



## Product Range

#### **Bored Piles**

- Bored piles in Kelly bar mode CF Series
- Bored piles in CFA CF Series
- Soil Mixing CF Series

#### **Driven Piles**

- Driven piles with high frequency hammer CF Series
- Driven piles with low frequency hammer CF Series
- Driven piles with vibrator CF Series

#### **Diaphragms**

- Hydraulic grabs CF Series
- Hydraulic/Mechanical grabs T Series

#### **Micropiles**

- Micropiles TES Series
- Soil Investigation TES Series
- Tie Back TES Series
- Water Wells TES Series

#### **Horizontal Drilling**

- Pipe pushers

#### **Cranes**

- Crawler cranes with lattice boom T Series
- Crawler cranes with telescopic boom T Series

#### Kits and Special Applications

- Pendular rotaries
- Drilling kits for the boom and dipper of excavators
- Jibs for cranes and excavators
- Conversion kits for piling rigs in kelly bar mode (CFA, Diaphragms, Hammer, Vibrator, DTH, Soil Mixing, Bottom Feed Vibro Compaction)

#### Kelly Bars

- Locking and Friction Kelly bars for whatever type and brand of piling rig

#### **Drilling Tools**

- Buckets, Core Barrels, Augers, Tremie pipes, Casing pipes, Casing Extractors, Casing Drive Adaptors, Clamps

## **Company Profile**

#### **History**

TES CAR was established in 1976 by Elio Tonti together with his son, and current President of the company, Sauro Tonti. Its origins are anyway indissolubly linked to another historic company in the drilling field, Trivelsonda, which had been the forefather of the main current industries producers of drilling machines in the world. From the big experience matured manufacturing Kelly bars, tools, dumpers, trucks and chassis for Trivelsonda, Sauro Tonti decided to launch its new ideas and projects to manufacture small drilling rigs for special jobs and from that point he had given birth to the current special drilling rigs "CF Series" and "TES Series", now famous and approved all around the world.

The manufacturing activity of TES CAR focalized first on the project and construction of hydraulic drilling rigs for Micropiles and Soil Investigation, putting on the market the "TES Series" including several models which respond to the main contractors' requirements and rise above the competitors thanks to their capability to change their working configuration according to the different jobsites features. After years of research in the drilling field, in 1985 TES CAR put in the market the first "MINI-PILING RIGS" for foundations, now worldwide recognized as "CF Series". The main feature of this machines line, projected and patented by the current President, is the capability to move and work into limited access areas, narrow spaces, almost treacherous for our competitors. These machines are available with a torque up 6 to 40 kNm and with a weight up 2,5 to 16 t.

Further to that, TES CAR offers MEDIUM SIZE PILING RIG with a torque up 60 to 120 kNm. Last, following the growing demand of the emerging markets, TES CAR has completed the project of a brand new piling rig for large diameters, capable to develop a torque up 180 to 230 kNm. The most important feature which makes unique the TES CAR piling rigs, consists in the versatility and in the possibility to convert every machine in several different working configurations such as Kelly Bar, CFA, Soil Mixing, Pile Driving Hammer, Slurry Wall Grab, Vibrator, Micropiles and Solar Panels. It's easy to realize the enormous advantage for the end-user.

Further to the drilling rigs, in 1993 TES CAR got into the market of crawler cranes, both with lattice or telescopic boom type, a range which goes up 4 to 40 t. From the marriage of our drilling machines and cranes, in 1995 born a special drilling rig line for big CFA piles (up to 35m deep with 1000mm diameter). This machine together with other models took the name of "TCA Series" and completed the existing product range. On the last 5 years TES CAR has improved and developed all its piling rigs replacing the undercarriages with the latest and most reliable excavator bases such as Hitachi, JCB, Doosan, Bobcat, Kubota, Komatsu, Eurocomach, Hyundai, adding also brand new crawler bases entirely manufacture by TES CAR. The experience matured in over 35 years, the continuous technical research, strongly supported by our customers suggestions, the insatiable ambition to improve our quality, lead TES CAR to become the leader in the production and sale of the small-medium size piling machines...with several attempts of imitation!

## "The Rigs Tailor-Makers"

TES CAR has always followed its customers' enquiries for special projects of customized rigs. Indeed it's not the manufacturer who has to face the different jobsites, but the customers, the contractors, the operators, so when we get a new enquiry for a special rig, our answer is always "Yes, we can!" And our top satisfaction is to know that our customers succeed in doing a job thanks to the special machine we manufactured for him! That's the reason of our nickname: "the Rigs Tailor-Maker"!

#### Mission

TES CAR has always put the stress on the **harmony** and **synchrony** of all the members of its working team, the **seriousness** with which it studies and realizes the most elaborate projects, the **quality** of the materials used for the construction of the machines, the high level of **skill** of its technicians and workers, and the **after sale service** which TES CAR guarantee to its customers all over the world.

