

ENGINE PROGRAM

Diesel engines up to 60 kW





Economical

Safe in operation and reliable

Robust and durable

For universal application

Environmentally friendly

THE ACCESSORIES

This exploded view diagram illustrates the assembly of a generator. The central component is the engine, which is connected to the alternator. Surrounding these are various accessories including a control panel, a fuel tank, a battery, and a mounting bracket. The diagram shows the relative positions and assembly sequence of these components, with lines indicating the flow of parts from the main assembly to the sub-components.

THE POWER RANGE



Engine selection

Do not always choose the highest number of revolutions; a lower number of revolutions increases the maintenance intervals and the service life, and noise. In case of long-term operation of more than 1,500 service hours per year, the number of revolutions should not exceed 2,600 rpm.

Calculation of the required engine power

The power demand of the driven machine often cannot be determined exactly, therefore, allowance must be made for safety reserve capacities, as well as for altitude and ambient temperature, if they differ from the standard*. (DIN ISO 3046 / I, 100 m above sea level, +25°C, 30% relative humidity)
(ISO 1585 / 1000 mbar, +25° C)

Example

P_G Power demand of the driven machine

f_s = factor "safety reserve capacity"
f_H = factor "altitude"
f_T = factor "temperature"

Required power **P_M** = **P_G** x **f_s** x **f_H** x **f_T**

P_G = 16.5 kW

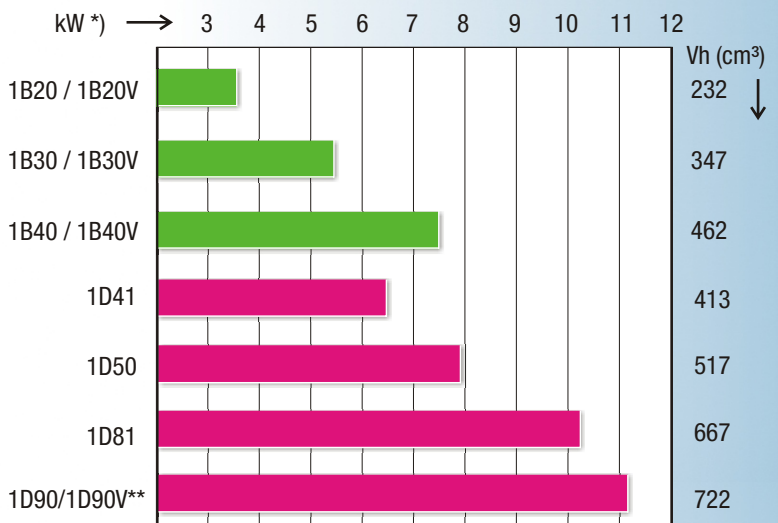
at 30 °C at 1,300 m altitude above sea level,
safety reserve capacity 5 %

f_s = 1.05 · **f_H** = 1.14 · **f_T** = 1.01

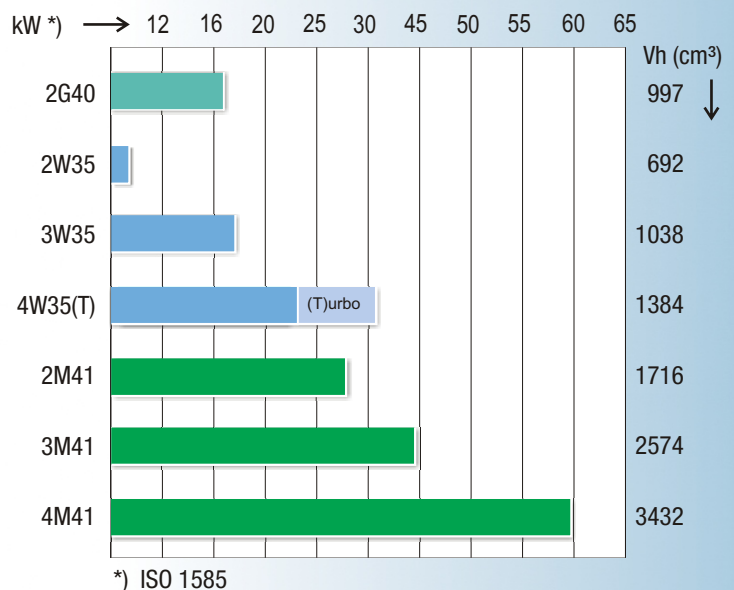
P_M = 16.5 x 1.05 x 1.14 x 1.01 = **20 kW**

Safety reserve capacity	% f _s	0 1.00	5 1.05	10 1.10	15 1.15	20 1.20	25 1.25	30 1.30
Altitude above sea level	m feet f _H	100 330 1.00	300 1000 1.02	500 1600 1.06	1000 3300 1.10	1300 4300 1.14	1500 5000 1.16	1800 6000 1.21
Ambient temperature	°C °F f _T	25 80 1.00	28 85 1.01	31 90 1.02	33 95 1.03	35 100 1.04	38 105 1.06	43 115 1.08

