capacità di carico <i>Load capacity</i> [t]	Trasmissioni <i>Transmissions</i>		Assali <i>Axles</i>
	Doppia velocità <i>Double speed</i>	Singola velocità <i>Single speed</i>	
6.5 ÷ 7.5	S-528 	S-428  S-628 	F-228   Anteriore/Front  Posteriore/Rear
7.5 ÷ 8.5	S-528 	S-428  S-628 	F-238   Anteriore/Front  Posteriore/Rear
8.5 ÷ 9.5	S-528 	S-428  S-628 	F-258   Anteriore/Front  Posteriore/Rear
9.5 ÷ 10.5	S-528 	S-428  S-628 	F-328   Anteriore/Front  Posteriore/Rear
10.5 ÷ 12.0	S-528 	S-428  S-628 	F-358   Anteriore/Front  Posteriore/Rear



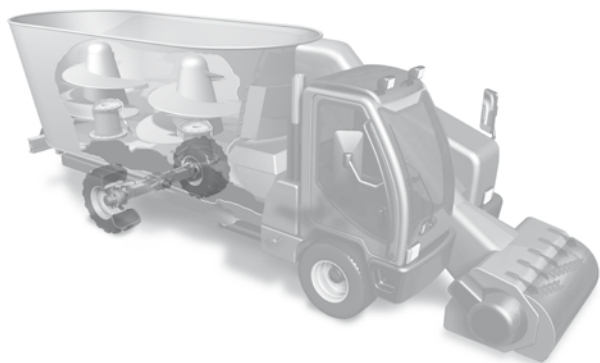
Modello rappresentato F-128 / Model F-128 shown

Assali Axles	Portata dinamica max. Max. dynamic load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Rapp. rid. totale Total red. ratio	A [mm]	B [mm]		
F-046	2500	440	-	2.23:1 ÷ 5.57:1	750 890	ø 205		
F-068	2700	850	4.31:1	9.63:1 ÷ 24.00:1	806 ÷ 1263			
F-080	4800	2100	4.80:1	10.73:1 ÷ 26.74:1	850 ÷ 1575			
F-128	5800	2400	6.00:1	13.41:1 ÷ 24.66:1	1010 ÷ 1810	ø 275		
F-228	8000	3400			6.40:1	14.28:1 ÷ 26.30:1	1660 ÷ 2050	ø 275 ø 335
F-238	9300	3400	13.72:1 ÷ 28.00:1	1660 ÷ 1920				ø 335
F-258		4200						
F-328	12000	5800	15.76:1 ÷ 28.00:1	1920 ÷ 2050	ø 335 ø 425			
F-358	15000	6500						

