

Atlas Copco Generators

QIX 16 – QIX 540

16 kVA LTP to 549 kVA LTP at 50 Hz



QIX: peace of mind,

Especially designed for industrial prime power and standby applications the Atlas Copco QIX range of diesel powered generating sets aims to be "first in mind, first in choice".

By involving customers right through the QIX design process, Atlas Copco really have set the optimum balance between standardisation and customisation. Coming as standard all QIX generating sets are able to draw from the benefits of an exceptional quality, proven design; assembled using first class manufacturing techniques from carefully selected and purpose built components. But thanks to its innovative modular build concept every individual QIX generating set can be custom made to match its owner's unique requirements.

Modules of options which can be easily added or removed at the factory, or indeed after the machine is in service, include several different formats of generating set enclosure, silencing and operator control interface.

Every QIX generating set is designed to meet or exceed the relevant international standards including ISO8528 and is compliant with the current European Community safety and environmental regulations including OND2000/14/EC Outdoor Noise Directive. Atlas Copco is a fully accredited ISO9001 and ISO14001 company.

1 The diesel engine at the heart of the QIX range is a heavy-duty, liquid cooled Deutz power unit. Approved to TA LUFT standards, it is extremely quiet, with a high tech combustion system to minimise exhaust emissions and reduce fuel consumption. Low operating costs come as standard.

4 As an option, the QIX 220-540 can be fitted with a set mounted industrial or residential silencing package. It is customer friendly features like this that can help to significantly reduce generator installation costs.

2 The modular design of the QIX package allows many of the major components to be swapped to meet specific end user demands. On the QIX 220-540, the Qc1000™ start control panel option can be upgraded in minutes to the more sophisticated Qc4001™ with features that include an integrated LCD screen, automatic mains failure and paralleling functions.

