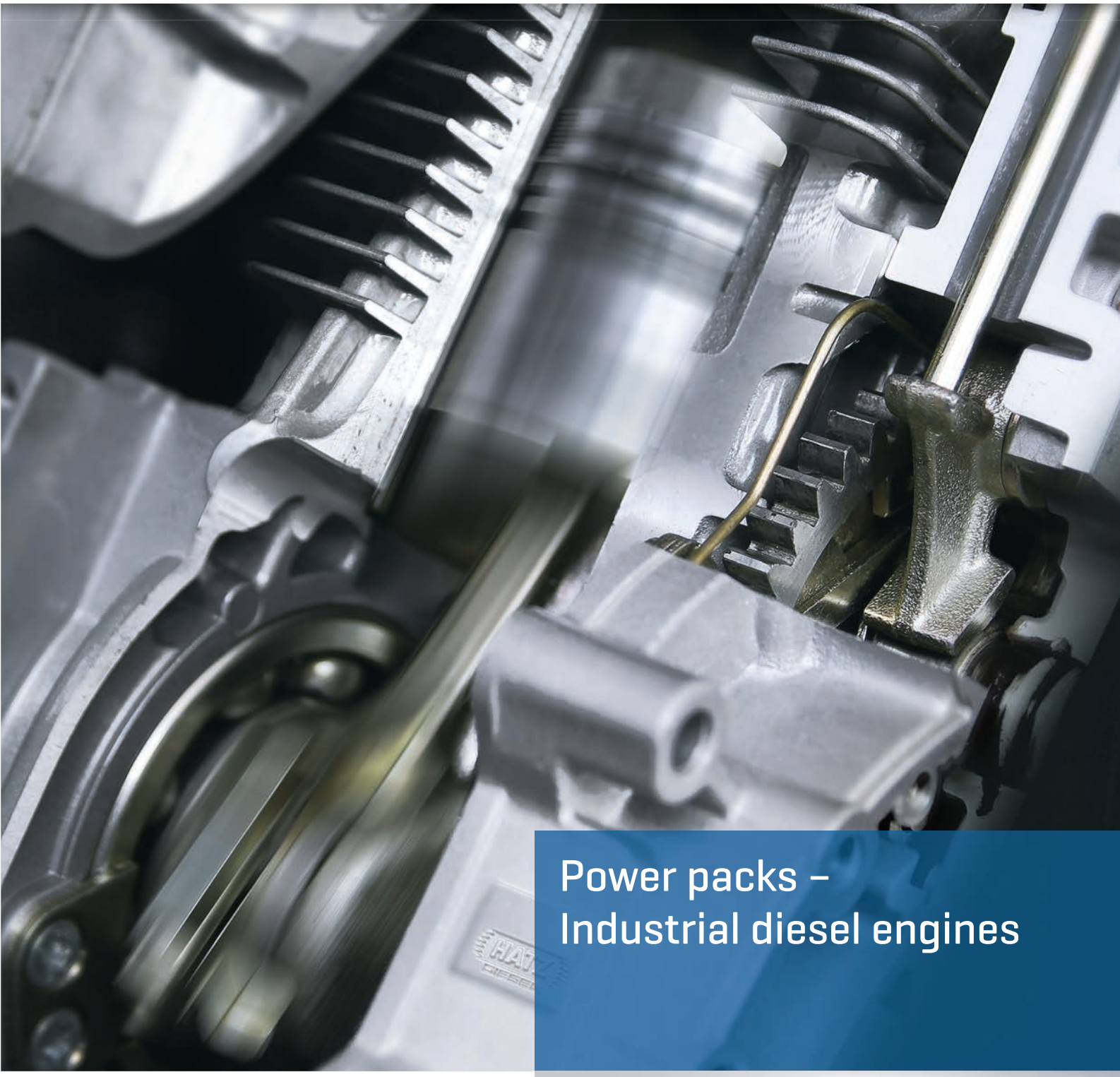
CREATING POWER SOLUTIONS.



Power packs – Industrial diesel engines

Hatz Diesel Engines – Made in Germany

Over 100 years of experience in engine production make Hatz a valuable partner.

Hatz Diesel Engines

The diesel engine is the core competence

In its history lasting over 130 years Hatz has developed into being a specialist for diesel engines rated up to 56 kW. The basis of all corporate activities is the development and production of high-quality and rugged diesel engines. The performance and reliability of our products are valued by our customers around the globe.

Hatz operates worldwide as an indepen-dent specialist for 1 to 4 cylinder **diesel engines**. Our diesel engines are used in all application fields, for instance in construction machinery, compressors, commercial vehicles, agricultural machinery, systems, material handling equipment, as well as in ships. Hatz develops and manufactures diesel engines in a power spectrum from 1.5 to 56 kW.
Hatz gives jobs to approximately 1,000 employees, over 5% of them in research and development. Production is carried out in the company's headquarter in Ruhstorf, Germany.

