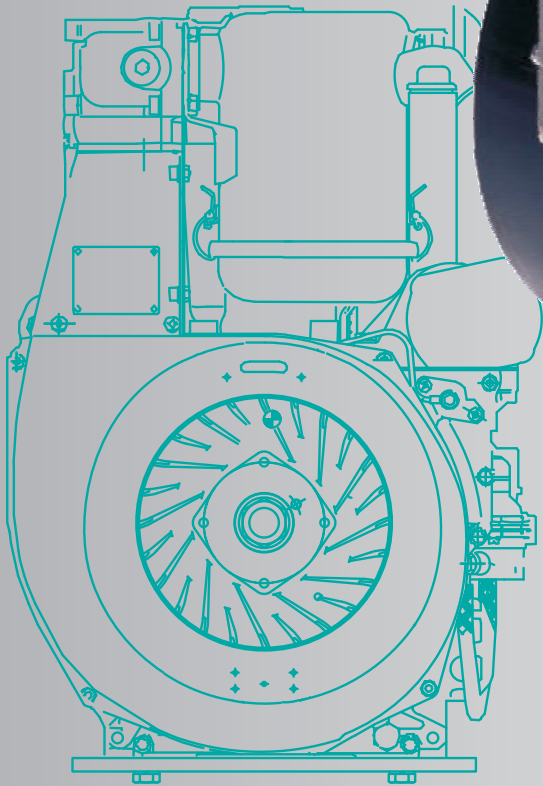
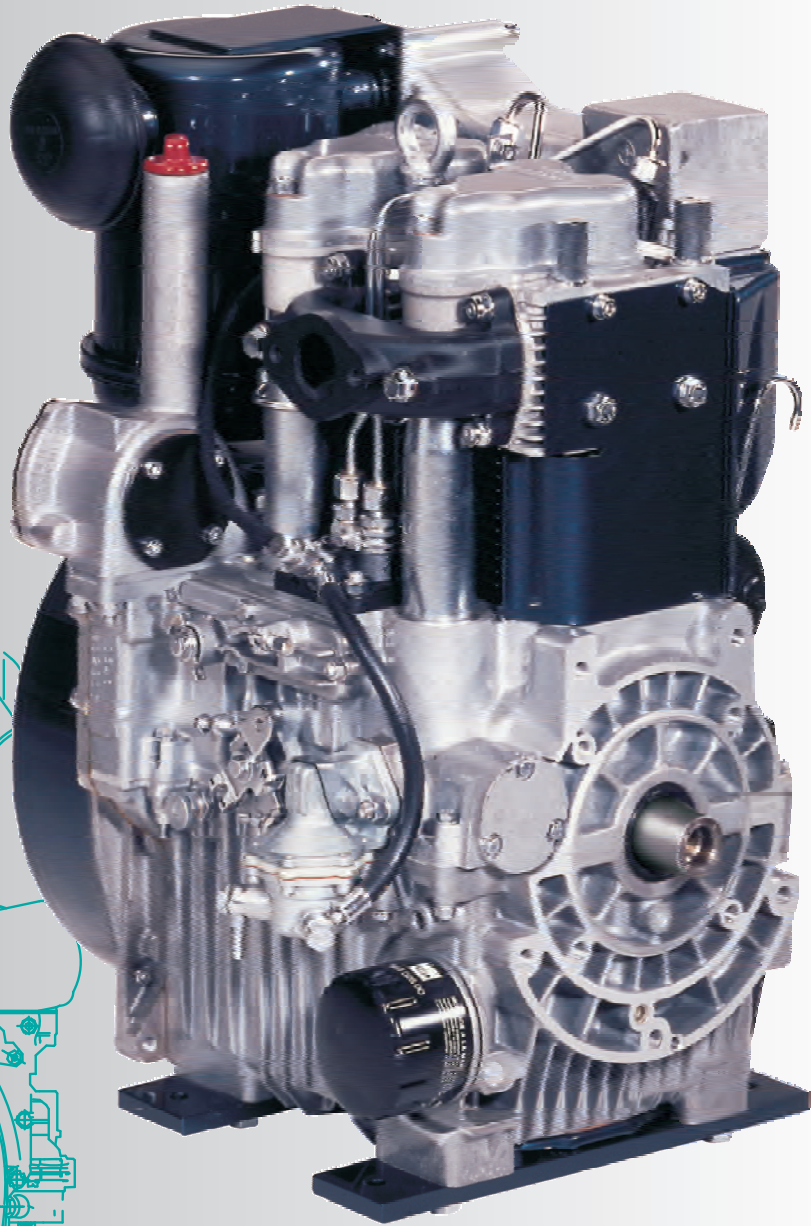