#### **Vision**

TES CAR's main target, as well as priceless reward, has always been **the full satisfaction and gratitude of all its customers and dealers**, which can be translated in the continuity of the business relationship, based unavoidably on the direct and personal relation of esteem and friendship, as essential premise for a strong and long lasting cooperation.



Working Modes	CF1	CF1.5	CF2	CF2.5	CF2.5	CF3	CF3S	CF3 Plus	CF4	CF6	CF6	CF8	CF10	CF18
of TES CAR Piling Rigs		Compact			Compact									
		MIN	MINI PILING RIGS	sels			2	MEDIUM PILING RIGS	LING RIG	S		LARG	LARGE PILING RIGS	RIGS
Rotary bored piles with Kelly Bar														
Standard rotary piles	۸	^	Λ	۸	^	۸	^	>	>	>	^	>	^	>
Close to the wall rotary piles (CTV)	۸	^	^	۸	^	^	^	>	>	>	>	>		
Cased bored piles by rotary head										^	Λ	>	Λ	^
Cased bored piles by kelly bar				۸	۸	^	٧	^	^	^	^	>		
Low headroom rotary piles	^	^	۸	>	۸	^	^	>	>	>	^	^	^	
Continuous Flight Auger (CFA)														
CFA with single auger						۸		^	۸	^	^	۸	۸	^
CFA with authomatic loading arm										^	۸	>	۸	^
CFA with pull down winch													^	>
CFA with motoreducer feed by chain									>	>	^	>	>	>
Soil Mixing						>		>	>	>	^	>	>	>
Slurry Walls						>		^	>	>	^	>	>	>
Pile Driving														
Low Frequency Hammer						Λ		^	۸	^	^	۸	۸	^
High Frequency Hammer						>		>	>	>	۸	>	^	>
Piles driving with Vibrator						>		^	>	>	^	>	>	>
Displacement piles													>	^
Stone Coloumns													>	^
Micropiles	Λ		>			>		^	>	>	^	>	>	>
Jet Grouting						>		^	>	^	۸	^	^	>
Convertible into Road Rail Mode						>	>	^	>	>	>	>	^	











# Rotary Piling Rigs equipped with locking kelly bar

Model	Г	Tavava	Thrust	Maydooth	Max diameter	Crowler base	Lesies samer	Tak waishk
MOGEL		Torque kNm	daN	Max depth m	mm mm	type	Engine power kW	Tot. weight
	L	MINIII	OGIV			ιγρε	, w	,
CF1		6	4000	8	500	Bobcat €17 / Hitachi ZX17U	19	2,7
CF1.5 Compact		18	6000	15	800	TES CAR base	35	5
CF2		12	5500	12	600	Bobcat E26 / Eurocomach ES28 ZT	25	4
CF2.5		25	9500	18	800	Bobcat €50 - Hitachi ZX55U	38	7
CF2.5 Compact		25-35	8000	18	1000	TES CAR base	47	8
CF3		35	13000	28	1000	Eurocomach ESP100 UR	46,5	13
CF3 Plus		40	13000	28	1200	Eurocomach ESP100 UR TURBO	56,6	14
CF3S		35	10000	22	1000	€urocomach €SP100 SB / ZT	46,5	13
CF4		40	11000	25	1200	TES CAR base	90	16
CF4 Plus		45	13000	28	1200	Eurocomach ESP100 UR TURBO	64	14,5
CF6		60	20000	30	1200	Hitachi ZX130 - Doosan DX140 - JCB JS130	80	21
CF6 Plus		65-80	20000	30	1200	TES CAR base	106	18
CF8		80	20000	35	1300	Hitachi ZX 160 - Doosan DX180 - JCB JS160	95	26
CF10		100-120	23300	40	1300	TES CAR base	130	30













# CFA Rotary Piling Rigs equipped with Continuous Flight Auger

Model	Torque kNm	Max depth m	Max diameter mm	Crawler base type	Engine power kW	Extraction t	Tot. Weight t
CF3 CFA (6+3)	35	10	500	Eurcomach ESP100 UR	46,5	8	13
CF3 CFA (7+4)	40	11	600	Eurcomach ESP100 UR TURBO	63,9	10	15
CF4 CFA (8+3)	40	11	600	TES CAR base	90	10	15
CF6 CFA (9+3)	60	12	650	Hitachi ZX130 - Doosan DX140 - JCB JS130	80	14	19
CF6 CFA (9+9+3) *	60	21	650	Hitachi ZX130 - Doosan DX140 - JCB JS130	80	20	20
CF6 Plus CFA (11+4)	65	15	700	TES CAR base	106	18	17
CF8 CFA (12+4)	80	16	700	Hitachi ZX160 - Doosan DX180 - JCB JS160	95	18	25
CF10 CFA (14+4)	100	18	800	TES CAR base / Hitachi ZX210	130	20	28
TCA12 on Crane	60	12	650	Crawler Crane (20 ton)	95	12	8+Crane
TCA18 on Crane	100	18	800	Crawler Crane (30 ton)	130	20	13+Crane
TCA25 on Crane	150	25	1000	Crawler Crane (40 ton)	160	40	20+Crane
TCA35 on Crane	200	35	1000	Crawler Crane (50 ton)	200	50	25+Crane

