



# DIESEL GENERATOR SET CATALOGUE



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# ABOUT TESCOM



Tescom formerly known as Tümel Elektronik located in Izmir-Turkey is an independently owned corporation, offering a wide range of power protection products and services to a wide spectrum of industries and sectors.

During the establishment years the company was manufacturing electronic control devices and inverters, then in 1986 when the IT sector started developing rapidly, Tescom sensed the great need for clean, uninterruptible power and started designing and manufacturing Uninterruptible Power Supplies.

As well as an extensive standard UPS range Tescom also offers a variety of other products such as static transfer switch (STS), frequency and voltage converters, inverters and rectifiers under it's registered trademark "Tescom".

Today all Tescom branded power protection products are manufactured by 48 greatly experienced engineers and staff of 345 people.

One of the greatest advantages of Tescom has always been, flexibility. Which means we do not only offer standard products. Thank's to our high experienced R&D team we also design and manufacture products according to customers requirements.

Tescom has always made widespread use of the latest developments and technologies in manufacturing, which complies with all the necessary international standards and norms. All these past years of experience, has lead to over 300,000 manufactured power protection products which have been delivered to customers in more than 40 countries in 4 continents.

# TESCOM DIESEL GENERATORS

## STAND BY RATING (ESP)

It is the way that generators operate under variable load at certain time intervals. It can work as a backup power. It is not suitable to work under extreme load.

## PRIME RATING (PRP)

Applicable for supplying power to varying electrical load for unlimited hours. 10% overload capability is available for a period of 1 hour within 12-hour period of operation.

## CONTINUOUS OPERATION

It is the continuous working under constant load. Unlimited hours use of all (100%) of the defined power. It cannot be overloaded above the defined power. For use where there is no mains power.

## DESCRIPTION

TESCOM TDJ Series Diesel generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for stationary standby, prime power and continuous duty applications.

## ENGINE FEATURES

- Heavy duty generator engine
- 4-stroke, water cooling, natural suction system
- Mechanical governor system
- 12/24 volt starter motor and charge alternator
- Replaceable; with air, fuel and oil filters
- With flexible fuel hose
- Oil drain valve and extension hose/oil drain pump
- Industrial capacity muffler and exhaust spiral or compensator
- Maintenance-free type starter battery
- Engine block water heater (available for automatic models)
- Diesel generator maintenance and operation manual and electrical diagrams

## QUALITY

Our generators are produced in accordance with integrated management systems such as ISO9001, ISO14001, ISO 27001 and CE and TSE standards within the framework of Quality Assurance requirements, and we have full qualification certificates for our after-sales services.



## CANOPY STANDARD SPECIFICATIONS

- Compact design connection with non-welded nuts and bolts.
- Integrated canopy, generator set, exhaust system, fuel tank.
- Body made from steel components treated with polyester powder coating
- Easy access to all service points
- Exhaust system inside canopy
- Large doors on each side
- Control panel viewing window in a lockable access door
- Emergency stop push button mounted on cabin exterior
- Fuel fill and battery can only be reached via lockable access doors.
- Customer options available to meet your application's needs.
- TESCOM makes its generating sets noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been approved by the notified body Szutest (CE conformity assessment body).

## ALTERNATOR FEATURES

- Brushless, single bearing, flexible disc 4-pole synchronous alternator
- H Insulation class
- IP21-23 protection class
- Shunt excitation
- Electronic voltage regulator
- Stator winding 2/3 step against harmonic distortions
- Alternator windings are protected with isolation varnish against oil and acid



## CONTROL PANEL FEATURES

- The cable group we use in our generators is fireproof cable class. Cable sheaths form the defense line of cables against various chemicals and flame.
- The use of Halogen-free materials in the outer sheath of the cables prevents the spread of toxic gases during a fire. At the same time, fireproof cable sheaths have low smoke density and flame retardant properties. This feature of fireproof cable sheaths prevents the spread of fire and minimizes possible damages.
- Schneider Electric breaker group is used in generator control panels. As a standard, all our products have a 4-pole MCCB (Molded Case Circuit Breaker)



## ATS (AUTOMATIC TRANSFER SWITCH) GENERAL FEATURES

- The SQ5 Dual Power Automatic Transfer Switch Series is a kind of automatic transfer switch that combines the switch and the logic controller, enabling the mechanical and electrical to become an inseparable whole.
- Superior electromagnetic compatibility, high resistance to interference.
- It has zero-time transfer technology with high reliability.
- It cuts the dual circuit power simultaneously.
- In addition to PLC remote control, it has a multi-circuit input / output interface that can automate the system.