SINGLE-CYLINDER-DIESEL ENGINES

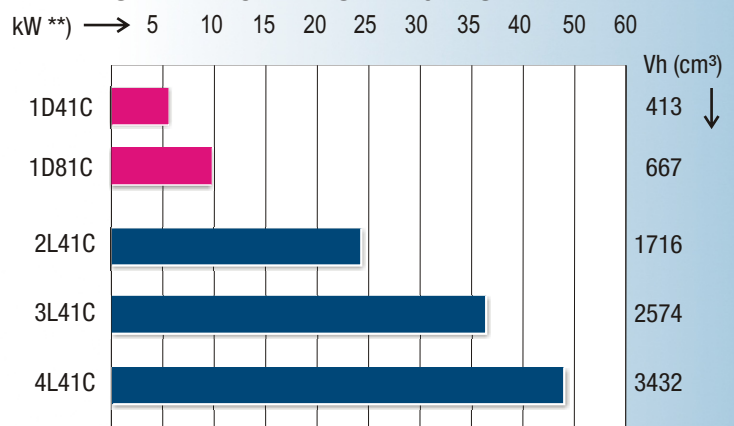


MULTI-CYLINDER DIESEL ENGINES



*) ISO 1585

SILENT PACK - DIESEL ENGINES



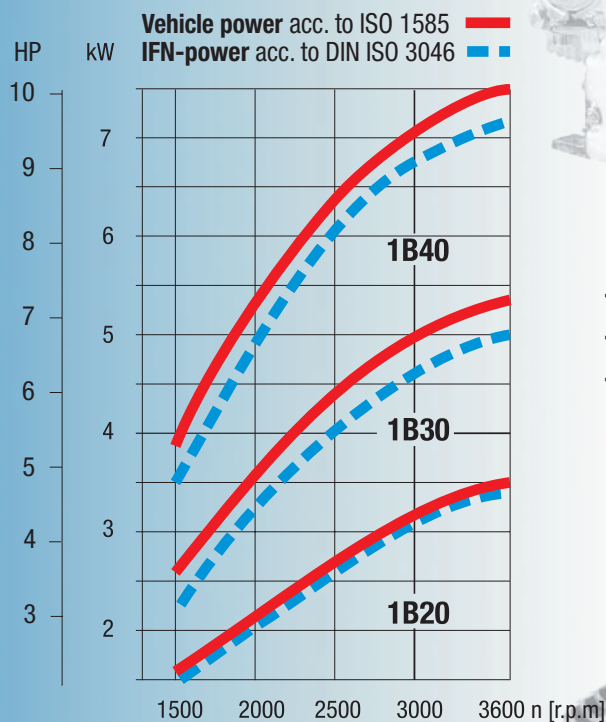
**) DIN ISO 3046 / part I



1B20 • 1B30 • 1B40 • 1B20V • 1B30V • 1B40V

The Challenger

- small, light-weight, for universal application
- air-cooled with flywheel blower fan
- forced-feed circulating lubrication
- Single Cam System (SCS)
- recoil- and/or electric start 12 V and 24 V
- V design: Vertical crankshaft engine
- engine type 1B40 with additional counter balance system available

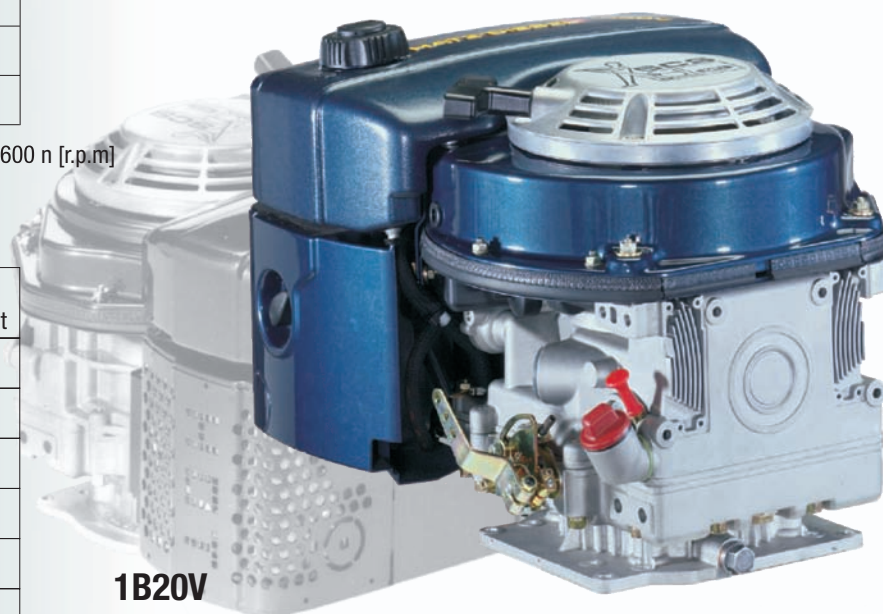
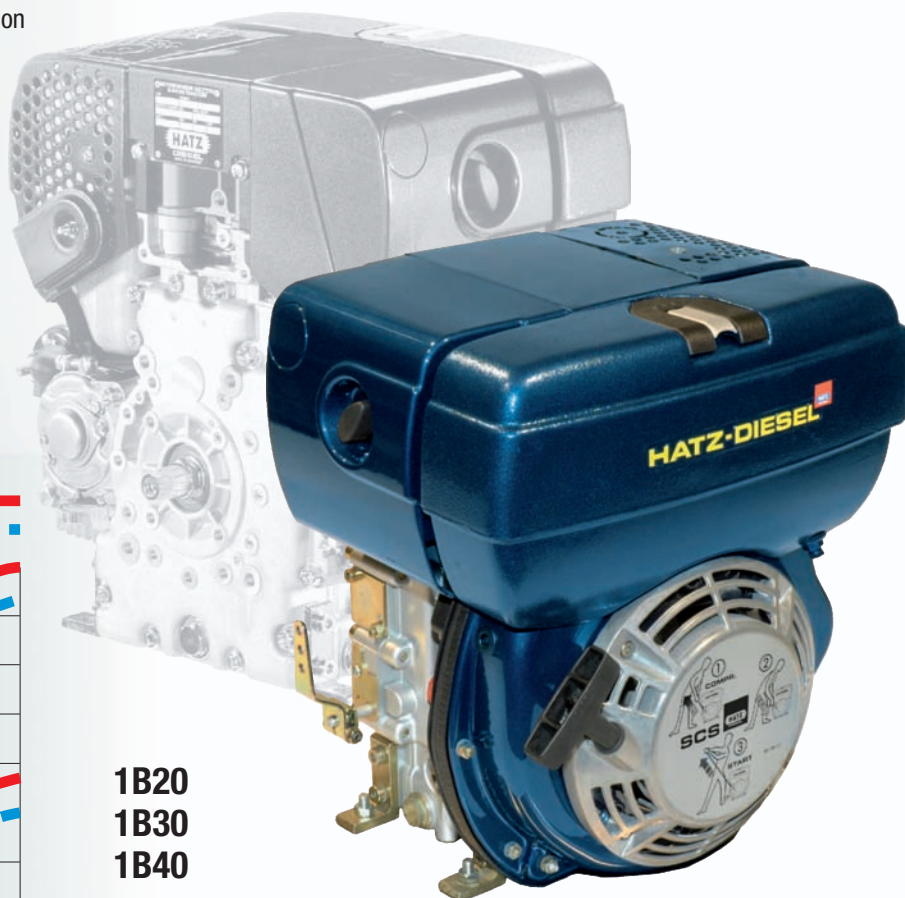