I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles

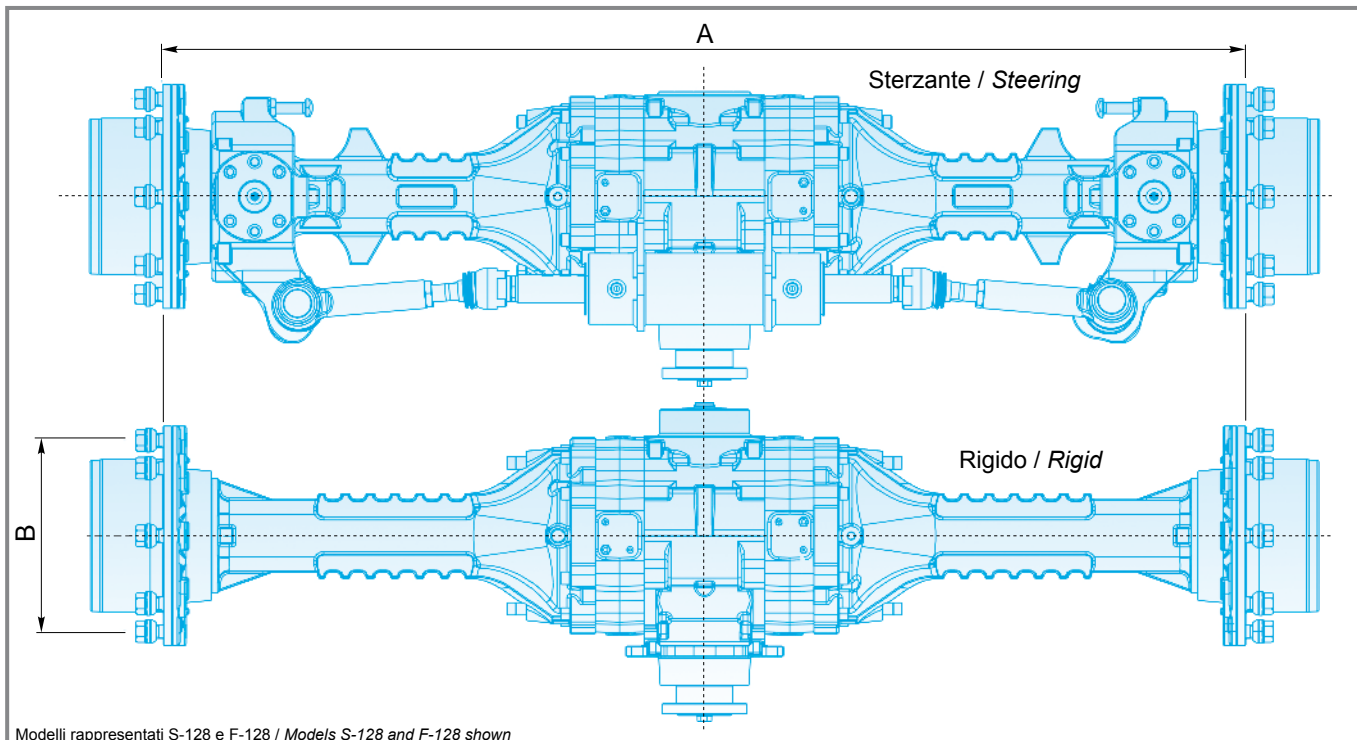


Trasmissioni <i>Transmission</i>	Cilindrata motore Motor displacement [cc]	Numero velocità <i>Number of speed</i>	Rapp. rid. cambio <i>Gearbox reduction ratio</i>	Modalità cambio <i>Shifting mode</i>
S-420	up to 115	1	2.33:1 ÷ 4.56:1	n/a
S-428	up to 115	1	1.92:1 ÷ 2.50:1	n/a
S-500	up to 115	2	1.00:1 ÷ 5.11:1	Stand Still
S-528	up to 115	2	1.02:1 ÷ 4.78:1	Stand Still Easy Shift
S-628	up to 160	1	1.20:1 ÷ 2.46:1	n/a



- Elevati standard di performance per carri miscelatori semoventi.
- *High standards of performances for self-propelled feed mixers.*

Cubatura Mixing capacity [m ³]	Assali anteriori Front axles	Assali posteriori Rear axles
< 14	<p>S-228</p> <p style="text-align: center;">Anteriore/Front</p>	<p>S-228</p> <p style="text-align: center;">Posteriore/Rear</p>
14 ÷ 16	<p>S-238</p> <p style="text-align: center;">Anteriore/Front</p>	<p>S-238</p> <p style="text-align: center;">Posteriore/Rear</p>
16 ÷ 20	<p>S-328</p> <p style="text-align: center;">Anteriore/Front</p>	<p>S-328</p> <p style="text-align: center;">Posteriore/Rear</p>
20 ÷ 24	<p>S-358</p> <p style="text-align: center;">Anteriore/Front</p>	<p>S-358</p> <p style="text-align: center;">Posteriore/Rear</p>



Modelli rappresentati S-128 e F-128 / Models S-128 and F-128 shown




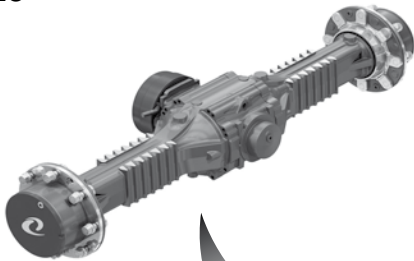






Assali Axles	Portata dinamica max. Max. dynamic load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Rapp. rid. totale Total red. ratio	A [mm]	B [mm]
S-228	8000	3400	6.00:1	13.41:1 ÷ 24.66:1	1790 ÷ 2050	ø 275 ø 335
F-228						
S-238	9300					
F-238						
S-328	12000	5800	6.40:1	13.72:1 ÷ 28.00:1	1920 ÷ 2180	ø 335
F-328						
S-358	15000	6500		15.76:1 ÷ 28.00:1	2050 ÷ 2310	ø 335 ø 425
F-358						

I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles




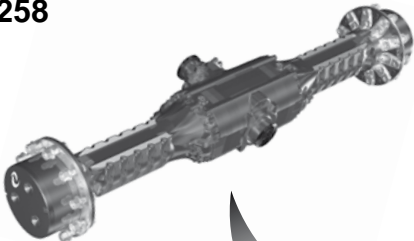









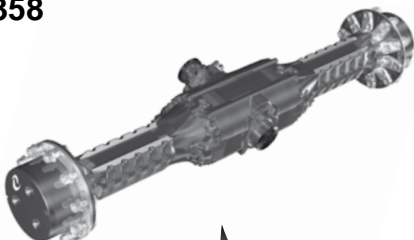

I dati di cui sopra sono puramente indicativi. Le applicazioni individuali sono soggette alla approvazione della Comer Industries S.p.a.
Above figures are an indication only. Individual applications are subjects to approval by Comer Industries S.p.a.