ATS MODEL	GENERATOR POWER RANGE
100 A TRANSFER PANEL WITH TRANSFER SWITCH	0-70 kVA
160 A TRANSFER PANEL WITH TRANSFER SWITCH	82-124 kVA
250 A TRANSFER PANEL WITH TRANSFER SWITCH	125-165 kVA
400 A TRANSFER PANEL WITH TRANSFER SWITCH	220-275 kVA
630 A TRANSFER PANEL WITH TRANSFER SWITCH	300-440 kVA
800 A TRANSFER PANEL WITH TRANSFER SWITCH	500-550 kVA
1000 A TRANSFER PANEL WITH TRANSFER SWITCH	660-715 kVA
1250 A TRANSFER PANEL WITH TRANSFER SWITCH	750-825 kVA
1600 A TRANSFER PANEL WITH TRANSFER SWITCH	900-1100 kVA
2000 A TRANSFER PANEL WITH TRANSFER SWITCH	1250kVA
2500 A TRANSFER PANEL WITH TRANSFER SWITCH	1400-1600 kVA

## CONTROL SYSTEM

The new TESCOM TCM01 genset controllers are a cost effective modular genset controller ready for internet monitoring through plug-in modules. Its main advantages are multifunctionality, support for multiple topologies, harmonic analysis and detailed power measurements.

**Different brand controller can be offered upon request.**

(**DEIF AGC 150, DEIF SGC 120/12, DEIF SGC 420/421, Datacom D500, DEEPSEA 6120, DEEPSEA 7320, ComAp AMF25**)

## DESCRIPTION

Software features are complete with easy firmware upgrade through USB port. The Windows based PC software allows monitoring and programming through USB, RS-485, RS-232, Ethernet and GPRS. The Rainbow Scada web service allows monitoring and control of an unlimited number of gensets from a single central location.

## MAJOR FEATURES

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- 6 configurable digital outputs
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual "speed fine adjust" on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarm
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-485, Ethernet and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- Easy USB firmware upgrade
- -40°C operation with optional display heater
- IP65 rating with optional gasket

## COMMUNICATION

- USB Device
- J1939-CANBUS
- Geo-locating through GSM
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU (2400-57600baud)
- Modbus TCP/IP



TESCOM TCM01



DEIF AGC 150



DEIF SGC 120



DEIF SGC 420



DATAKOM D500



DEEPSEA 6120



DEEPSEA 7320



ComAp AMF25

## MEASUREMENTS

- Mains & genset PN/PP voltages
- Mains & genset frequency
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total, kW, kVA, kVAr, pf
- Engine speed
- Battery voltage

## FUNCTIONALITIES

- AMF unit
- ATS unit
- Remote start controller
- Manual start controller
- Engine controller