The Hatz **Systems** business division develops and produces special systems based on industrial engines. The focuses are on all aspects of solutions for power and energy supply, scalable electricity stations, pump systems as well as special applications in the maritime and military sectors.

The **Components** business division manufactures high-precision metal components designed especially for the automotive and commercial vehicles industry, agriculture, mechanical engineering, and industry, during which Hatz has acquired the special expertise needed for the serial precision machining from titanium.

The global **Service** network includes over 500 service centers, of which 13 are wholly owned subsidiaries and 94 are Hatz agencies in 115 countries. This means we can ensure fast supply of spare parts and replacement systems, and also quickly carry out repairs.

HATZ DIESEL

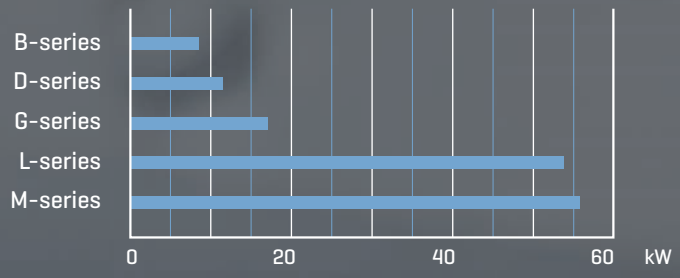
CREATING POWER SOLUTIONS.

Diesel Engines	**Systems**	**Components**	**Service**
Air-cooled engines	Power systems	Automotive	Repair
Water-cooled engines	Pumps	Agriculture	Reconditioning
Additional equipment	Marine applications	Industry	Spare parts
	Special applications	Commercial vehicles	Training

Reliable in all conditions: Hatz is more than a brand, it is a quality promise.

Hatz Diesel Engines

The engines
Motorenfabrik Hatz is the specialist for 1 to 4 cylinder diesel engines in a power range from 1.5 to 56 kW. Engines are categorized into the B, D, G, L and M-series and feature their special qualities for every need.



Hatz Diesel Engines:
Full power for full satisfaction

As an engine manufacturer with over 100 years of presence we are well known and in demand throughout the world. The goal of all our activities is the development and production of high-quality and rugged products, in order to achieve the guarantor for long-term corporate success: Satisfied customers.

Our design and development always focus on the following aspects:

Economic
Two essential qualities characterize the economy of Hatz diesel engines: Optimum fuel consumption and unparalleled long service life.

Fail-safe and reliable
Our engines have proven ultimate safe operability in even extreme climatic conditions. Hatz engines are famous for their good starting even in low temperatures.

Rugged and indestructible
Hatz engines are designed for service life and ruggedness. Top quality materials and production guarantee this. Operation and maintenance of our engines are problem-free even for non-specialists.

Universal use
The compact design, the many options for power take off, as well as an extensive program of additional equipment provide an ideal solution for all applications.

Sustainability is our formula for success
All Hatz engines are developed with maximum care, also when it comes to their environmental compatibility. This is not an empty phrase at Hatz, rather it is the corporate philosophy we live by. This is why Hatz is the only manufacturer that offers exhaust-reduced and air-cooled diesel engines over the entire product portfolio. The limits in the US emission standard EPA Tier 4 final and the EU regulation 97/68/EC Stage IIIB are in special focus for off-highway engines. In addition, compliance with other standards is also achieved.

	Power (kW)	Mode	2011	2012	2013	2014	2015	Hatz Engine
USA	0 - 8	Constant and variable speed	Tier 4 final					B, D-series
	8 – 19							D, G, L, M-series
	19 – 37		Tier 4 interim		Tier 4 final			L, M-series
	37 – 56							L, M-series
EU	0 – 19	Variable speed	Not specified					B, D, G-series
	19 – 37		Stage IIIA					L, M-series
	37 – 56		Stage IIIA		Stage IIIB			L, M-series
EU	0 – 19	Constant speed	Not specified					B, D, G-series
	19 – 37		Stage IIIA					L, M-series
	37 – 56		Stage II	Stage IIIA				L, M-series

Unmistakable design
The Hatz B-series is characterized by a uniquely matched overall design. The entire series is structured uniformly and therefore ensure an unparalleled recognition value. The engine on any machine can be recognized from far away, and with its round shape it provides an optical highlight.

1B30, 1B40, 1B50 SILENT
Depending on the engine type the already low noise level can be significantly reduced further, by 2 to 4 dB(A), by an optional silent noise package, decreased power, and speed. This is possible thanks to optimizations in the area of intake and exhaust components.

1B20V, 1B30V, 1B40, 1B50V
As the only engine manufacturer worldwide, Hatz offers a diesel series with vertical crankshaft. For many applications, such as the prime example of the lawnmower, this design provides major advantages and significantly simplifies installation.