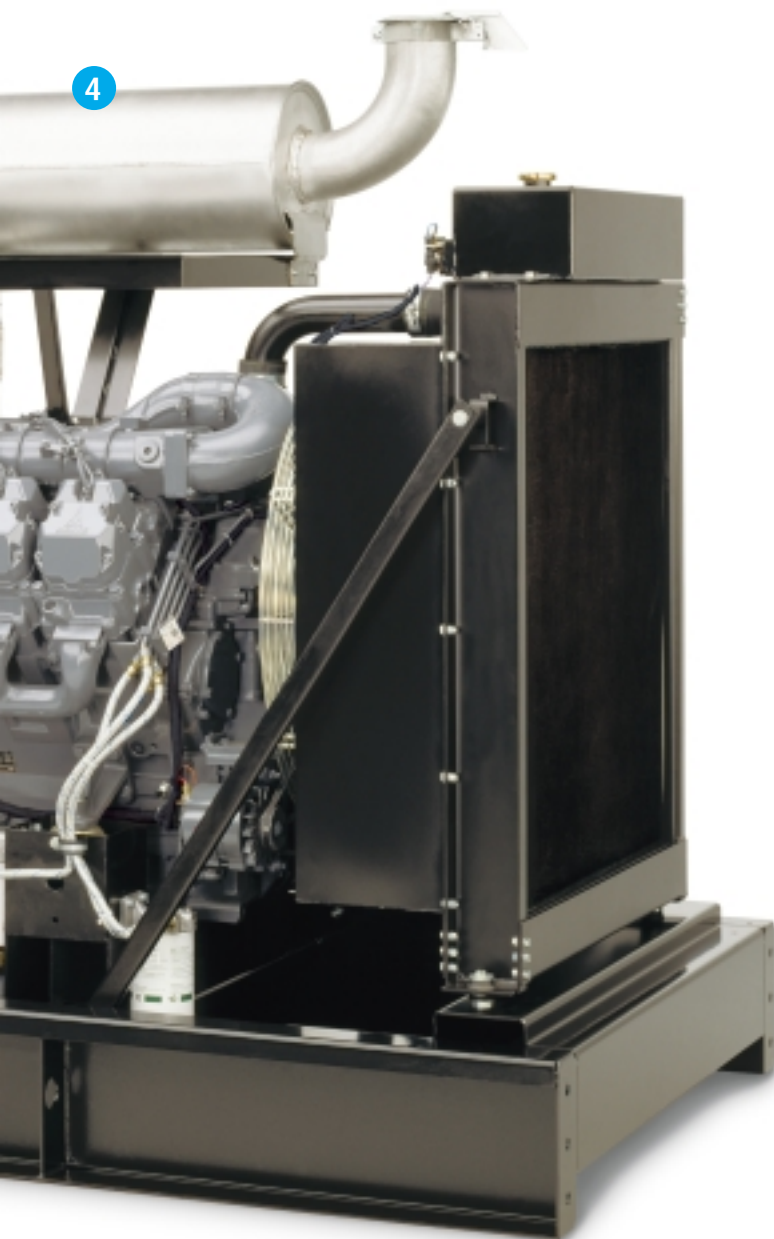


3 The QIX synchronous brushless alternator is purpose designed and manufactured for Atlas Copco. QIX generators are suitable for a wide range of both traditional and technologically advanced industrial applications.

night and day.

Atlas Copco's QIX generating set package is

- A complete 50 Hz generating set, ready to power diverse applications at the touch of a button
- A high quality power generation package for total reliability, constructed from top quality components sourced from World renowned suppliers
- Designed and manufactured to meet or exceed international standards including ISO 8528
- A user friendly product with a comprehensive range of options to allow each unit to be specified to meet specific customer requirements and applications
- A technically superior product that reduces whole life operating costs
- Covered by the Atlas Copco worldwide service and support network for unrivalled after sales support



The QIX standard package includes

- Rugged steel base frame
- Heavy-duty generator diesel engine
- High ambient temperature cooling package
- Quality IP23 brushless alternator manufactured to exacting Atlas Copco specifications
- Alternator 3-phase sensing and overload facility on QIX 30-540
- Diesel fuel pre-filter and water separator
- First fill engine oil and radiator coolant / anti freeze
- Complete 50 hour Service Pak
- Pre-delivery inspection and load test
- Comprehensive set of manuals, literature and Certificates
- Starting battery
- Manually operated oil sump drain pump on QIX 220-540
- Electronic governor on QIX 220-540
- Fork lift slots on QIX 16-165

The QIX options include

- Earth leakage relay
- Qc™ generating set control panel
- Power cubicle including circuit breaker
- Fuel tank
- Weather protected canopy
- Sound attenuated canopy
- Super sound attenuated canopy on QIX 16-44
- Industrial muffler and flexible bellow
- Residential muffler and flexible bellow
- Under frame skid
- Under frame spillage free skid
- Battery isolation switch (24V models only)
- Radiator stone guard protection
- Hot spot guards
- Coolant heater 220/240 V
- Trickle battery charger 220/240 V
- External fuel tank connection
- Electrical fuel transfer pump (from an external fuel supply) and a 4-level float switch
- Manual fuel transfer pump (from an external fuel supply)
- Low fuel level shutdown
- Packing crate
- Additional literature set
- Electronic governor on QIX 16-165
- Terminal board on QIX 16-165
- Lifting beam on QIX 16-165
- Change over contactor kits
- Other options available on request

Please contact your local Atlas Copco Customer Centre or Distributor for further details.

Not all options are available on every QIX model.

Principal data

Performance data (1)