G-series



2G40 • 7.4 - 17.0 kW

THE 2-CYLINDER POWER PACKAGE

2G40

## DESIGN

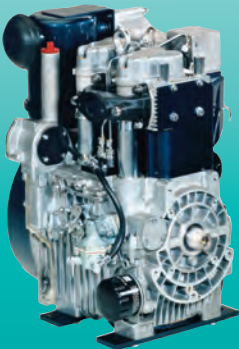
- Aircooled 2-cylinder four stroke Diesel engines.
- Vertical cylinder.
- Crankcase in light alloy, pressure diecast. Cylinder of grey cast iron.
- Single Cylinder head in light alloy.
- Three-slide bearing crankshaft with solid-forged counterweights..
- Direct injection, multi-hole nozzle.
- Value control by rocker, push-rods, tappets and camshaft.
- Pressure circulating lubrication system with replaceable filter in main flow.
- Flywheel fan, charging alternator integrated into flywheel. No V-belt necessary.

## CHARACTERISTICS

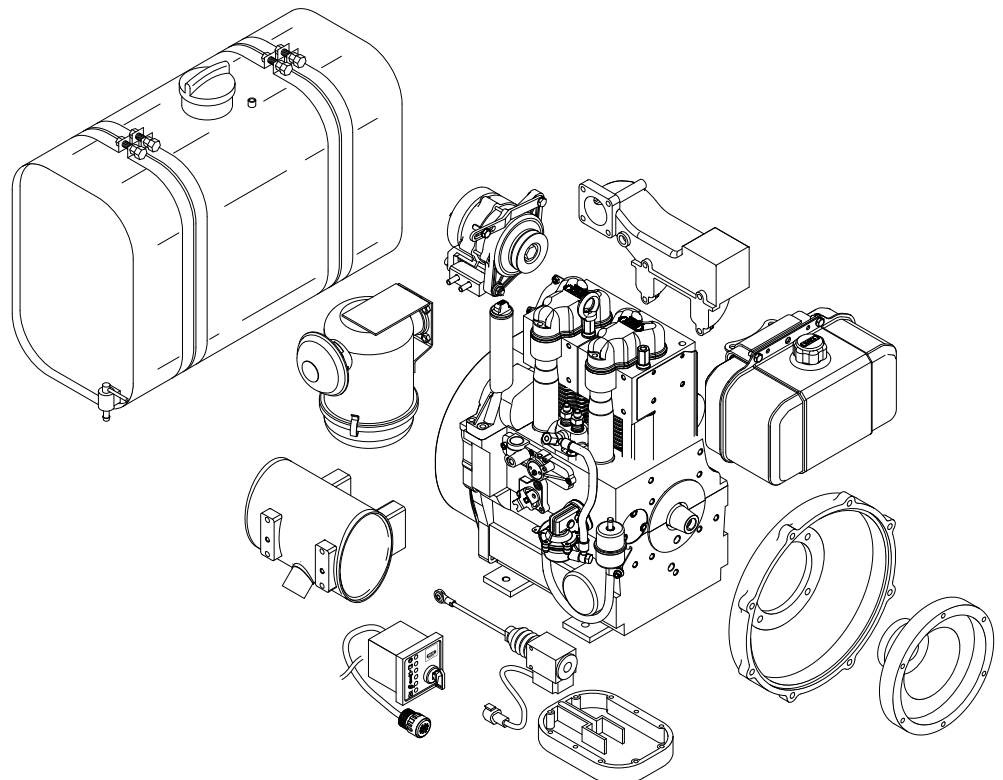
- Denoised: emission of noise reduced to the absolute minimum by means of design features and precision manufacture.
- All purpose industrial Diesel engine.
- Low weight due to design of alloy.
- Low fuel consumption due to direct injection.
- Favourable exhaust gas values – EPA / CARB certified.
- Robust: long life engine.
- Low repair cost due to single cylinders and single cylinder heads.
- Reliable: no V-belts.
- Easy to service: automatic injection pump bleeding.
- Reliable, effortless starting thanks to automatic extra fuel device.
- Rope start or electric start available.