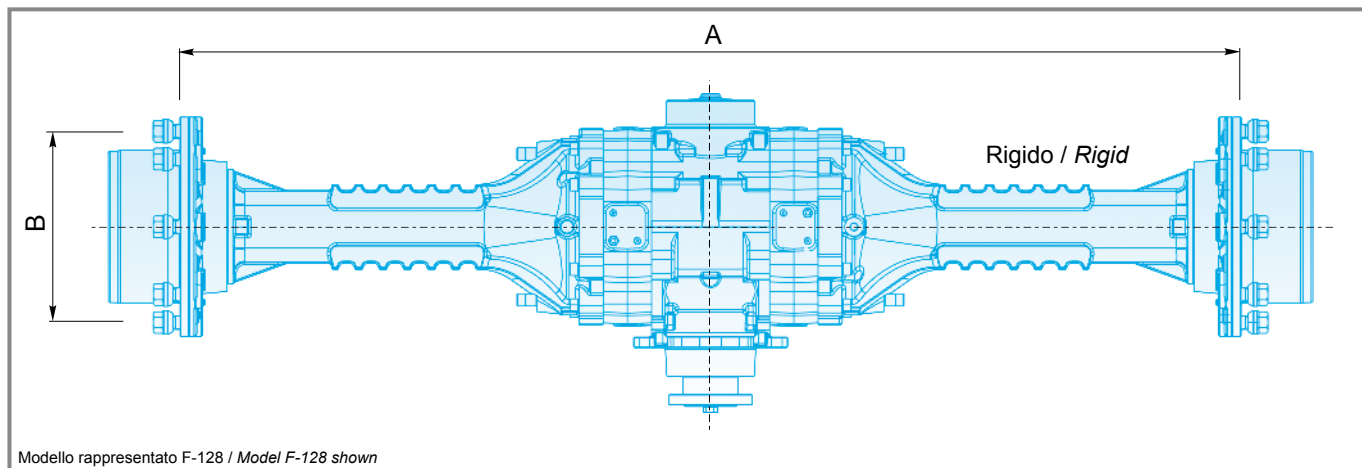


- Elevati standard di performance per compattatori single drum.
- *High standards of performances for single drum compactors.*

Peso operativo Operating load [t]	Trasmissioni Transmissions		Assali Axles
	Doppia velocità Double speed	Singola velocità Single speed	
< 7.0	-	S-428  S-628  PG161 	F-128   Posteriore/Rear
7.0 ÷ 10.0	-	S-428  S-628  PG161 	F-228   Posteriore/Rear



Peso operativo Operating load [t]	Trasmissioni Transmissions		Assali Axles
	Doppia velocità Double speed	Singola velocità Single speed	
10.0 ÷ 12.0	-	<p>S-428</p>  <p>S-628</p>  <p>PG161</p> 	<p>F-258</p>   <p>Posteriore/Rear</p>
12.0 ÷ 14.0	-	<p>S-428</p>  <p>S-628</p>  <p>PG161</p> 	<p>F-328</p>   <p>Posteriore/Rear</p>
14.0 ÷ 18.0	-	<p>S-428</p>  <p>S-628</p>  <p>PG161</p> 	<p>F-358</p>   <p>Posteriore/Rear</p>



Modello rappresentato F-128 / Model F-128 shown

Assali Axles	Portata dinamica max. Max. dynamic load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Rapp. rid. totale Total red. ratio	A [mm]	B [mm]
F-128	5800	2400	6.00:1	13.41:1 ÷ 24.66:1	1010 ÷ 1530	∅ 275
F-228	8000	3400			1660 ÷ 2050	∅ 275 ∅ 335
F-258	9300	4200	6.40:1	14.28:1 ÷ 26.30:1	1660 ÷ 1920	∅ 335
F-328	12000	5800				∅ 335
F-358	15000	6500				15.76:1 ÷ 28.00:1