QIX Model		QIX 16	QIX 22	QIX 30	QIX 44	QIX 60	QIX 85	QIX 105
Rated frequency	Hz	50	50	50	50	50	50	50
Rated speed	r/min	1500	1500	1500	1500	1500	1500	1500
Rated power factor (lagging) 3 phase	cos phi	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Rated voltage 3 phase	V	400/230	400/230	400/230	400/230	400/230	400/230	400/230
Rated voltage single phase	V	230	230	230	230			
Rated apparent power (LTP) 3 phase	kVA/kW	16.7/13.3	22/17.6	30/24	44.2/35.4	59.8/47.8	91.6/73.3	107.8/86.2
Rated apparent power (PRP) 3 phase	kVA/kW	15/12	19.8/15.8	27/21.6	39.8/31.9	53.8/43	82.4/65.9	97/77.6
Rated apparent power (LTP) single phase	kVA/kW	13.5/13.5	17.7/17.7	24.7/24.7	31.1/31.1			
Rated apparent power (PRP) single phase	kVA/kW	12.1/12.1	15.9/15.9	22.3/22.3	31.1/31.1			
Nominal current (LTP) 400 V - 3 phase	A	24	32	43	64	86	132	156
230 V - single phase	A	59	77	108	135			

Engine design data – each engine is purpose designed and manufactured for Atlas Copco by Deutz

Engine

QIX model		QIX 16	QIX 22	QIX 30	QIX 44	QIX 60	QIX 85	QIX 105
Engine make		Deutz	Deutz	Deutz	Deutz	Deutz	Deutz	Deutz
Standard		ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046
		ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2
Model		F 3M	F 3M	F 4M	BF 4M	BF 4M	BF 4M	BF 4M
		1011 F	1011 F	1011 F	1011 F	1012 E	1013 E	1013 EC
Rated LTP gross output	kW	16.4	21.3	28.7	41.6	56	85	102
Coolant		Oil	Oil	Oil	Oil	Water	Water	Water
Combustion system		Direct injection	Direct injection	Direct injection	Direct injection	Direct injection	Direct injection	Direct injection
Speed governing		Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical
Aspiration		Natural	Natural	Natural	Turbocharged	Turbocharged	Turbocharged	Turbocharged intercooled
Number of cylinders		3	3	4	4	4	4	4
Cylinder configuration		in line	in line	in line	in line	in line	in line	in line
Swept volume	l	2.185	2.185	2.91	2.91	3.192	4.764	4.764
Bore	mm	91	91	91	91	95	108	108
Stroke	mm	112	112	112	112	115	130	130
Compression ratio		18.5	18.5	18.5	17	17.5	17.6	17.6
TA LÜFT 4000		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electrical equipment	V dc	12	12	12	12	12	12	12
Fuel tank capacity (option)	l	70	70	70	70	120	120	120

Alternator design data – each alternator is purpose designed and manufactured for Atlas Copco

Alternator

QIX model (3-phase)		QIX 16	QIX 22	QIX 30	QIX 44	QIX 60	QIX 85	QIX 105
Standard		IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1
		ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3
Model		ECO28-S/4	ECO28-IL/4	ECO28-VL/4	ECO32-3S/4	ECO28-2L/4	ECO34-1S/4	ECO34-2S/4
Degree of protection	IP	23	23	23	23	23	23	23
Insulation stator	Class	H	H	H	H	H	H	H
Insulation rotor	Class	H	H	H	H	H	H	H
Number of phases		3	3	3	3	3	3	3
Number of wire connections		12	12	12	12	12	12	12
AVR sensing		1 ph	1 ph	3 ph	3 ph	3 ph	3 ph	3 ph
300 % overload for 20 seconds		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voltage regulation		±1%	±1%	±1%	±1%	±1%	±1%	±1%

(1) Reference conditions

Ambient barometric pressure : 100 kPa

Ambient air temperature : + 25°C

Each QIX generator is factory configured at 400/230 V, 3 Phase or 230 V single phase. Other factory voltage configurations are available upon request.