<sup>\*</sup> with automatic loading arm



Working Modes of TES CAR Drilling Rigs	TES20	TES20 Compact	TES40	TES40 Compact	TES100	TES400	TES120	TES135	TES160
			CRAWL	ER BASE			TRU	CK MOUN	ITED
Micropiles	M	M	М	M	M				
Soil Investigation	M	M	M	M	0				
Jet Grouting	0	0	0	0	0				
Geothermal (with double rotary)					0				
Top Hammer			0	0	M				
Down the hole hammer (DTH)	0	0	0	0	0				
Tie back/Anchoring/Tunneling				M	M				
Core drilling	0	0	0	0	0				
Water Wells			0	0	M	M	M	M	M

**M** = Main applications / **O** = Optional kit













## Micropiles - Tie Back - Tunneling

equipped with on-bord or separate Power-Pack

Model	Torque kNm	Max speed rpm	Max depth m	clamp max diameter mm	Extraction force kN	Engine power kW	Tot. Weight t
TES 20 with power pack	2,5	100	40	76 -150	20	37	2
TES 20 Compact	2,2	100	40	76 -150	20	37	2
TES 40 with power pack	5	250	80	76 - 200	40	59	6
TES 40 Compact	5	250	80	76 - 200	40	59	6
TES 100	23	400	200	80 - 300	60	120	12

## Water Wells Rigs

on truck or crawler base

Model	Torque kNm	Max speed rpm	Max depth m	clamp max diameter mm	Extraction force kN	Engine power kW	Tot. Weight t
TES 120	13	250	200	80 - 300	160	150	*
TES 135	15	250	300	80 - 300	250	208	*
TES 160	28	250	600	100 - 480	350	268	*
TES 400	35	300	1000	100 - 520	450	315	*

<sup>\*</sup> according to the base unit (truck or crawler base)

## Horizontal Drilling Rigs

With separate power pack

Model	Torque kNm	Max speed rpm	Max lenght m	Max diameter mm	Extraction force kN	Engine power kW	Tot. Weight t
TES40/1000	40	20	60	1000	1400	50	7,5











Railway Rigs
equipped with Kelly Bar, Hammer and Micropiles kit

Model	Torque kNm	Max Reach mm	Max depth m	Max diameter mm	Crawler base type	€ngine power kW	Tot. weight t
CF4F (Kelly bar mode)	40	3500	15	1000	Komatsu PW110R	71	18
CF6F (Kelly bar mode)	60	3500	25	1200	Hitachi ZX140W / Doosan DX140W	90	21
CR6 (Kelly bar mode)	60	4000	28	1200	Hitachi ZX210 / Doosan DX240	122	29
CR6 (Hammer mode)	1	4000	5	500x400	Hitachi ZX210 / Doosan DX240	122	33
CR6W (Kelly bar mode)	60	5000	20	1200	Hitachi ZX220W / Doosan DX190W	122	29
CR2W (Micropiles kit mode)	4 x 2	5000	5	4 x 100	Hitachi ZX220W / Doosan DX190W	122	29