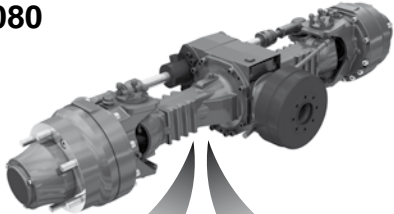











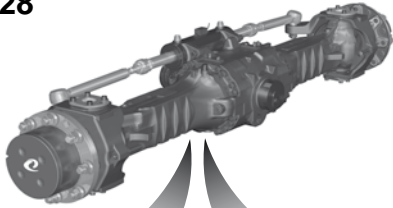


I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles






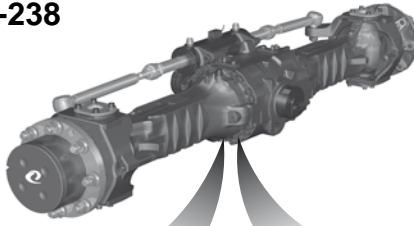





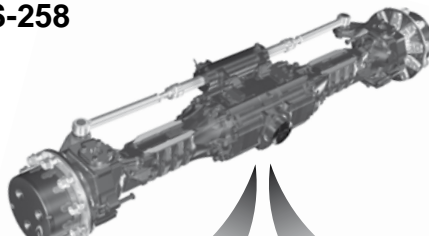











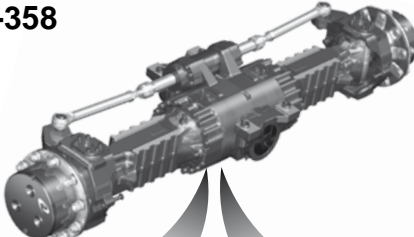


Trasmissioni <i>Transmission</i>	Cilindrata motore Motor displacement [cc]	Numero velocità <i>Number of speed</i>	Rapp. rid. cambio <i>Gearbox reduction ratio</i>	Modalità cambio <i>Shifting mode</i>
S-428	up to 115	1	1.92:1 ÷ 2.50:1	n/a
S-628	up to 160	1	1.20:1 ÷ 2.46:1	n/a
PG161	up to 90	1	up to 6.75:1	n/a

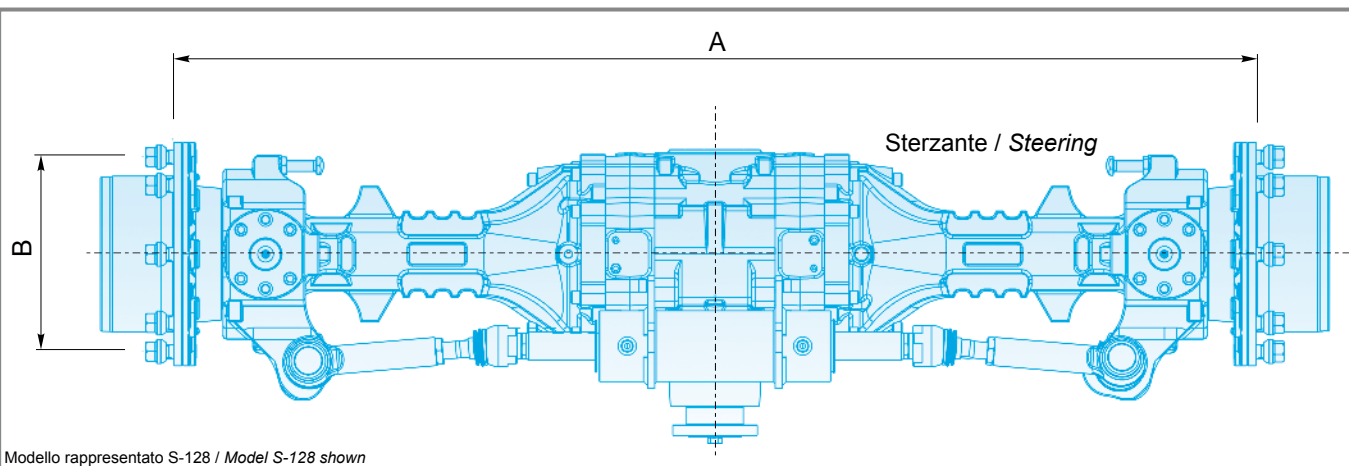


- Elevati standard di performance per sollevatori telescopici.
- *High standards of performances for telehandlers.*

Capacità di sollevamento <i>Lifting capacity</i> [Klbs]	Trasmissioni <i>Transmissions</i>		Assali <i>Axles</i>
	Doppia velocità <i>Double speed</i>	Singola velocità <i>Single speed</i>	
< 4.0	S-500 	S-420 	S-080   Anteriore/Front  Posteriore/Rear
4.0 ÷ 6.5	S-528 	S-428  S-628 	S-128   Anteriore/Front  Posteriore/Rear
6.5 ÷ 8.0	S-528 	S-428  S-628 	S-228   Anteriore/Front  Posteriore/Rear



Capacità di sollevamento <i>Lifting capacity</i> [Klbs]	Trasmissioni <i>Transmissions</i>		Assali <i>Axles</i>
	Doppia velocità <i>Double speed</i>	Singola velocità <i>Single speed</i>	
8.0 ÷ 9.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-238</p>   Anteriore/Front  Posteriore/Rear
9.0 ÷ 10.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-258</p>   Anteriore/Front  Posteriore/Rear
10.0 ÷ 11.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-328</p>   Anteriore/Front  Posteriore/Rear
11.0 ÷ 14.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-358</p>   Anteriore/Front  Posteriore/Rear