QIX 140	QIX 165	QIX 220	QIX 255	QIX 330	QIX 370	QIX 405	QIX 500	QIX 540
50	50	50	50	50	50	50	50	50
1500	1500	1500	1500	1500	1500	1500	1500	1500
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
400/230	400/230	400/230	400/230	400/230	400/230	400/230	400/230	400/230
142.5/114	165.1/132.1	221.3/177.1	255.5/204.4	328.3/262.3	368.2/294.6	407.4/326	512.8/410.3	549.2/439.4
128.3/102.6	150/120	199.2/159.4	231.2/185	295.4/236.3	345.8/276.6	376.4/301.1	452/361.6	501.2/400.9
206	238	319	369	474	531	588	740	793

QIX 140	QIX 165	QIX 220	QIX 255	QIX 330	QIX 370	QIX 405	QIX 500	QIX 540
Deutz	Deutz	Deutz	Deutz	Deutz	Deutz	Deutz	Deutz	Deutz
ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046	ISO 3046
ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2
BF 6M	BF 6M	BF 6M	BF 6M	BF 6M	BF 6M	BF 6M	BF 8M	BF 8M
1013 E	1013 EC	1015	1015	1015 C	1015 C	1015 CP	1015 C	1015 CP
128	153	204	231	295	345	365	459	490
Water	Water	Water	Water	Water	Water	Water	Water	Water
Direct injection	Direct injection	Direct injection	Direct injection	Direct injection	Direct injection	Direct injection	Direct injection	Direct injection
Mechanical	Mechanical	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
Turbocharged	Turbocharged intercooled	Turbocharged	Turbocharged	Turbocharged intercooled	Turbocharged intercooled	Turbocharged intercooled	Turbocharged intercooled	Turbocharged intercooled
6	6	6	6	6	6	6	8	8
in line	in line	V type	V type	V type	V type	V type	V type	V type
7.146	7.146	11.91	11.91	11.91	11.91	11.91	15.87	15.87
108	108	132	132	132	132	132	132	132
130	130	145	145	145	145	145	145	145
17.5	17.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	12	24	24	24	24	24	24	24
220	220	370	370	575	575	575	575	575

QIX 140	QIX 165	QIX 220	QIX 255	QIX 330	QIX 370	QIX 405	QIX 500	QIX 540
IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1	IEC 34-1
ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3	ISO 8528-3
ECO34-2L/4	ECO34-2L/4	ECO37 – 2S/4	ECO37-2LB/4	ECO37-3L/4	ECO37-3L /4	ECO40-1S/4	ECO40-3S/4	ECO40-3S/4
23	23	23	23	23	23	23	23	23
H	H	H	H	H	H	H	H	H
H	H	H	H	H	H	H	H	H
3	3	3	3	3	3	3	3	3
12	12	12	12	12	12	12	12	12
3 ph	3 ph	3 ph	3 ph	3 ph	3 ph	3 ph	3 ph	3 ph
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%

Power rating definitions according to ISO 8528-1

LTP / Limited Time Power: is the maximum electrical power which a generating set is capable of delivering (at variable load), in the event of a utility power failure, for up to 500 hours per year of which a maximum of 300 hours is continuous running. No overload is permitted on these ratings. The alternator is peak continuous rated (as defined in ISO8528-3) at 25°C.

PRP / Prime Power: is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals and under the stated ambient conditions. A 10% overload is permitted for one hour in 12 hours. The permissible average power output during a 24 h period shall not exceed the stated load factor of 80%.

QIX custom made modular type canopies

Atlas Copco QIX generators are available with a choice of modular, weather protected, sound and super sound attenuated canopy types. The canopy module, mounted directly to the QIX open frame, ensures operation is permissible in noise sensitive locations.

Atlas Copco sound or super sound attenuated canopies reduce operating noise to levels lower than those stipulated in the latest European Community Outdoor Noise Directive 2000/14/EC.

The metal components used in the QIX canopy are made from Zincor treated steel, with a powder coat paint finish. This ensures a high level of resistance to corrosion, even in the toughest of worldwide environments. This is in line with Atlas Copco policy to provide quality and reduced whole life operating costs.

To facilitate routine service and maintenance access, all QIX generator models feature large, wide opening access doors on each side of the canopy. The Qc™ generating set control panel and power cubicle are positioned behind a key lockable door, complete with toughened Perspex observation window. For additional safety, the factory mounted emergency stop button can be quickly accessed without opening a door.

The complete range of modular canopies provide unrivalled protection of the QIX generator, for added peace of mind, night and day.