1B20
1B30
1B40

Dimensions

Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Length	Width	Height
1B20	232	28	272	361	401
1B30	347	33	298.5	370	431
1B40	462	48	316	392	480
1B20V	232	30	430	360	341
1B30V	347	35	460	370	367
1B40V	462	50	485	394	392

1B20V
1B30V
1B40V



1D41. • 1D50.



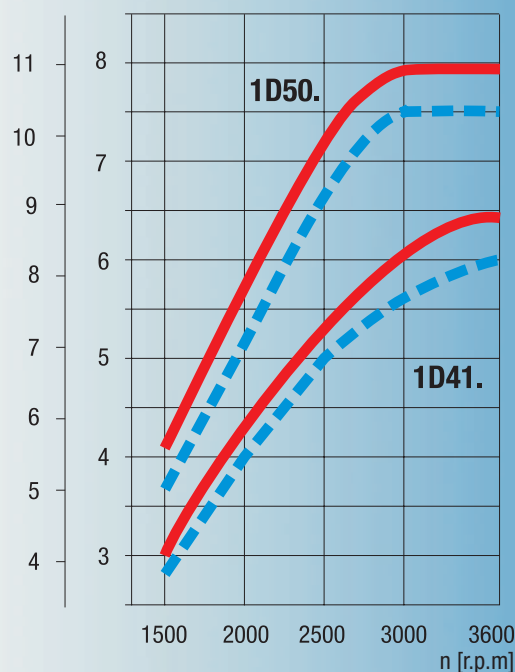
SUPRA

- revolutionary technology for single-cylinder diesel engines
- air-cooled with flywheel blower fan
- forced-feed circulating lubrication
- at choice, 50 % or 100 % balancing of higher-order inertia forces
- crank handle start or electric start 12V / 24V



1D41 / 50 S (with 50% inertia balancing)
1D41 / 50 Z (with 100% inertia balancing)

Vehicle power acc. to ISO 1585 ——— HP kW
 IFN-power acc. to DIN ISO 3046 - - - - -



Dimensions

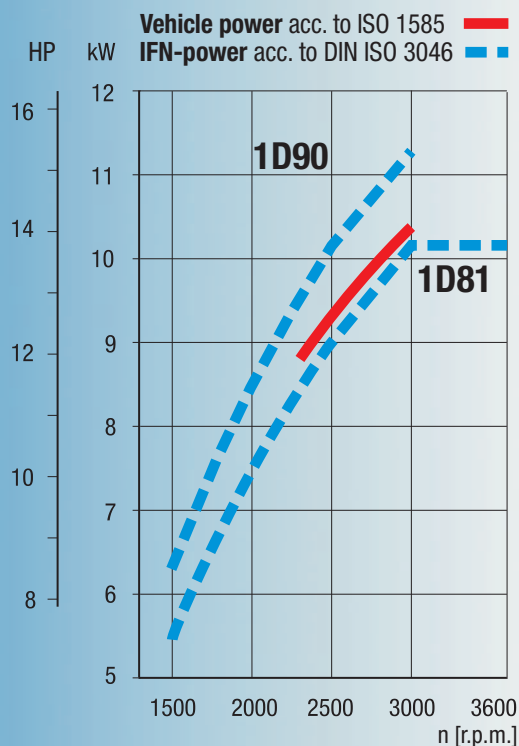
Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Lenght	Width	Height
1D41	413	68	343.5	463	522
1D50	517	69	341.5	463	532.5



1D81. • 1D90.