## TOPOLOGIES

- 3 ph 4 w, star & delta
- 3 ph 3 w, 2 CTs
- 2 ph 3 w
- 1 phase 2 wires







# TECHNICAL SPECIFICATIONS



	TDJ34K		TDJ44K		TDJ50K		TDJ70K		TDJ82K	
Standby (kVA/kW)	34	27,2	44	35,2	50	40	70	56	82	65,6
Prime (kVA/kW)	30	24	40	32	45	36	63	50,4	75	60
Open type size (LxWxH mm)					2200 x 1000 x 1100					
With cabinet (LxWxH mm)					2200 x 1000 x 1400					
Open type weight (kg)	686		706		711		1113			
Open type weight (kg) (Except for antifreeze and oil)	660		680		685		1087			
Weight with cabinet (kg)	826		846		871		1273			
Weight with cabinet (kg) (Except for antifreeze and oil)	800		820		845		1247			
Tank capacity (L)					150					
<b>MOTOR</b>										
Manufacturer and model	N4100DS		N4100ZDS		N4105ZDS		N4105 ZLDS			
Frequency					50Hz					
Output rating	33kW		46kW		56kW		72kW			
Fuel					Diesel					
Injection		Swirl				Direct				
Aspiration	Naturally aspirated		Turbocharged			Naturally aspirated				
Cylinders			4							
Bore and Stroke	100 x 115mm		105 x 120mm			105 x 130mm				
Displacement	3,61lt				4,15lt					
Cooling			Water							
Engine oil specification			SAE 15W40							
Compression ratio			17:1							
Engine oil capacity (sump only)			13lt							
Coolant capacity (incl.radiator)			13lt							
Governor			Mechanical							
Air filter			Dry element							
<b>FUEL CONSUMPTION</b>										
100% Load	5,7lt/h		10,4lt/h		14,9lt/h		17,3lt/h			
75% Load	4,3lt/h		7,8lt/h		11,2lt/h		12,9lt/h			
50% Load	2,8lt/h		5,2lt/h		7,5lt/h		8,6lt/h			
<b>EXHAUST SYSTEM</b>										
Maximum temperature			< 600°C							
Exhaust gas flow		4,75m³/min			5,96m³/min		8,66m³/min			
Maximum exhaust back pressure			60mBar							
Exhaust flange size (internal dia.)			60mm							
<b>AIR SYSTEM</b>										
Intake air flow	2,3m³/min		4,5m³/min		5,65m³/min		8,2m³/min			
Air intake temperature rise			< 5°C							
<b>STARTING SYSTEM</b>										
Starter motor	3,7kW		4,8kW		6kW		4,3kW			
Battery capacity	60Ah				72Ah					
Auxiliary voltage			12V				24V			
<b>ALTERNATOR</b>										
Brand			Tescom							
Poles			4 Poles							
Frequency			50/60HZ							
Winding connections			Star							
Insulation			Class H							
Enclosure			IP23							
Power factor			0,8							
Altitude			1000m							
Exciter system			Self excitation							
Voltage regulator			AVR							
Steady state voltage regulation			± 1%							
Direction of rotation			Clockwise							
Cooling			Direct drive centrifugal blower fan							

# TECHNICAL SPECIFICATIONS



	TDJ94K		TDJ110K		TDJ124K		TDJ165K		TDJ220K	
Standby (kVA/kW)	94	75,2	110	88	124	99,2	165	132	220	176
Prime (kVA/kW)	85	68	100	80	110	88	150	120	200	160
Open type size (LxWxH mm)		2350 x 1000 x 1300				2750 x 1100 x 1500			3000 x 1100 x 1500	
With cabinet (LxWxH mm)		2350 x 1000 x 1550				2750 x 1100 x 1750			3000 x 1100 x 1750	
Open type weight (kg)		1131			1456		1494		2003	
Open type weight (kg) (Except for antifreeze and oil)		1099			1424		1454		1963	
Weight with cabinet (kg)		1416			1806		1844		2453	
Weight with cabinet (kg) (Except for antifreeze and oil)		1384			1774		1804		2413	
Tank capacity (L)		170				250			280	
<b>MOTOR</b>										
Manufacturer and model	4RT55-88D		4RT55-110DE			R6105BZLDS		6RT80-176D		
Frequency					50Hz					
Output rating	88kW		110kW			132kW		176kW		
Fuel					Diesel					
Injection					Direct					
Aspiration	Turbocharged		Naturally aspirated			Turbocharged / Naturally aspirated				
Cylinders		4				6				
Bore and Stroke		110 x 140mm				105 x 130mm		110 x 140mm		
Displacement		5,32lt				6,75lt		7,98lt		
Cooling			Water							
Engine oil specification			SAE 15W40							
Compression ratio			17:1							
Engine oil capacity (sump only)		16lt				17lt				
Coolant capacity (incl.radiator)		16lt				23lt				
Governor	Mechanical		Electronical			Mechanical				
Air filter			Dry element							
<b>FUEL CONSUMPTION</b>										
100% Load	17,3lt/h		25,5lt/h		17,3lt/h		33,2lt/h		41,4lt/h	
75% Load	12,9lt/h		19lt/h		12,9lt/h		24,9lt/h		31,0lt/h	
50% Load	8,6lt/h		12,7lt/h		8,6lt/h		16,6lt/h		20,7lt/h	
<b>EXHAUST SYSTEM</b>										
Maximum temperature					< 600°C					
Exhaust gas flow		8,66m³/min				13,26m³/min		15,56m³/min		
Maximum exhaust back pressure					60mBar					
Exhaust flange size (internal dia.)		60mm				76mm				
<b>AIR SYSTEM</b>										
Intake air flow		8,2m³/min				12,56m³/min		15,71m³/min		
Air intake temperature rise					< 5°C					
<b>STARTING SYSTEM</b>										
Starter motor					6kW					
Battery capacity		72Ah				2 x 82Ah				
Auxiliary voltage		12V				24V				
<b>ALTERNATOR</b>										
Brand					Tescom					
Poles					4 Poles					
Frequency					50/60HZ					
Winding connections					Star					
Insulation					Class H					
Enclosure					IP23					
Power factor					0,8					
Altitude					1000m					
Exciter system					Self excitation					
Voltage regulator					AVR					
Steady state voltage regulation					± 1%					
Direction of rotation					Clockwise					
Cooling					Direct drive centrifugal blower fan					