Open frame QIX generator dimensions and weights

Model	Length mm	Width mm	Height mm no muffler	Weight kg	Weight kg
				Dry	ready-to-operate
QIX 16	1800	870	956	540	555
QIX 22	1800	870	956	565	580
QIX 30	1800	870	956	640	660
QIX 44	1800	870	956	685	705
QIX 60	2279	1064	1237	961	978
QIX 85	2279	1064	1237	1131	1154
QIX 105	2279	1064	1237	1200	1223
QIX 140	2732	1064	1489	1398	1436
QIX 165	2732	1064	1489	1555	1595
QIX 220	2970	1370	1610	2409	2785
QIX 255	2970	1370	1610	2639	3015
QIX 330	3250	1690	1990	2863	3462
QIX 370	3250	1690	1990	2898	3507
QIX 405	3250	1690	1990	3095	3694
QIX 500	3250	1690	1991	3837	4272
QIX 540	3250	1690	1991	3837	4272

Weather protected canopy QIX generator dimensions and weights

Model	Length mm	Width mm	Height mm	Weight kg	
				Dry*	ready-to-operate*
QIX 16	1800	870	1272	625	640
QIX 22	1800	870	1272	650	665
QIX 30	1800	870	1272	725	745
QIX 44	1800	870	1272	770	790
QIX 60	2279	1064	1708	1181	1198
QIX 85	2279	1064	1708	1351	1374
QIX 105	2279	1064	1708	1421	1443
QIX 140	2732	1064	1708	1641	1679
QIX 165	2732	1064	1708	1798	1838
QIX 220	2970	1370	2020	2741	3117
QIX 255	2970	1370	2020	2971	3347
QIX 330	3250	1690	2020	3273	3872
QIX 370	3250	1690	2020	3308	3917
QIX 405	3250	1690	2020	3505	4104
QIX 500	3250	1690	2020	4247	4682
QIX 540	3250	1690	2020	4247	4682

Sound attenuated canopy QIX generator dimensions, weights and sound power level

Model	Length mm	Width mm	Height mm no tail pipe	Weight kg dry*	Weight kg ready-to-operate*	Sound Pressure dB(A) at 15 m	Sound Pressure dB(A) at 7 m	Sound Pressure dB(A) at 1 m	Sound Power level (LWA)**
QIX 22	1800	870	1272	655	670	64	71	80	96
QIX 30	1800	870	1272	730	750	64	71	80	96
QIX 44	1800	870	1272	775	795	66	73	82	98
QIX 60	3133	1064	1708	1396	1413	60	67	74	92
QIX 85	3133	1064	1708	1566	1589	62	69	76	94
QIX 105	3133	1064	1708	1636	1658	64	71	78	96
QIX 140	3587	1064	1708	1856	1894	66	73	80	98
QIX 165	3587	1064	1708	2013	2053	66	73	80	98
QIX 220	4170	1370	2020	3097	3472	65	72	78	98
QIX 255	4170	1370	2020	3326	3702	65	72	78	98
QIX 330	4840	1690	2020	3873	4472	66	73	79	98
QIX 370	4840	1690	2020	3908	4517	66	73	79	98
QIX 405	4840	1690	2020	4105	4704	66	73	79	98
QIX 500	4840	1690	2020	4847	5282	68	75	81	100
QIX 540	4840	1690	2020	4847	5282	68	75	81	100

Super sound attenuated canopy QIX generator dimensions, weights and sound power level

Model	Length mm	Width mm	Height mm no tail pipe	Weight kg dry*	Weight kg ready-to-operate*	Sound Pressure dB(A) at 15 m	Sound Pressure dB(A) at 7 m	Sound Pressure dB(A) at 1 m	Sound Power level (LWA)**
QIX 22	2301	870	1272	775	790	58	65	73	90
QIX 30	2301	870	1272	850	870	60	67	75	92
QIX 44	2301	870	1272	895	915	60	67	75	92

* With fuel tank

** According to OND 2000/14/EC