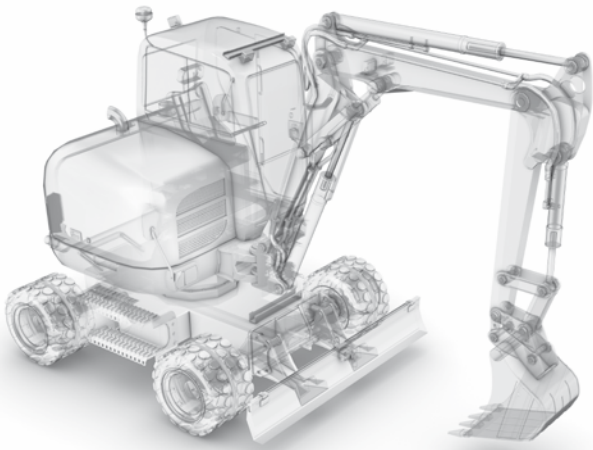
Modello rappresentato S-128 / Model S-128 shown

Assali Axles	Portata dinamica max. Max. dynamic load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Rapp. rid. totale Total red. ratio	A [mm]	B [mm]
S-080	2700	2100	4.80:1	10.73:1 ÷ 26.74:1	1272 ÷ 1440	ø 205
S-128	5800	2400	6.00:1	13.41:1 ÷ 24.66:1	1250 ÷ 1810	ø 275
S-228	8000	3400	6.00:1		1660 ÷ 2050	ø 275 ø 335
S-238	9300					
S-258	9300	4200	6.40:1	14.28:1 ÷ 26.30:1	1920 ÷ 2180	ø 335
S-328	12000	5800		13.72:1 ÷ 28.00:1		
S-358	15000	6500		15.76:1 ÷ 28.00:1		









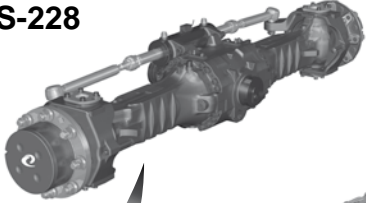
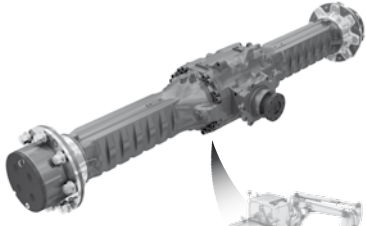
I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles






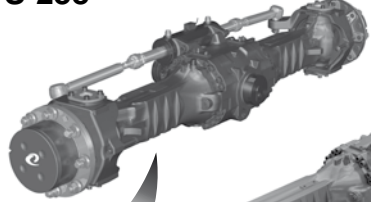

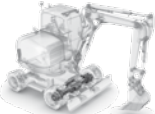
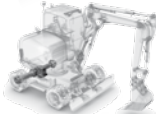




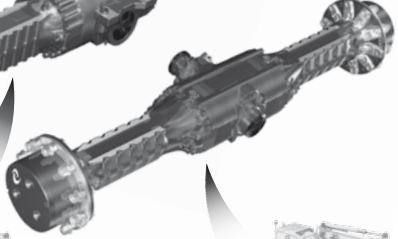
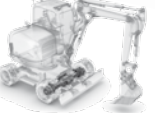
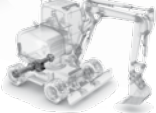
Trasmissioni <i>Transmission</i>	Cilindrata motore Motor displacement [cc]	Numero velocità <i>Number of speed</i>	Rapp. rid. cambio <i>Gearbox reduction ratio</i>	Modalità cambio <i>Shifting mode</i>
S-420	up to 115	1	2.33:1 ÷ 4.56:1	n/a
S-428	up to 115	1	1.92:1 ÷ 2.50:1	n/a
S-500	up to 115	2	1.00:1 ÷ 5.11:1	Stand Still
S-528	up to 115	2	1.02:1 ÷ 4.78:1	Stand Still Easy Shift
S-628	up to 160	1	1.20:1 ÷ 2.46:1	n/a