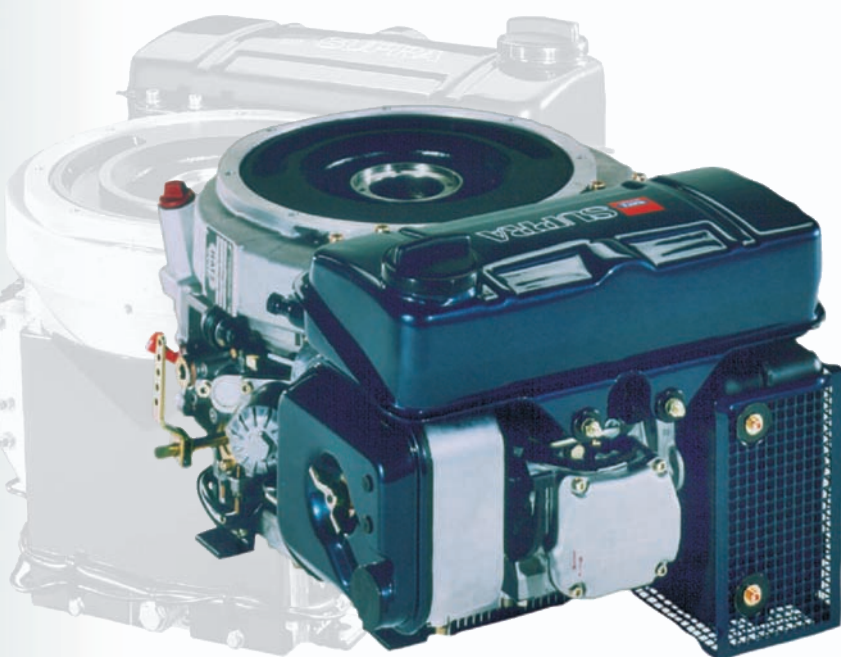
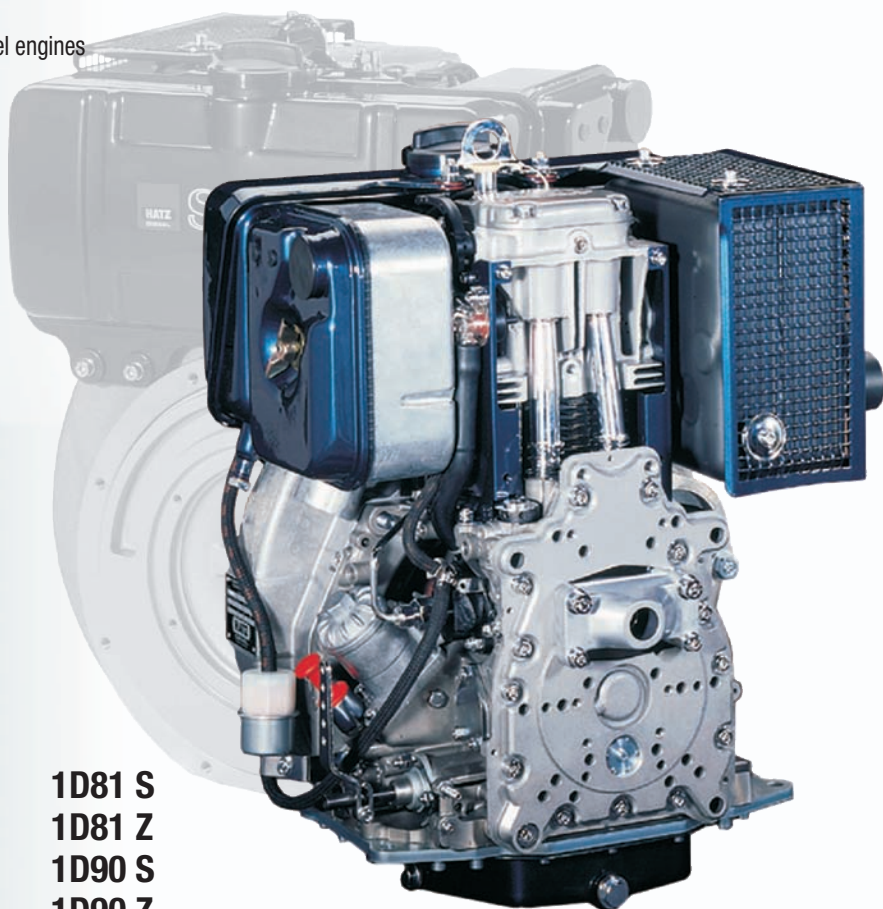
SUPRA

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- air-cooled with flywheel blower fan
- forced-feed circulating lubrication
- at choice, 50 % or 100 % balancing of higher-order inertia forces
- V / W: vertical crankshaft engine
- crank handle start or electric start 12V / 24V



Dimensions

Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Lenght	Width	Height
1D81	667	77	360	506.5	614.5
1D90	722	86	360	506.5	614.5
1D90V	722	86	582	512.5	429

