
Kale Arge
TURBINE ENGINE COMPANY
EMPOWERING SUPREMACY

ABOUT US

Kale Arge was established in 2013 as a subsidiary of Kale Group, Türkiye's industrial giant, to carry out research and development activities on Turbine Engines.

Kale Arge's main field of activity includes the design, development, testing and production of turbine engines, including but not limited to attritable turbojet engines with compact design, very high thrust-to-weight ratios.

We developed Türkiye's first Turbojet Engine KTJ-3200 and started serial production. We continue to develop and produce new turbine engines - KTJ Series Engines in different sizes and features with the experience and knowledge we gained from KTJ-3200 with over 250 employees.

KTJ SERIES ENGINES

FROM THE ROOTS TO THE SKIES

Kale Arge has an in-house Altitude Test Facility for verifying key performance characteristics of its own Turbine Engines at altitude and Mach speed conditions up to 10,000 m altitude level and 0.95 Mach speed.

In addition to Türkiye's first and only Altitude Test System, we have Endurance Test Bed, Special Engine Test Systems (including; water ingestion, distortion tests), Combustion Chamber Test Rig, Test Rigs for Control and Accessories, and other test systems.

Our indigenous engines **KTJ-1750, KTJ-3200S, KTJ-3200A** and **KTJ-3700** do power the NATO-Turkish Armed Forces missile systems – **Çakır, SOM, Atmaca** and **Kara Atmaca** respectively.

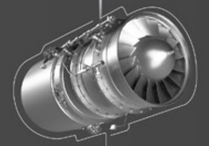
KTJ1750

KTJ-1750 Turbojet Engine

Çakır Missile

KTJ3200

KTJ-3200 Turbojet Engine

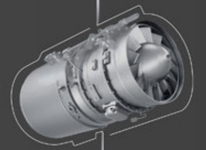


SOM Missile

Atmaca Missile

KTJ3700

KTJ-3700 Turbojet Engine



Kara Atmaca Missile

KTJ1750

THRUST
1750 N (SLS, max rpm)

SPECIFIC FUEL CONSUMPTION
1.17 kg / h / daN (SLS, max rpm)

ENGINE WEIGHT
22.5 kg

In Serial Production

Length
464 mm

Diameter
202 mm


Alternator


Fuel Metering Pump


Electronic Control Unit


Pyrotechnic Igniter

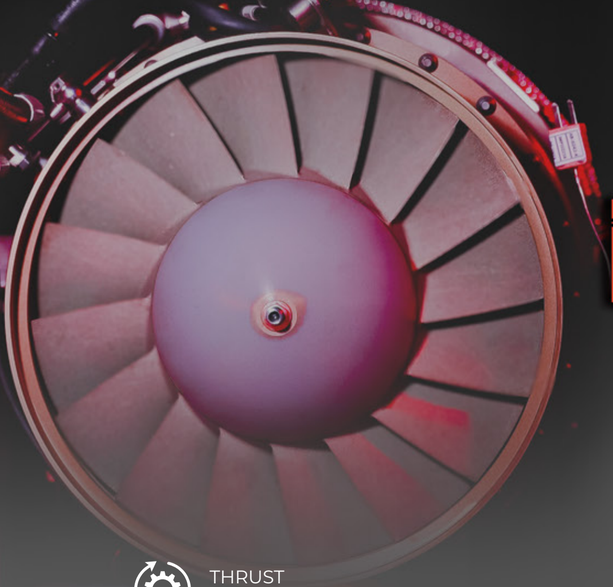
KTJ-1750

TECHNICAL PARAMETERS	METRIC	IMPERIAL
Max. thrust (SLS, max RPM)	1750 N	393.4 lbf
Specific fuel consumption (SLS, max RPM, lubrication included)	1.17 kg/h/daN	1.15 lb/lbf/h

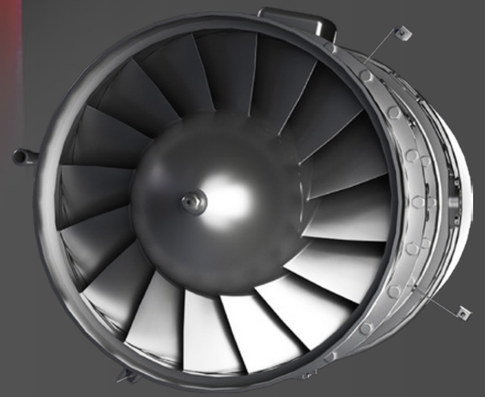
STARTING RANGE	METRIC	IMPERIAL
Altitude (qualified at in-house ATF)	0 m to 6000 m	0 ft to 19680 ft
Speed (qualified at in-house ATF)	0 to 0.9 Mach	