EXHAUST REDUCED TYPES  
ON REQUEST

**EPA TIER IV**  
**CARB TIER IV**  
**ECE R-24**  
**ARAI - Indien**



## ADDITIONAL EQUIPMENT



## TECHNICAL DATA

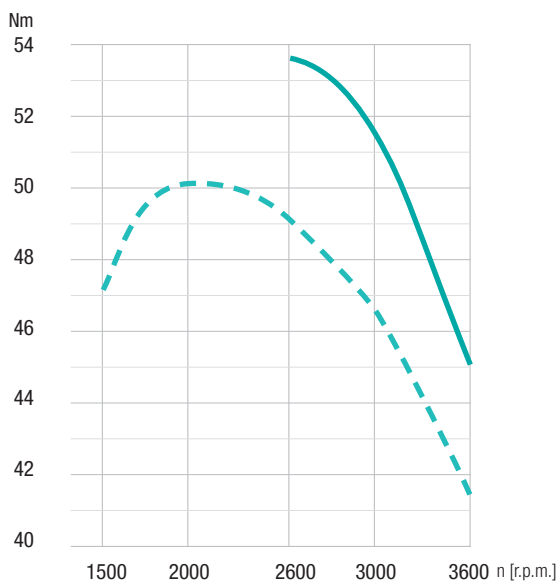
## 2G40

▶ Number of cylinders		2
▶ Bore x stroke	mm	92 x 75
	inches	3.62 x 2.95
▶ Displacement	l	0.997
	cu.in.	60.84
▶ Mean piston speed at 3000 r.p.m.	m/s	7.5
	ft/min	1476
▶ Compression ratio		20.5
▶ Lub. oil consumption, related to full load		approx. 1% of fuel consumption
▶ Lub. oil capacity max. / min.	l	2.5 / 1.67
	US qts	2.643 / 1.765
▶ Speed control	Idle speed	approx. 1000 r.p.m.
	static speed droop	approx. 5% at 3000 r.p.m.

## TORQUE

— = at F-power according to DIN ISO 1585

- - - = at B-power according to ISO 3046-1

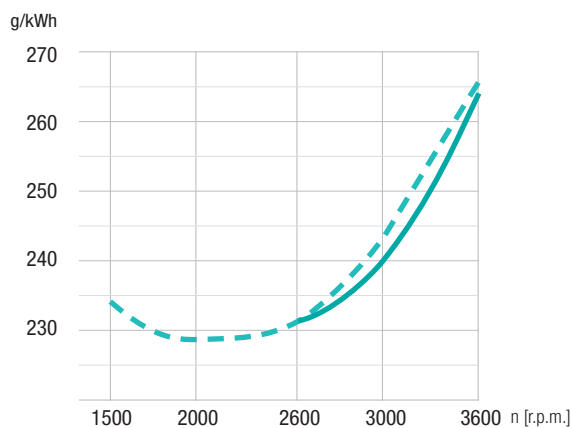


▶ Performance data refer to Standard Reference Conditions of ISO 3046-1: + 25 °C (77 °F), 100 kPa, relative humidity 30 %. During running-in period the output increases by approx. 5 % which is taken into consideration at delivery.  
Power reduction acc. to ISO 3046-1.  
Standard values:  
Above 100 m ALT approx. 1 % per 100 m.  
Above 25 °C (77 °F) approx. 4 % per 10 °C (50 °F).  
The power taken from charging alternator also has to be added to the demand of power.