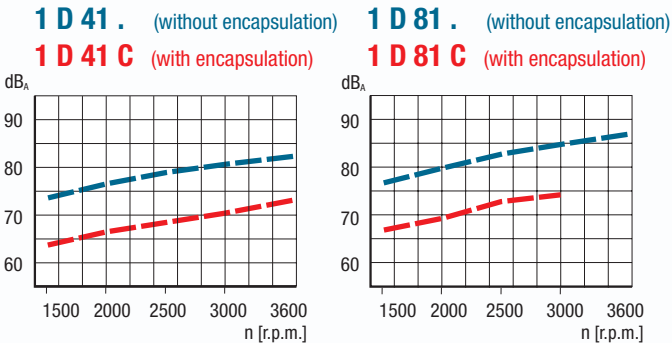


1D41C • 1D81C

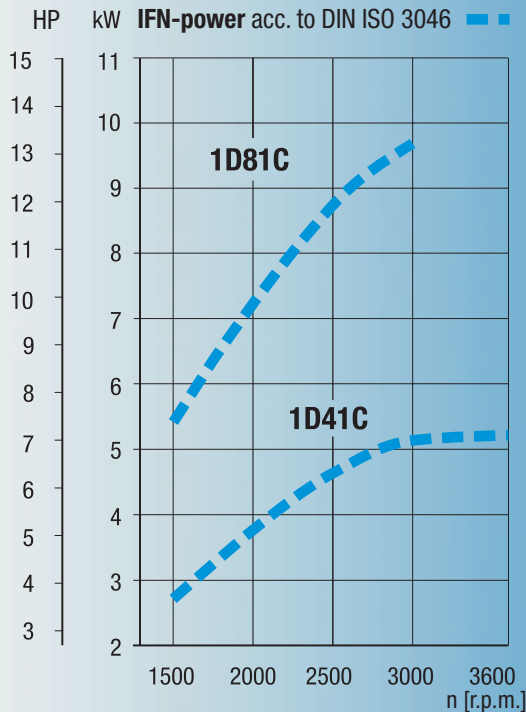


SUPRA SILENT PACK

- supra is the first single-cylinder diesel engine series world-wide which can be equipped with an organically adapted, noise-reducing encapsulation.
- crank handle start or electric start 12V / 24V.



Average noise level LpA at a distance of 7 m (dB)
At full load according to DIN ISO 3046/I IFN,
including intake and exhaust noise,
Tolerance ± 1 dB.



Dimensions

Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Lenght	Width	Height
1D41C	413	89	467	508	504
1D81C	667	107	512	530	590

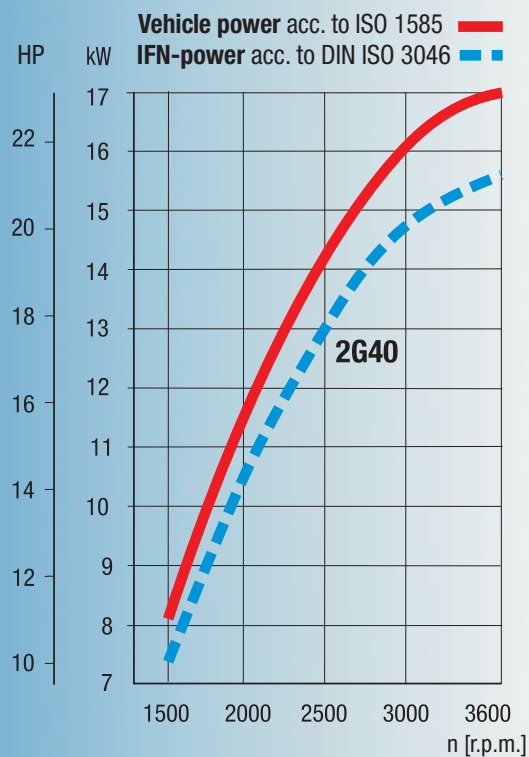
HATZ Silent Pack engines are the quietest DIESEL ENGINES FOR INSTALLATION of their class and, above all, ready for application.