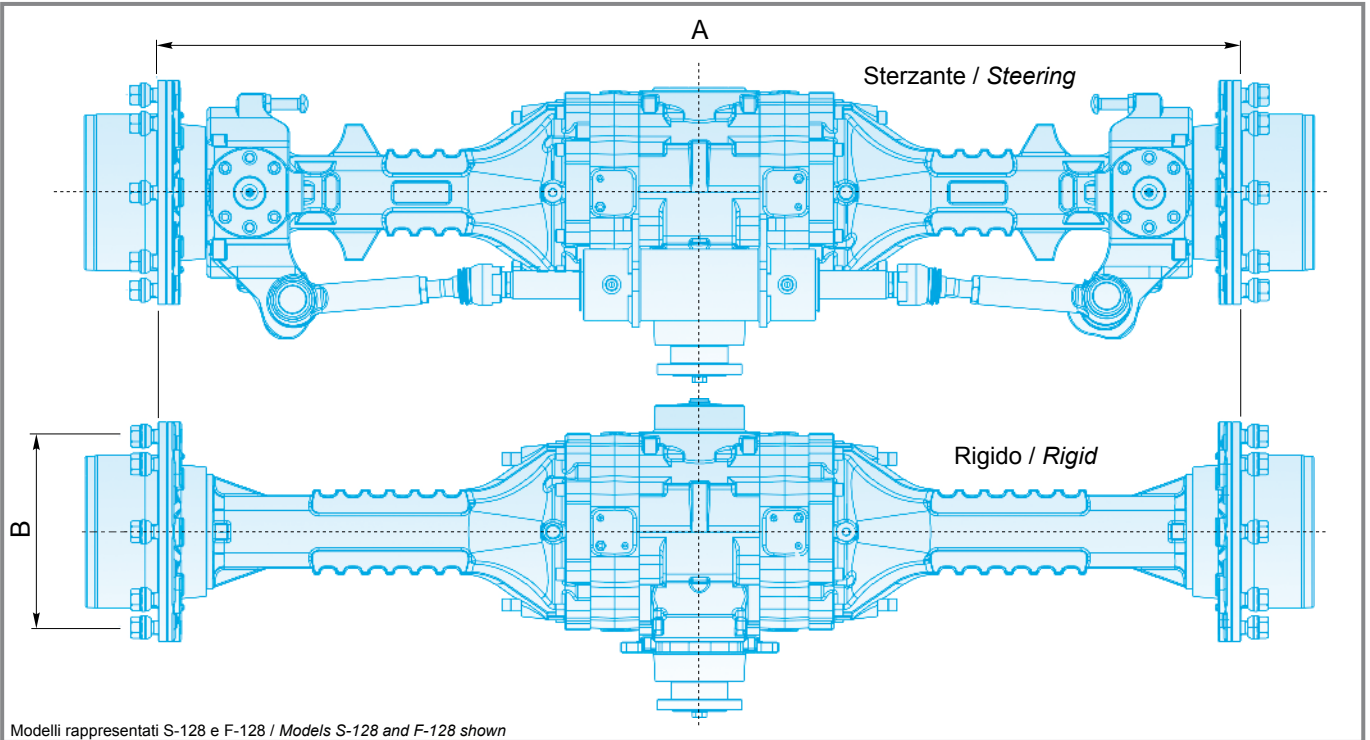


- Assali off-highway specificatamente progettati per escavatori.
- *Specialized off-highway axles for wheeled excavators.*

Peso operativo Operating load [t]	Trasmissioni Transmissions		Assali Axles
	Doppia velocità Double speed	Singola velocità Single speed	
< 8.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-128</p>  <p>F-128</p>  <p>Anteriore/Front Posteriore/Rear</p>
8.0 ÷ 12.0	<p>S-528</p> 	<p>S-428</p>  <p>S-628</p> 	<p>S-228</p>  <p>F-228</p>  <p>Anteriore/Front Posteriore/Rear</p>



Peso operativo <i>Operating load</i> [t]	Trasmissioni <i>Transmissions</i>		Assali <i>Axles</i>
	Doppia velocità <i>Double speed</i>	Singola velocità <i>Single speed</i>	
12.0 ÷ 15.0	S-528 	S-428  S-628 	S-238  F-238   Anteriore/Front  Posteriore/Rear
15.0 ÷ 18.0	S-528 	S-428  S-628 	S-328  F-328   Anteriore/Front  Posteriore/Rear



Modelli rappresentati S-128 e F-128 / Models S-128 and F-128 shown

Assali Axles	Portata dinamica max. Max. dynamic load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Rapp. rid. totale Total red. ratio	A [mm]	B [mm]
S-128	5800	2400			1390 ÷ 1810	ø 275
F-128						
S-228	8000	3400	6.00:1	13.41:1 ÷ 24.66:1	1790 ÷ 2050	ø 275 ø 335
F-228						
S-238	9300					
F-238						
S-328	12000	5800	6.40:1	13.72:1 ÷ 28.00:1	1850 ÷ 2050	ø 335
F-328						