## SPECIFIC FUEL CONSUMPTION

— = at F-power according to DIN ISO 1585

- - - = at B-power according to ISO 3046-1



## INSTALLATION DATA

## 2G40

▶ Combustion air required at 3000 r.p.m. approx. <sup>1)</sup>	m <sup>3</sup> / min	1.42
	cu.ft./min	50.3
▶ Cooling air required at 3000 r.p.m. approx. <sup>1)</sup>	m <sup>3</sup> / min	10.5
	cu.ft./min	370
▶ Moment of inertia	kgm <sup>2</sup>	0.16
	lb.ft <sup>2</sup>	3.78
▶ Starter		12 V - 2.0 kW — 24 V - 3.0 kW
▶ Alternator charging current at 3000 / 1500 r.p.m.	3000 min <sup>-1</sup>	14 V – 23 A, 28 V – 12 A, 14 V – 55 A, 28 V – 27 A
	1500 min <sup>-1</sup>	14 V – 10 A, 28 V – 5 A, 14 V – 55 A, 28 V – 27 A
▶ Battery capacity	min / max Ah	12 V / 45 / 88 Ah, 24 V / 45 / 88 Ah

<sup>1)</sup> For other r.p.m. there is a linear reduction in the air requirement

## PERMISSIBLE LOAD ON POWER-TAKE-OFF POINTS

### Max. permissible radial load

$$F1 = \frac{261\,000}{L1 \text{ (mm)}} \text{ (N)*}$$

$$F2 = \frac{293\,000}{L2 \text{ (mm)}} \text{ (N)*}$$

\*) If belt tension is upwards, valves reduced to approx. 55 %.