## TECHNICAL SPECIFICATIONS

**QIAN NENG**

	TDJ220QN	TDJ275QN	TDJ300QN	TDJ330QN	TDJ400QN	TDJ440QN					
Standby (kVA/kW)	220	275	330	400	440						
Prime (kVA/kW)	200	250	300	360	400						
Open type size (LxWxH mm)	3000 x 1100 x 1500	3500 x 1200 x 1800			3700 x 1400 x 1800	3700 x 1600 x 1800					
With cabinet (LxWxH mm)	3000 x 1100 x 1750	3500 x 1200 x 2050			3700 x 1400 x 2050	3700 x 1600 x 2050					
Open type weight (kg)	2003	2154	2317	2994	3069						
Open type weight (kg) (Except for antifreeze and oil)	1956,4	2095	2250	2921	2947,8						
Weight with cabinet (kg)	2453	2554	2767	3444	3569						
Weight with cabinet (kg) (Except for antifreeze and oil)	2406,4	2495	2700	3371	3447,8						
Tank capacity (L)	280	360			470						
<b>MOTOR</b>											
Manufacturer and model	QN8H217E	QN9H272E		QN9H340E	QN13H435E	QN13H516E					
Type	Direct injection, Four-stroke, Water-cooling, V6 type										
Aspiration	Turbocharged / Naturally aspirated										
Bore and Stroke	114 x 135mm			135 x 150	135 x 160	135 x 165					
Compression ratio	18:1			17:1							
Total displacement	8.27			13							
BSFC @ rated condition (g/kW.h)	198			200							
BSFC @ oil rated condition (g/kW.h)	< 0.50			0.7							
Stable state rate (%)	≤ 5%										
Type of governor	Electronical										
Idle speed (rpm)	680										
Rated speed (rpm)	1500/1800										
Noise (dB)	≤ 115										
Smoke (FSN)	≤ 1			≤ 2							
Net weight (kg)	660			1200							
<b>ALTERNATOR</b>											
Brand	Tescom										
Poles	4 Poles										
Frequency	50/60HZ										
Winding connections	Star										
Insulation	Class H										
Enclosure	IP23										
Power factor	0,8										
Altitude	1000m										
Exciter system	Self excitation										
Voltage regulator	AVR										
Steady state voltage regulation	± 1%										
Direction of rotation	Clockwise										
Cooling	Direct drive centrifugal blower fan										



## TECHNICAL SPECIFICATIONS

**QIAN NENG**

	TDJ550QN	TDJ620QN	TDJ700QN	TDJ825QN	TDJ1000QN		
Standby (kVA/kW)	550	620	700	825	1000		
Prime (kVA/kW)	500	560	630	750	900		
Open type size (LxWxH mm)	3700 x 1600 x 1800	4000 x 1800 x 1900		4500 x 2000 x 1900			
With cabinet (LxWxH mm)	3700 x 1600 x 2050	4000 x 1800 x 2350		4500 x 2000 x 2350			
Open type weight (kg)	4792	5208		5528	6928		
Open type weight (kg) (Except for antifreeze and oil)	4612	4996		5356	6743,5		
Weight with cabinet (kg)	5442	5958		6278	8128		
Weight with cabinet (kg) (Except for antifreeze and oil)	5262	5746		6106	7943,5		
Tank capacity (L)	470	490		570			
<b>MOTOR</b>							
Manufacturer and model	QN26H571E	QN26H612E	QN26H680E	QN28H843E	QN28H1100E		
Type	Direct injection, Four-stroke, Water-cooling, V6 type			Direct injection, Four-stroke, Water-cooling, V12 type			
Aspiration	Turbocharged / Naturally aspirated						
Bore and Stroke	135 x 150	135 x 155		138 x 158	138 x 165		
Compression ratio	17:1		16:1				
Total displacement	26			28			
BSFC @ rated condition (g/kW.h)	≤ 210	≤ 205		≤ 202	≤ 198		
BSFC @ oil rated condition (g/kW.h)	0.7						
Stable state rate (%)	≤ 1%						
Type of governor	Electronical						
Idle speed (rpm)	680						
Rated speed (rpm)	1500/1800						
Noise (dB)	≤ 117						
Smoke (FSN)	≤ 2.5						
Net weight (kg)	1950						
<b>ALTERNATOR</b>							
Brand	Tescom						
Poles	4 Poles						
Frequency	50/60HZ						
Winding connections	Star						
Insulation	Class H						
Enclosure	IP23						
Power factor	0,8						
Altitude	1000m						
Exciter system	Self excitation						
Voltage regulator	AVR						
Steady state voltage regulation	± 1%						
Direction of rotation	Clockwise						
Cooling	Direct drive centrifugal blower fan						





