I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles

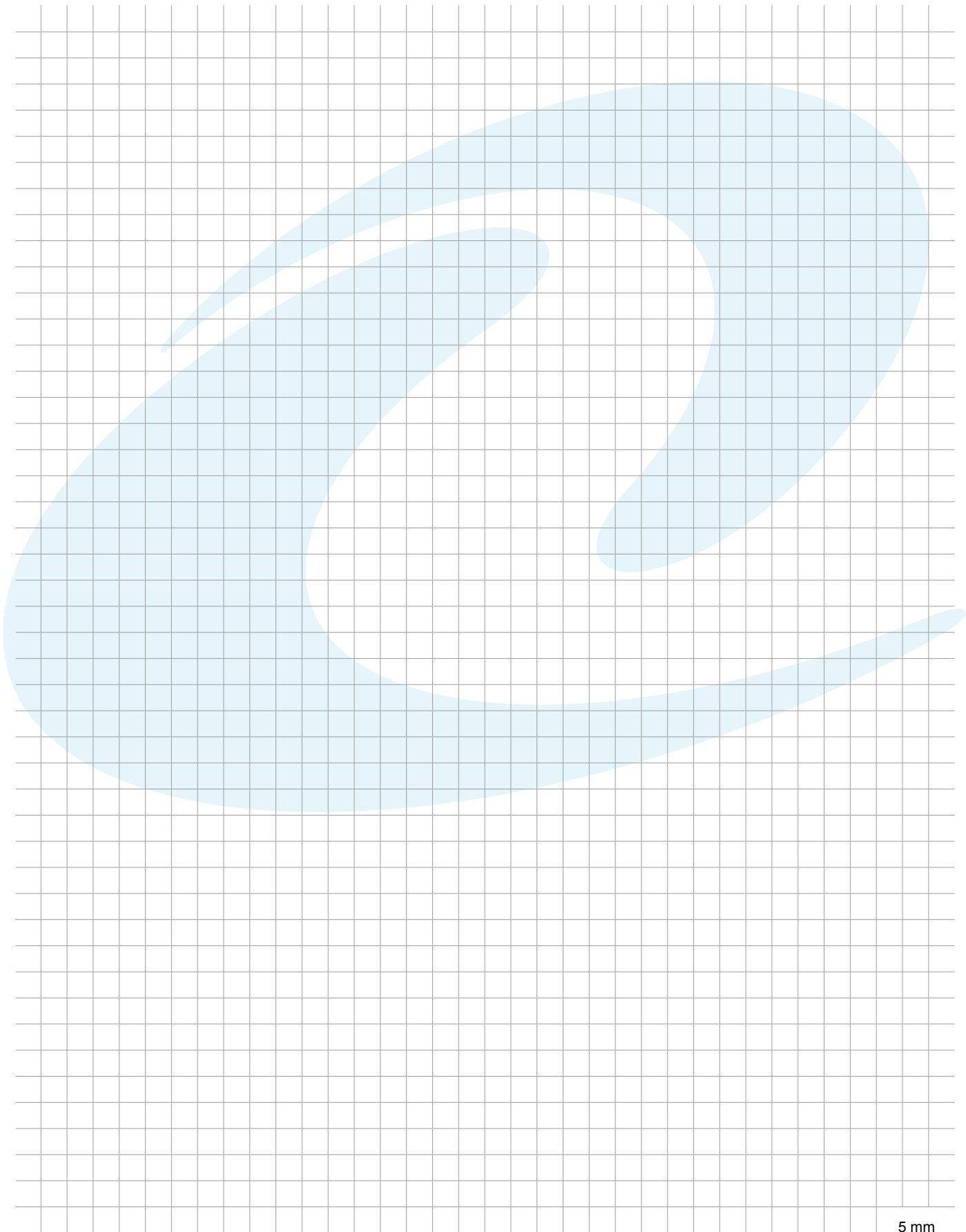


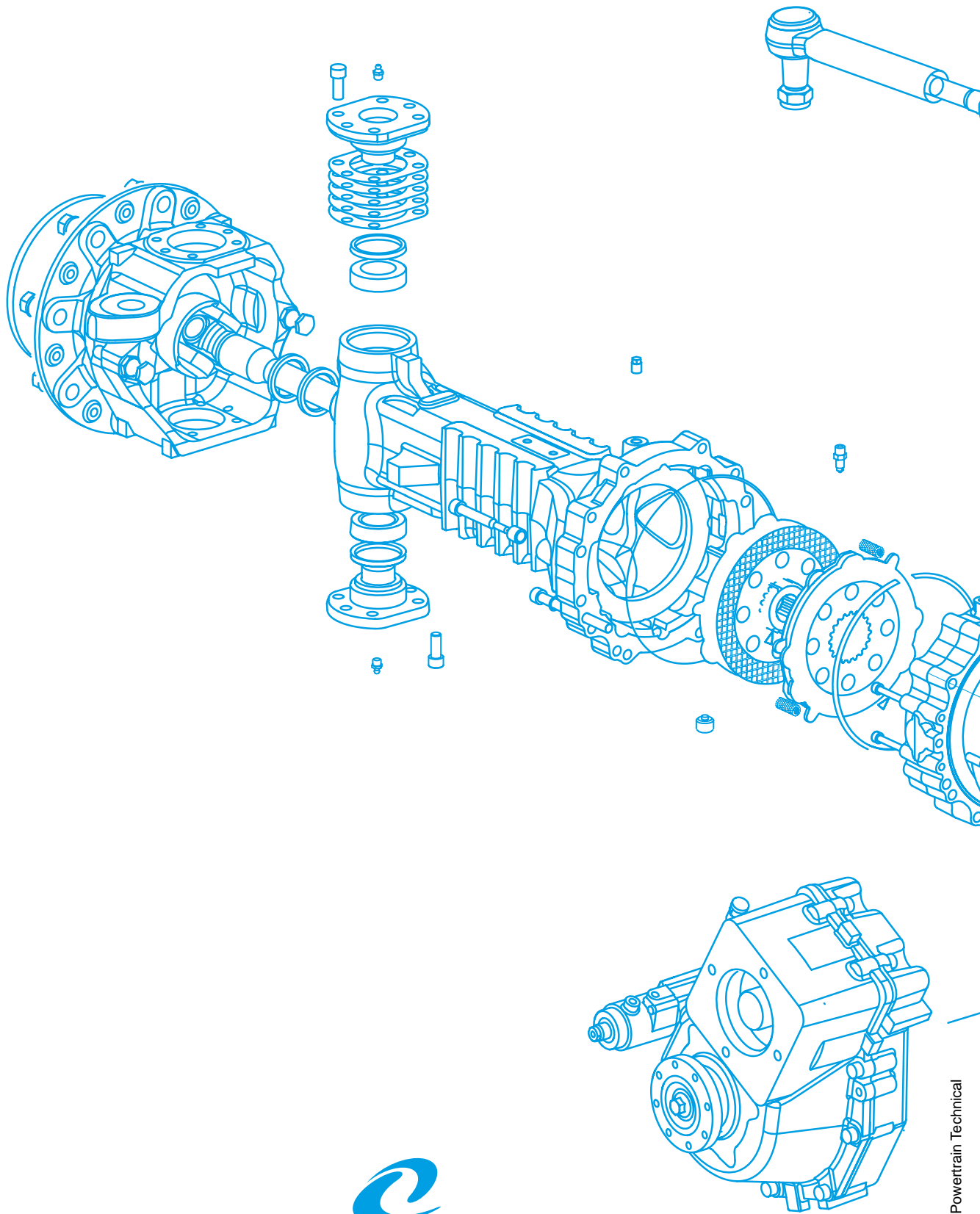
Trasmissioni <i>Transmission</i>	Cilindrata motore Motor displacement [cc]	Numero velocità <i>Number of speed</i>	Rapp. rid. cambio <i>Gearbox reduction ratio</i>	Modalità cambio <i>Shifting mode</i>
S-428	up to 115	1	1.92:1 ÷ 2.50:1	n/a
S-528	up to 115	2	1.02:1 ÷ 4.78:1	Stand Still Easy Shift
S-628	up to 160	1	1.20:1 ÷ 2.46:1	n/a