### Max. permissible axial force:

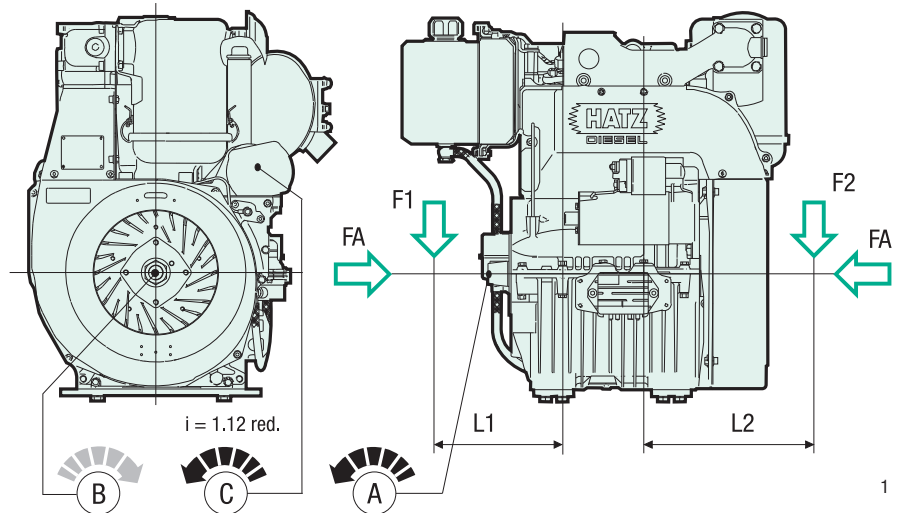
$$FA = 3400 \text{ N}$$

### Transmissible torque:

A: 100 %

B: 100 %

C: 30.6 Nm

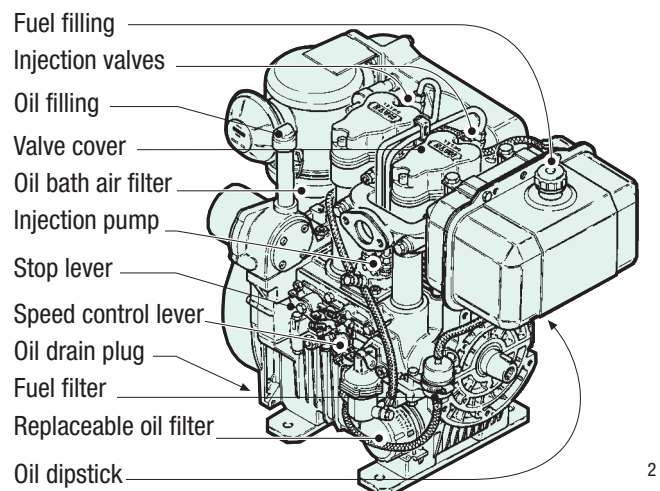


## MAINTENANCE AND OPERATING POINTS

For the engine to achieve its maximum life, it is essential for it to be serviced meticulously at regular intervals.

The better the accessibility, the more promptly and conscientiously the engine will be maintained.

Please convince yourself personally that all service and operation points are easily accessible before delivering your machine to the customer.



## ELECTRICAL EQUIPMENT

The engine-mounted components, such as starter, alternator and switches, are connected to the instrument box by means of a 2 m cable harness. The engine is started and controlled from this instrument box. Instrument box and cable harness are part of the additional equipment and supplied according to the number of electrical safety features which are required. If the engine has to

be started at temperatures below - 7 °C, it must be equipped with a preheating system (glow plug) (additional equipment). Further additional equipment includes automatic start and stop, remote control etc.

Please ask for drawings and wiring diagrams.

[www.hatz-diesel.com](http://www.hatz-diesel.com)

## POWER-TAKE-OFF AND SENSE OF ROTATION

- Main power-take-off with engine speed at opposite side of flywheel (fig. 3).
- Power-take-off at flywheel with engine speed (fig. 4).

## ENGINE VARIANTS

- Rope start (fig. 5).
  - Electric start 12 V (fig. 6).
  - Electric start 24 V (fig. 6).
  - Electric start 12 V (fig. 7).
  - Electric start 24 V (fig. 7).
- flangeable at main p.t.o. side opposite flywheel either directly or using adaptor housing SAE 5.

## WEIGHT incl. tank, air filter, and exhaust silencer

	Rope start	Electric start 12 V, flywheel-alternator 20A	Electric start 24 V, flywheel-alternator 8A	Electric start 12 V, belt driven alternator 55A	Electric start 24 V, belt driven alternator 27A
kg	88.8	96.8	99.1	103.4	105.2
lbs.	195.8	213.4	218.5	228.0	232.0

## MOUNTING OF ENGINE

For engine speeds above 2300 - 2500 r.p.m. it is recommended to use flexible mounts. On request we recommend suitable rubber mounts.

- Please inform us:
- weight of unit to be supported
  - position of gravity center
  - selected speed