OPERATING RANGE	METRIC	IMPERIAL
Altitude (qualified at in-house ATF)	0 m to 6000 m	0 ft to 19680 ft
Speed (qualified at in-house ATF)	0 to 0.95 Mach	

PHYSICAL CHARACTERISTICS	METRIC	IMPERIAL
Diameter (excluding igniter, piping, flanges)	202 mm	7.95 in
Total Length	464 mm	18.27 in
Weight (including controls and accessories)	22.5 kg	49.60 lb
Electrical power output	2.3 kVA	
Max. engine speed (RPM)	52,500	
Fuel Type	Jet A-1, JP-8, JP-10	
Lubrication System	Fuel	



KTJ3200



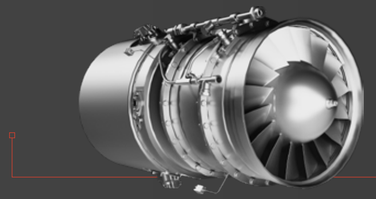
THRUST
3200 N (SLS, max rpm)

SPECIFIC FUEL CONSUMPTION
1.18 kg / h / daN (SLS, max rpm)

ENGINE WEIGHT
50 kg

In Serial Production

Length
630 mm



Diameter
330 mm


Alternator


Fuel Metering Pump


Electronic Control Unit


Pyrotechnic Igniter

KTJ-3200

TECHNICAL PARAMETERS	METRIC	IMPERIAL
Max. thrust (SLS, max RPM)	3200 N	719.4 lbf
Specific fuel consumption (SLS, max RPM, lubrication included)	1.18 kg/h/daN	1.16 lb/lbf/h

STARTING RANGE	METRIC	IMPERIAL
Altitude (qualified at in-house ATF)	0 m to 6000 m	0 ft to 19680 ft
Speed (qualified at in-house ATF)	0 to 0.9 Mach	

OPERATING RANGE	METRIC	IMPERIAL
Altitude (qualified at in-house ATF)	0 m to 6000 m	0 ft to 19680 ft
Speed (qualified at in-house ATF)	0 to 0.95 Mach	

PHYSICAL CHARACTERISTICS	METRIC	IMPERIAL
Diameter (excluding igniter, piping, flanges)	330 mm	13 in
Total Length	630 mm	24.8 in
Weight (including controls and accessories)	50 kg	110.2 lb
Electrical power output	3 kVA	
Max. engine speed (RPM)	38,300	
Fuel Type	Jet A-1, JP-8, JP-10	
Lubrication System	Fuel	

KTJ3700

THRUST
3700 N (SLS, max rpm)

SPECIFIC FUEL CONSUMPTION
1.12 kg / h / daN (SLS, max rpm)

ENGINE WEIGHT
50 kg

Length
630 mm

Diameter
330 mm


Alternator


Fuel Metering Pump


Electronic Control Unit


Pyrotechnic Igniter

KTJ-3700

TECHNICAL PARAMETERS	METRIC	IMPERIAL
Max. thrust (SLS, max RPM)	3700 N	831.8 lbf
Specific fuel consumption (SLS, max RPM, lubrication included)	1.12 kg/h/daN	1.10 lb/lbf/h

STARTING RANGE	METRIC	IMPERIAL
Altitude (qualified at in-house ATF)	0 m to 6000 m	0 ft to 19680 ft
Speed (qualified at in-house ATF)	0 to 0.9 Mach	

OPERATING RANGE	METRIC	IMPERIAL
Altitude (qualified at in-house ATF)	0 m to 6000 m	0 ft to 19680 ft
Speed (qualified at in-house ATF)	0 to 0.95 Mach	

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Lubrication System	Fuel	

With the legacy of
Dr.(h.c) İbrahim Bodur,
from the roots to the skies!

Kale Group is one of the larger industrial conglomerates in Turkey. Established in **1957** by one of the pioneering industrialist of Turkey, **Dr. Ibrahim Bodur**, Kale has its main business in the field of building materials (one of the largest ceramic tile factories under one roof, in the world) and mining, logistics, along with its technology driven businesses.

Having a vision for growth in technology oriented sectors, Kale Group management established ventures in defense and aerospace sector: creating successful companies including Kale Arge in indigenous turbine engines design, development and production.

OUR VALUES

We Build Trust

We Act With Determination

We Take Responsibility

We Cooperate

We Lead The Way

We Pave The Way For Entrepreneurship

Kale Arge
TURBINE ENGINE COMPANY

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KA-CTL-R00