




DIADEMA

DGA SERIES


WELL THOUGHT-OUT ENGINES

**AIR-COOLED
GASEOUS ENGINE
NATURAL GAS / LPG / BIO-GAS**



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Air-cooled Gaseous Engines Engineered To Economise

Maximum economy and reliability combined with air cooling are the features of these gaseous engines. The power units are produced to meet the high precision and quality standards symbolised by the name DIADEMA.

A strictly modular design ensures component standardisation which solves many spare parts supply problems. Being air-cooled, the DGA Series engines work efficiently under different climatic conditions and are easy to maintain.

Salient Features Designed To Outperform

Various applications in industrial, power generation, tractor, mining, earth moving, construction, material and fluid handling, offshore, marine and automotive market segments.

- Piston continuously cooled by built-in oil jet spray for minimum liner piston wear
- Auto-belt tensioning system, resulting in increased belt life
- Diaphragm carburetor suitable for multiple gaseous fuel with ease of dual setting and field servicing
- Lower fuel consumption as compared with other engines in this class (upto 20%)
- Full flow block type lube oil cooler for maintaining optimum lube oil temperature

- Ability to take drive from both engine ends to meet specific application requirement.
- No external lube oil piping for engine lubrication
- Provision for engine-mounted, belt or gear-driven compensatory, gear driven hydraulic pump to meet specific application requirements for compact installation
- All maintenance points like carburetor, lube oil filling, dipstick, air and lube oil filters on one side for easy maintenance
- Turbocharged versions available for 4 and 6 cylinder engines.

Standard Features

- Carburetor type Impco parts
- Lube oil cooler
- Lube oil filter
- Engine stop switch
- Engine supports suitable for rigid mounting

- Torsional vibration damper on crank pulley (for DGA656/ DGA656TC engine only) as applicable
- Automatic belt tension unit.
- Mechanical/Electrical engine shut down system in case of 'V1 belt failure

Optional Features

- Engine control panel consisting of start push button, lube oil pressure gauge, ammeters, temperature, rpm and hr meter
- Industrial type silencer suitable for remote mounting
- Spark arrestor type exhaust silencer
- Expansion bellow
- Exhaust manifold cum silencer for DGA219/DGA328/DGA438/DGA656 engine only (replaces separate manifold and exhaust silencer)
- Dry type air cleaner with evacuator valve and restriction indicator (pre-cleaner available on demand)
- Engine supports
- Hand starting arrangement at gear end on DGA219/DGA328 AND DGA438 only. (This requires extra heavy flywheel which can be accommodated only in SAE-1, Flywheel Housing)
- Holset type flexible coupling with following unfinished bore flanges
- Provision for gear driven hydraulic pump
- Gear driven compressor
- Automatic engine shut-down arrangement in case of low lube oil pressure, high cylinder head temperature, V belt-failure and engine over speed (details on request)

- Hot air outlet ducting and fresh air intake ducting (details on request)
- Raised oil filling and raised dipstick arrangement
- Special lube oil sumps to suit high inclinations (details on request)
- Flywheel housing (SAE4,3,2 and 1)
- 12V/24V electrical starting system
- Cold starting aid for engine starting below minus 5°C down to -20°C / -4°F (details on request)
- Mud filter and water separator instrument
 - Low lube oil pressure switch (normally closed type)
 - V belt failure switch
 - High cylinder head temperature switch
 - Engine over speed switch (12V/24V)
 - 12V/24V stop solenoid
 - Electrical hour meter and tachometer
 - Lube oil temperature gauge with sensor

Note: Selection depends on application, rpm and torque to be transmitted.

Brief Specifications

Models	DGA219	DGA328	DGA438	DGA656	DGA438TC	DGA656TC
Engine Description	Vertical air cooled, spark ignition, four stroke cycle, naturally aspirated gaseous Engines				Vertical air cooled, Spark system ignition, four stroke cycle, Turbocharged gaseous Engines	
Bore x Stroke (mm)	100 x 120					
Displacement (cc)	1884	2826	3786	5652	3768	5652
Compression Ratio	8:1					
Direction of Rotation	Counter-clockwise (looking at flywheel end)					
Speed Max Operating (rpm)	2300	2300	2500	2300	2000	2300
min. Operating (rpm)	1500					
Low idling (rpm)	650					
Dry weight without flywheel(kg)	243	300	338	430	338	448
weight of standar flywheel for industrial application (kg)	41	41	39	39	39	39

Note:
For choosing an engine that best suits your requirement, please consult with DIADEMA.

Overall Dimensions & Installation Drawings

DGA219/
DGA328/
DGA438/ DGA656
engines

Engine Model	A	B	C*	D*	X	X1
DGA219	678	704	872	301	342	455
DGA328	808	704	868	297	272	585
DGA438	938	704	868	297	602	715
DGA656	1277	704	922	300	869	982
DGA438TC	938	704	868	297	602	715
DGA656TC	1145	704	878	300	869	982

*All dimensions are in mm, these dimensions may vary from alternations depending on applications.