## SCOPE OF DELIVERY OF ENGINE IN STANDARD EQUIPMENT

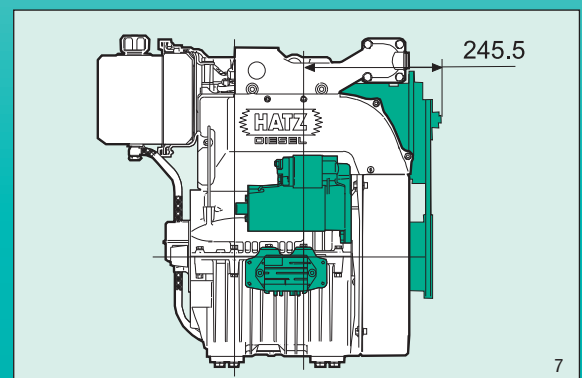
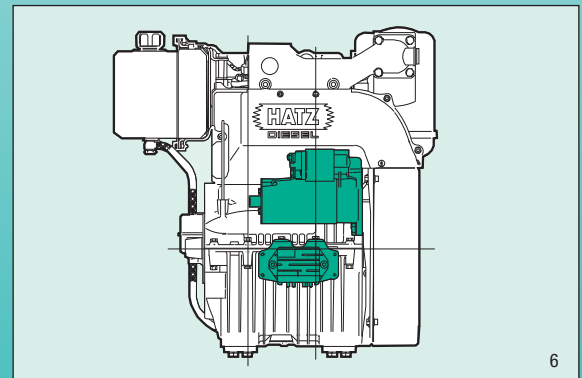
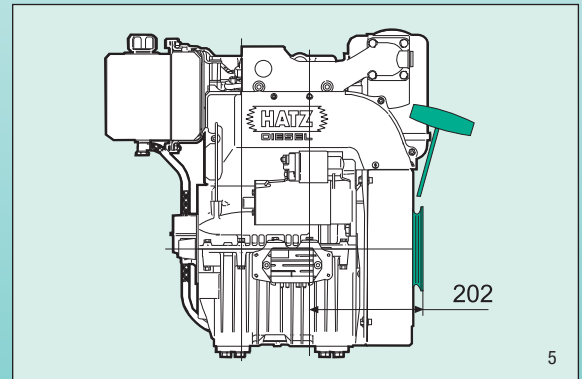
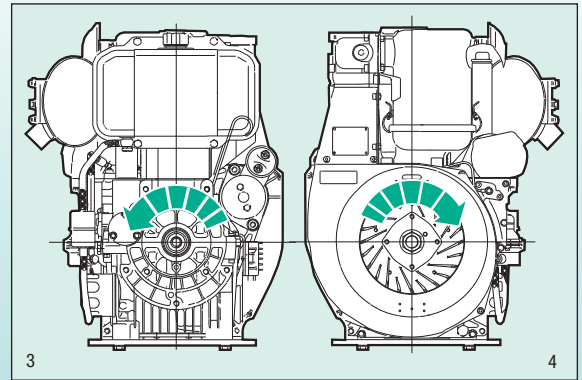
Engine completely assembled and tested for full load. Equipped with speed control, operated via Bowden cable, automatic cold start device, automatic injection pump bleeding, eye-hook for transport (capability for engine only). Sheet metal parts black lacquered. Engine without oil.

**Additional equipment:** Gaskets for 1st maintenance

## ADDITIONAL EQUIPMENT

Thanks to the complete programme of additional equipment every engine can be adapted to the special requirements of every application. As a minimum, every engine needs the "additional equipment, necessary for operation".

You find out details at our HATZ-contracting partners.