2 G 40

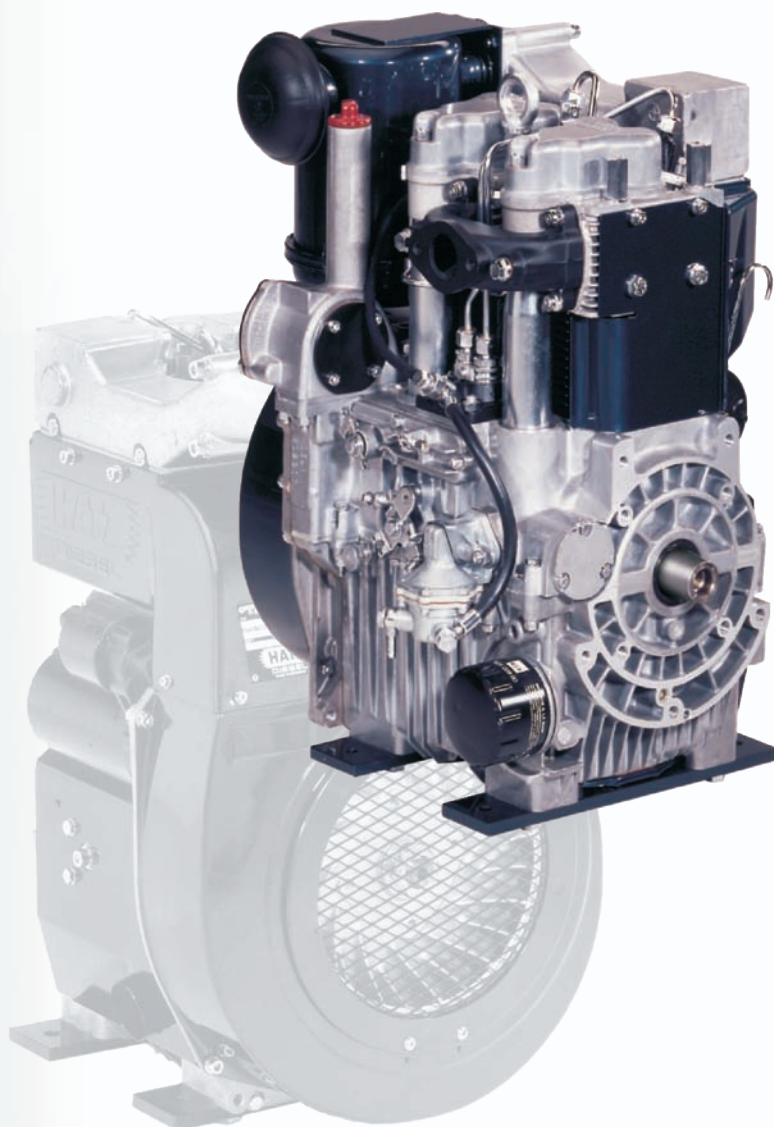
The two-cylinder power pack

- sets new standards for compact size and power/weight ratio.
- air-cooled with flywheel blower fan
- forced-feed circulating lubrication



Dimensions

Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Lenght	Width	Height
2G40	997	89	582	461	587



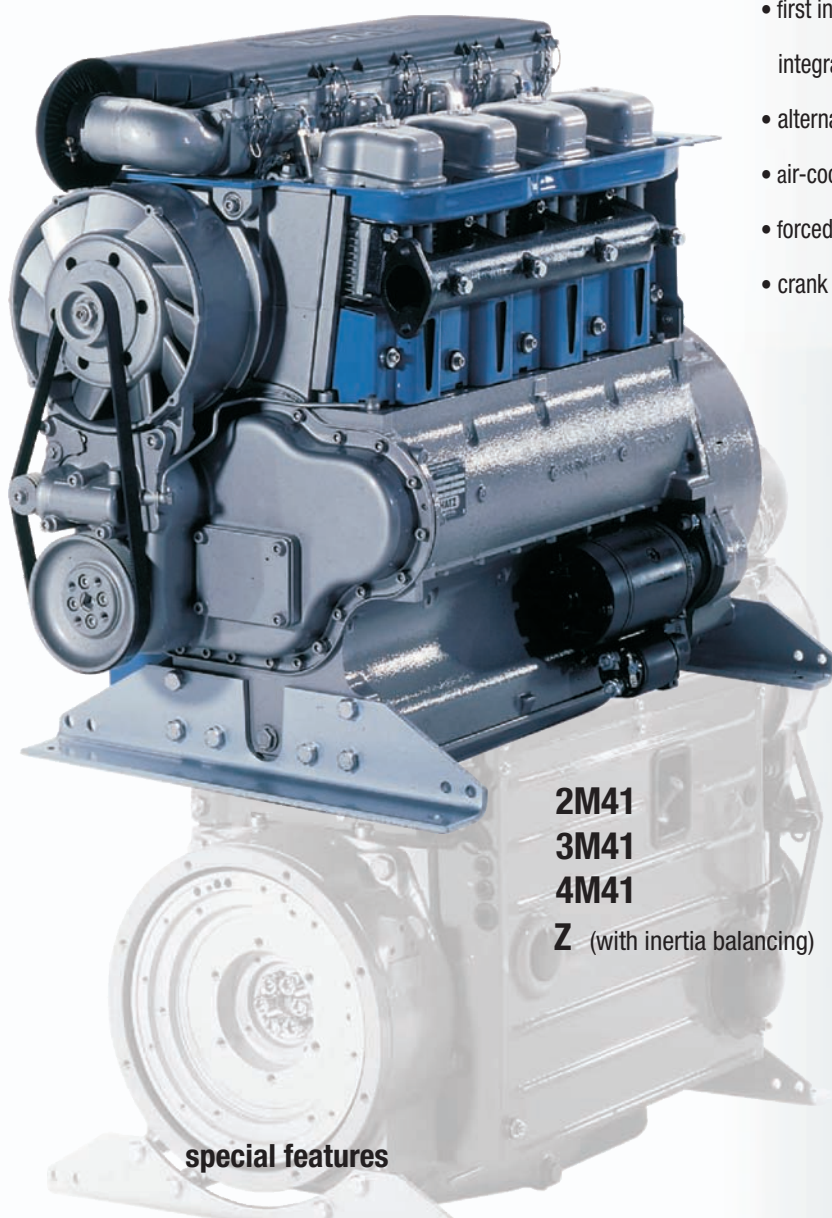
2G40: standard engine with electric starter 12 V or 24 V