## TECHNICAL SPECIFICATIONS

**VOLVO  
PENTA**

	TDJ330VT / TDJ330VS (*)		TDJ350VT / TDJ350VS (*)		TDJ385VT / TDJ385VS (*)		TDJ415VT / TDJ415VS (*)		TDJ450VT / TDJ450VS (*)	
Standby (kVA/kW)	330	264	350	280	385	308	415	332	450	360
Prime (kVA/kW)	300	240	318	254	350	280	377	302	409	327
Open type size (LxWxH mm)	3500 x 1200 x 1800				3700 x 1400 x 1800				3700 x 1600 x 1800	
With cabinet (LxWxH mm)	3500 x 1200 x 2050				3700 x 1400 x 2050				3700 x 1600 x 2050	
Open type weight (kg)	2789		2884		2890		2894		3094	
Open type weight (kg) (Except for antifreeze and oil)	2709		2804		2810		2814		3014	
Weight with cabinet (kg)	3434		3529		3535		3539		3739	
Weight with cabinet (kg) (Except for antifreeze and oil)	3354		3449		3455		3459		3659	
Tank capacity (L)	360				470					
<b>MOTOR</b>										
Frequency	50Hz									
Manufacturer and model	VOLVO PENTA TAD1341GE	VOLVO PENTA TAD1341GE	VOLVO PENTA TAD1342GE	VOLVO PENTA TAD1343GE	VOLVO PENTA TAD1344GE					
Engine power	298/405 (kWm/hp)		333/453 (kWm/hp)	356/484 (kWm/hp)	389 (kWm/hp)					
Revolution per min.			1500r.p.m							
Total displacement			12,78							
Cylinders orientation			6							
Bore x Stroke			131 x 158 mm							
Compression ratio			18,1:1							
Governor type			Electronical							
Aspiration system			Turbo CAC							
Injection			Direct							
Cooling			Water							
Electrical system			24 VDC							
Lub-oil capacity			36lt							
Engine coolant capacity			44lt							
Cooling air flow	330 m <sup>3</sup> /min		402 m <sup>3</sup> /min	27 m <sup>3</sup> /min	390 m <sup>3</sup> /min					
Fuel			Diesel							
<b>FUEL CONSUMPTION</b>										
100% load	61,7lt/h		68lt/h	73,4lt/h	80,78lt/h					
75% load	47,3lt/h		51,6lt/h	55lt/h	61,53lt/h					
50% load	33,7lt/h		35,9lt/h	38,2lt/h	41,6lt/h					
<b>EXHAUST SYSTEM</b>										
Maximum exhaust temperature	414°C		402°C	420°C	465°C					
Maximum exhaust gas flow	3120m <sup>3</sup> /h		3400m <sup>3</sup> /h	3600m <sup>3</sup> /h	4050m <sup>3</sup> /h					
Maximum allowed back pressure			10kPa							
<b>ALTERNATOR</b>										
Brand	Tescom / Stamford									
Poles	4 Poles									
Frequency	50/60HZ									
Winding connections	Star									
Insulation	Class H									
Enclosure	IP23									
Power factor	0,8									
Altitude	1000m									
Exciter system	Self excitation									
Voltage regulator	AVR									
Steady state voltage regulation	± 1%									
Direction of rotation	Clockwise									
Cooling	Direct drive centrifugal blower fan									
(*) TDJ330-450VT Volvo Penta Motor - Tescom Alternator / TDJ330-450VS Volvo Penta Motor - Stamford Alternator										







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