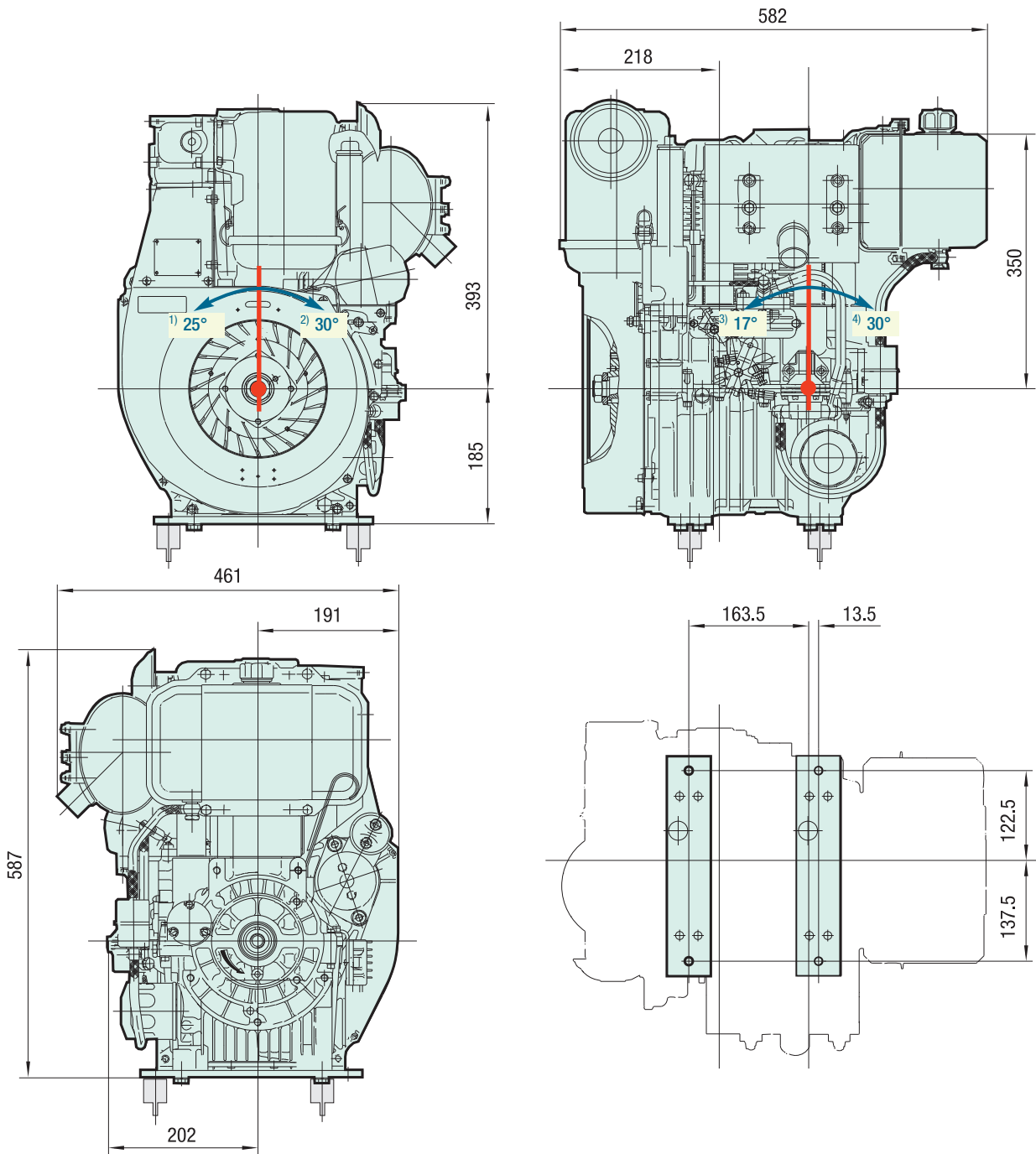


**PERFORMANCE TABLE**
**2G40**

Norm	Hatz-Spec.	r.p.m.	kW*	HP*
▶ Vehicle output acc. to DIN ISO 1585.	NF	<b>3600</b>	17.0	23.1
		<b>3000</b>	16.2	22.0
		<b>2600</b>	14.6	19.9
▶ ISO net brake fuel stop power (IFN) for strong intermittent load acc. to ISO 3046-1.	NB <sub>Si</sub>	<b>3600</b>	16.3	22.2
		<b>3000</b>	15.5	21.1
		<b>2600</b>	13.9	18.9
▶ ISO net brake fuel stop power (IFN) for intermittent load acc. to ISO 3046-1.	NB	<b>3600</b>	15.6	21.2
		<b>3000</b>	14.7	20.0
		<b>2600</b>	13.4	18.2
		<b>2300</b>	12.0	16.3
		<b>2000</b>	10.5	14.3
		<b>1800</b>	9.3	12.6
		<b>1500</b>	7.4	10.1
▶ ISO-standard power (ICXN) (10% overload permissible)  ▶ ISO-standard fuel stop power (no overload permissible) acc. to ISO 3046-1. For constant speed and constant load (ICFN).	NS (NA)	<b>3000</b>	13.7	18.6
		<b>2500</b>	12.3	16.7

\* Performance specifications without exhaust certificates. Performance tables with exhaust certificates upon request.