2G40H: additional power take-off with gear wheels for hydraulic

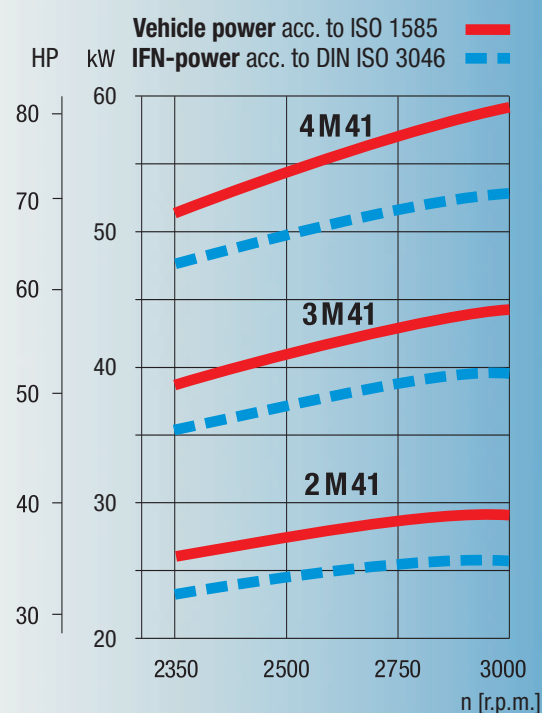
2M41 • 3M41 • 4M41



Multi-cylinder diesel engines of modular design



- first industrial engine world-wide with integrated automatic engine-protection feature
- alternatively with (model Z) and without counter balance
- air-cooled with axial blower
- forced-feed circulating lubrication
- crank handle start or electric start 12V / 24V



special features

- gear wheels to drive the camshafts
- hydraulic pump power take-off directly on the crankshaft
- blower fan drive with mechanically acting automatic shutoff
- mechano-hydraulic automatic engine-protection feature
- suppression of start smoke

Dimensions

Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Lenght	Width	Height
2M41	1716	223	618	570	733
3M41	2574	255	753	570	733
4M41	3432	291	888	570	733

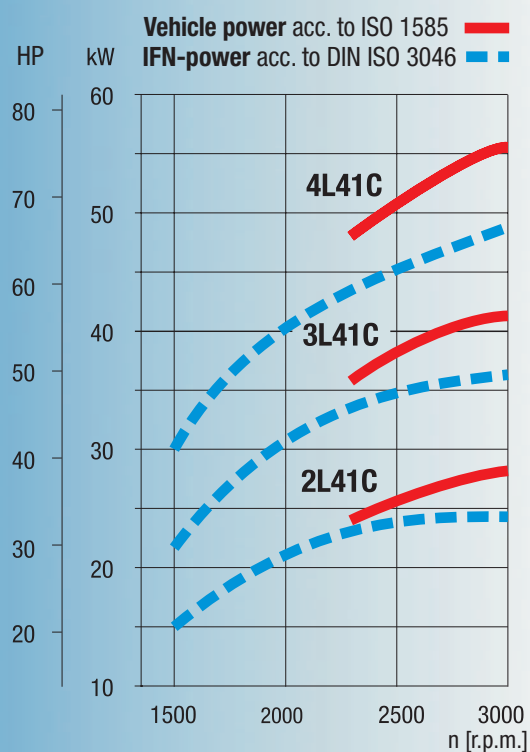


2L41C • 3L41C • 4L41C

The program's culmination

SilentPACK

- automatic engine-protection feature
- air-cooled with axial blower
- forced-feed circulating lubrication
- with additional counter balance system

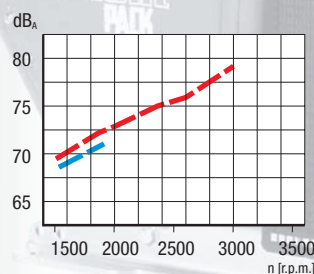


Dimensions

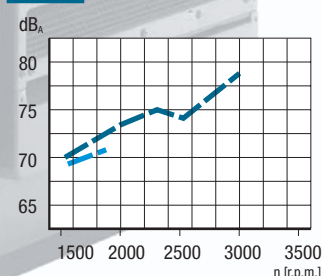
Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Lenght	Width	Height
2L41C	1716	276	719	596	748
3L41C	2574	331	854	596	748
4L41C	3432	396	989	596	748