Assali Axles	Portata din. max. Max. dyn. load [daN]	Coppia max. Max. torque [daNm]	Rapp. rid. ruote Red. ratio wheels	Range rapporto taglia assale Axles size range reduction ratio	B [mm]	
Assali rigidi / Rigid axles	F-046	2500	440	-	2.23:1 ÷ 5.57:1	ø 205
	F-068	2700	850	4.31:1	9.63:1 ÷ 24.00:1	
	F-080	4800	2100	4.80:1	10.73:1 ÷ 26.74:1	
	F-128	5800	2400	6.00:1	13.41:1 ÷ 24.66:1	ø 275
	F-228	8000	3400			ø 275 ø 335
	F-238	9300				
	F-258		4200	6.40:1	14.28:1 ÷ 26.30:1	ø 335
	F-328	12000	5800		13.72:1 ÷ 28.00:1	
	F-358	15000	6500		15.76:1 ÷ 28.00:1	ø 335 ø 425
Assali sterzanti / Steering axles	S-068	2700	850	4.31:1	9.63:1 ÷ 24.00:1	ø 205
	S-080	2700	2100	4.80:1	10.73:1 ÷ 26.74:1	ø 205
	S-128	5800	2400	6.00:1	13.41:1 ÷ 24.66:1	ø 275
	S-228	8000	3400			ø 275 ø 335
	S-238	9300				
	S-258		4200	6.40:1	14.28:1 ÷ 26.30:1	ø 335
	S-328	12000	5800		13.72:1 ÷ 28.00:1	
	S-358	15000	6500		15.76:1 ÷ 28.00:1	ø 335 ø 425

I valori di portata dinamica si riferiscono ad assali con montaggio oscillante / The dynamic load values refer to pivoting axles

Trasmissioni <i>Transmission</i>	Cilindrata motore Motor displacement [cc]	Numero velocità <i>Number of speed</i>	Rapp. rid. cambio <i>Gearbox reduction ratio</i>	Modalità cambio <i>Shifting mode</i>	Flange
S-420	up to 115	1	2.33:1 ÷ 4.56:1	n/a	ASA100 DIN120
S-428	up to 115	1	1.92:1 ÷ 2.50:1	n/a	DIN120 END YOKE 1410
S-500	up to 115	2	1.00:1 ÷ 5.11:1	Stand Still	ASA100 DIN120
S-528	up to 115	2	1.02:1 ÷ 4.78:1	Stand Still Easy Shift	DIN120 END YOKE 1410
S-628	up to 160	1	1.20:1 ÷ 2.46:1	n/a	DIN120 END YOKE 1410
PG161	up to 90	1	up to 6.75:1	n/a	Direct motor adapter





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powertrain

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