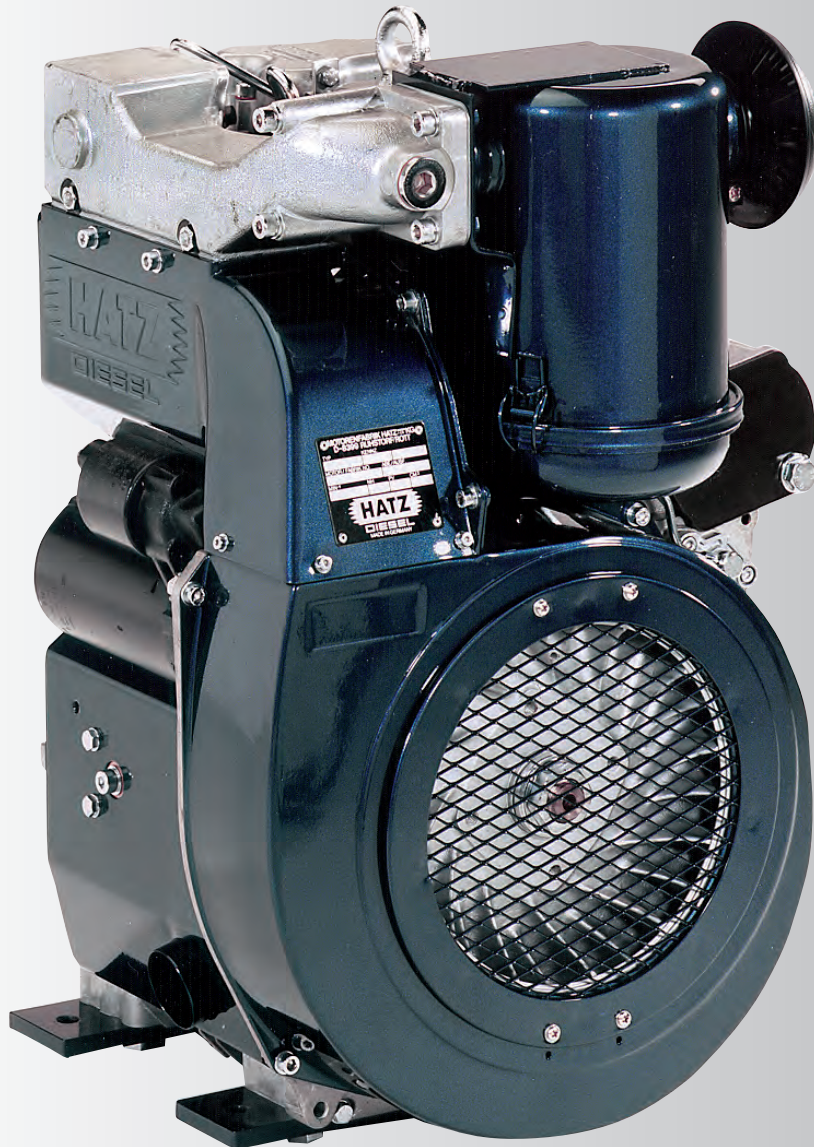
**2G40**



\*) max. permanent tilting

1) Flywheel up 2) Flywheel down 3) Oilfilter up 4) Oilfilter down

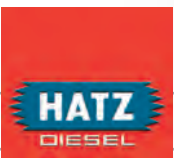
► Drawings with detailed - and connection measures can either be demanded or downloaded as pdf- resp. dxf-file which are shown in the Internet.



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