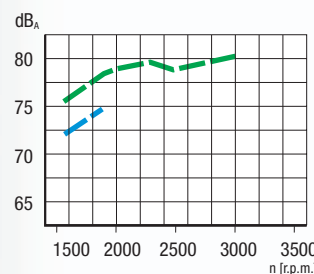
2L41C



3L41C



4L41C



— - - - - Optional tapered screen insert to exhaust

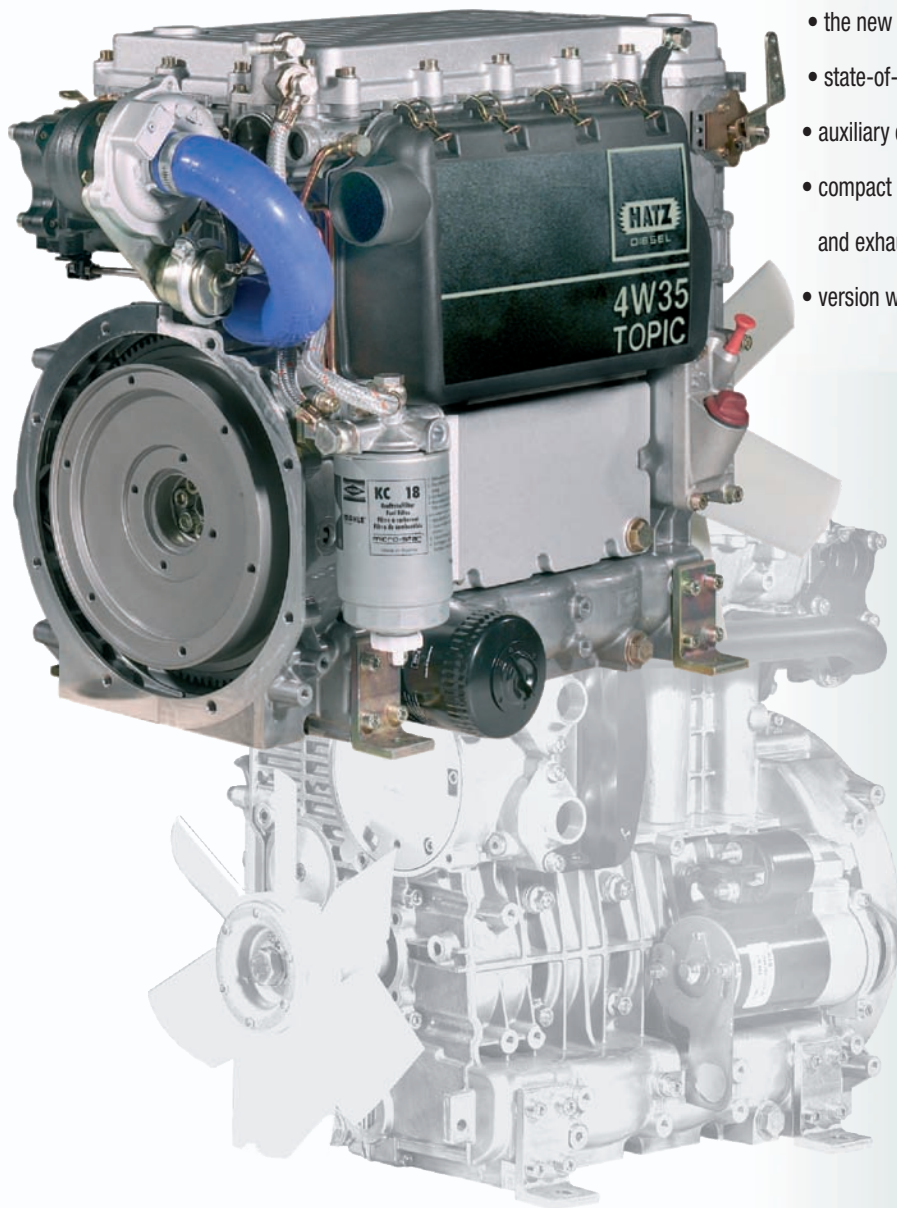
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Tolerance ± 1 dB.

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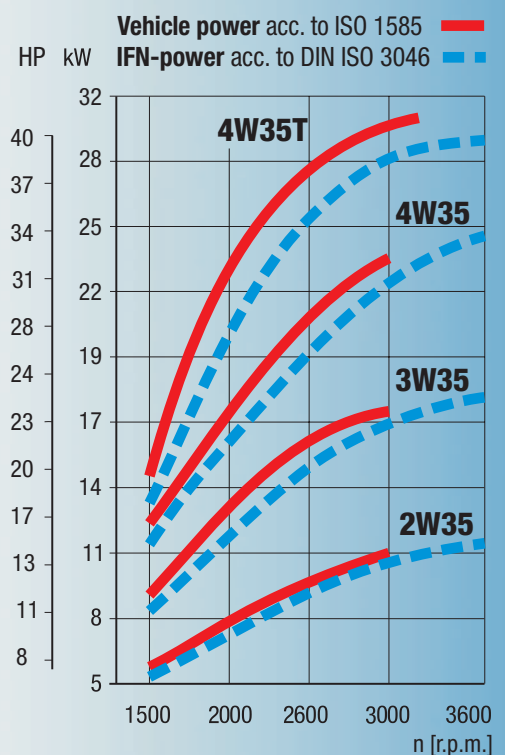
2W35 • 3W35 • 4W35



W35 TOPIC



- the new liquid-cooled series
- state-of-the art injection equipment with pump / nozzle unit
- auxiliary drive via gear-wheels and timing chain (low maintenance)
- compact dimensions due to integrated air-filter and exhaust silencer (optional)
- version with exhaust-gas turbocharger available (model T)



compact
light-weight
silent

due to an optimum component design.
due to the use of cast aluminium for all parts of the housing.
due to optimization of the housing structures via the finite elements method, and application of our internally developed noise reduction technology.

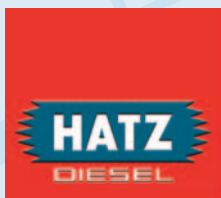
perfectly designed

due to clearly structured contours.

Dimensions

Engine type	Piston displacement (ccm)	Weight (kg)	Dimensions (mm)		
			Length	Width	Height
2W35	692	71	363	410	517
3W35	1038	85	442	410	517
4W35	1384	99	525	410	517
4W35T	1384	104*	645	410	517

* without exhaust silencer



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