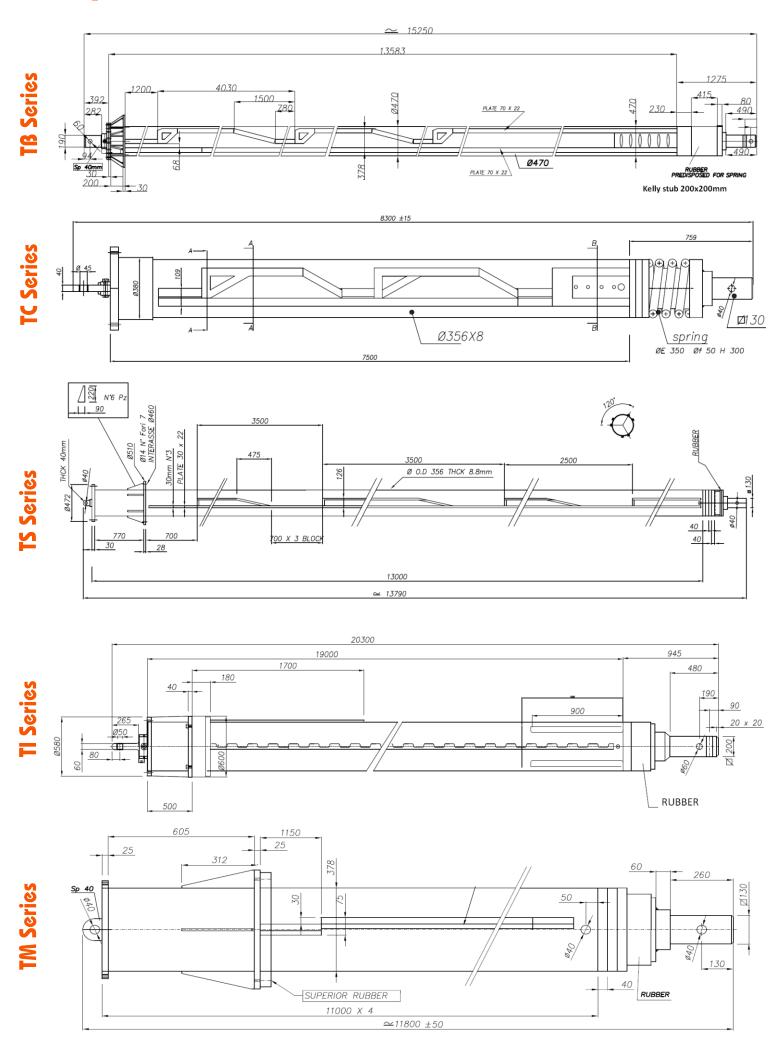
## **Crawler Cranes**

on crawler base with lattice boom or telescopic mast

Model	Load capacity t	Nom. line pull kN	Engine power kW	Crawled base type	Max boom lenght m	Tot. Weight t
T/4	4	II	46,5	Eurocomach ESP100 UR	8	10
T/10	12	II	95	Hitachi ZX210	17	22
T/20	20	IV	95	Hitachi ZX210	9 - 17	27
T/20	20	II	129	TES CAR base	9 - 17	27
T/30	30	III	140	Hitachi ZX240	9 - 15 - 21	30
T/30	30	Ш	129	TES CAR base	9 - 15 - 21	30
T/40	40	IV	205	Hitachi ZX290	9 - 15 - 21	40
T/40	40	IV	129	TES CAR base	9 - 15 - 21	40



## Kelly Bars





## Network & Service

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# High Performances with Less Fuel Consumption

The new performant hydraulic plants give more power to increase the productivity. The LOAD SENSING VALVE permits to feed the movements which are activated, adapting instantly to the oil flow, allowing a consuption reduction. The oil and filters change intervals have been extended, reducing maintenance time and expenses. The engine control unit drives the fuel pump at an ultrahigh pressure to inject the fuel into the cylinders through a common rail device. The cooler EGR system mixes exhaust gasses with intake air for a re-combustion, lowering combustion temperature and reducing fuel consuption. The new engines comply with the US norms TIER 4 and the EU Euro 4.

## Worldwide Service

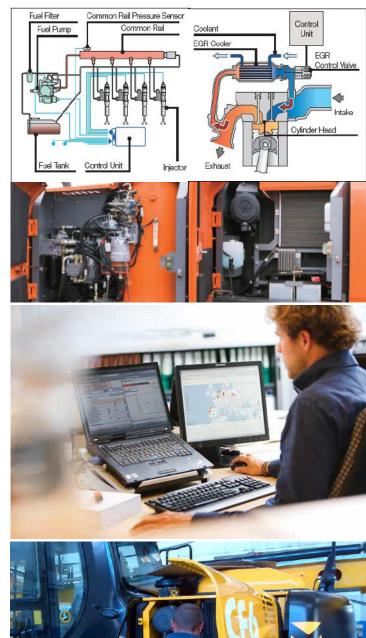
Our technical support service provides quick access to factory expertise, while our commercial team is always on hand to provide fast and competitive quotes. Our service network covers over 25 countries all over the world.

## Easy Maintenance

Routine maintenance is essential for keeping unscheduled downtime to an absolute minimum and ensuring the overall reliability of your machine, but it can be difficult finding the time to carry out regular checks on busy construction sites. The new bases has been designed with time-saving, conveniently accessible features that will make it easy for you to perform routine service and cleaning procedures, so you can get the machine back to work as quickly as possible.

## Confortably in control

The new cabs provided with air conditioning, radio-CD player, multifunction LCD monitor and an absorbing and eating seat, garantee a confortable position and ensures an excellent view of the working area. Through the multifunction monitor (optional) the operator can check all the machine parameters and can start the rear view by a camera. The cabs are also protected by new system Center Pillar Reinforced Structure. Our machines are provided with an electronic device which measures the drilling depth and can be equipped also with the mast automatic alignment device which improves the verticality of the pile.







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