B-series
Flexible solution for all areas

The Hatz B-series scores high marks in mobile and stationary operations with compact installation dimensions for all applications with a power requirement up to 8 kW due to its low weight. With its robustness and longevity, the series sets standards in the market. Regardless of whether on vibration plates or in the inhospitable environment of the Antarctic, the B-series has been tried and tested a hundred thousand times in harsh surroundings.

Small, lightweight, rugged and clean
These goals are used as the basis of our development and they are manageable at first glance, however their realization brought along a number of technical refinements which are still unrivaled today by competitors. For instance, operation of the injection pump and valves by the patented SCS (Single Cam System), which requires merely one cam and also includes automatic decompression. These and further innovations ensure that the B-series is well known and in demand when it comes to ruggedness and a long service life. Additionally, the B-series cylinder head, crankcase, and governor housing are manufactured from die-cast aluminum and therefore ensure high strength and low weight especially for use in mobile machinery.

Environmental aspects
All B-series engines have been designed with regard to sustainability and environmental compatibility and undergo continuous further development. All engines produced in this series comply with the guidelines of the strict US emission standard EPA Tier 4, and in this design they are also exported to countries where exhaust emission limits are not stipulated.

Power range
The B-series is available in a power range from 1.5 to 8 kW at a maximum speed of 3,600 rpm.

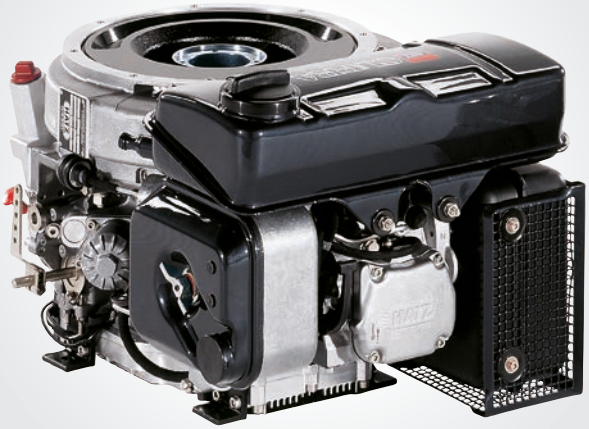
Additional features

- Air cooling with flywheel blower fan
- Recoil and/or electric start with 12 V or 24 V
- Available with vertical crankshaft as an option
- Counter balance for 1B40 and 1B50 available as an option

Engine variations	1B20	1B27	1B30	1B40	1B50	1B20 V	1B30 V	1B40 V	1B50 V
Cylinders	1	1	1	1	1	1	1	1	1
Displacement [ccm]	243	280	347	462	517	243	347	462	517
IFN rating according to ISO 3046-1 max. [kW @ 3600 rpm]	3.4	4.0	5.0	7.3	7.6	3.4	5.0	7.3	7.6
Weight [kg]	28	29	35	48	51	30	37	50	53
Feature	–	–	–	–	–	Vertical crankshaft	Vertical crankshaft	Vertical crankshaft	Vertical crankshaft

1D42, 1D50, 1D81, 1D90
Four engines, two sizes, one design, zero problems. The modular design principle of the D-series opens up an unending range of capabilities. The ideal engine can always be selected according to the power requirement and installation space.

1D42C and 1D81C - SilentPack©
For decades Hatz SilentPacks have been setting benchmarks for quiet and reliable diesel engines. SilentPack is more than just an engine, it is a complete installation solution where the customer no longer has to take care of anything. Position, connect, start.



1D90V/W
For installations with special requirements regarding outer dimensions, Hatz has also alternatively developed the 1D90 engine with vertical crankshaft. This allows the best possible use of the available installation space, thus avoiding unnecessary power deflections.

D-series
Revolutionary single cylinder technology

The Hatz D-series is best suited for challenging tasks. It is characterized in particular by its high performance and unique design. With 11.2 kW, the 1D90 engine is the most powerful single-cylinder diesel engine in the world. A compensation weight on the flywheel side crank arm as well as balance weights cast in the flywheel ensure the special quiet running of the D-series. Optionally available counter-rotating balance shafts even ensure 100% 1st order counter balance.

Unbeatably flexible
The D-series engines can be configured as required and in the basic version are limited only to the basic engine. By adding the numerous available options, the engines can however also be upgraded to truly high-tech products. With up to four different power take offs on a single engine, the D-series provides more options for machine customization than any other engine in the market.

Environmental aspects
The Hatz D-series is exclusively produced and marketed to the specification of the strict US exhaust standard of the EPA (Environmental Protection Agency). The D-series is optimized with regard to noise emissions and also offered with the unique SilentPack on demand.

The SilentPack©
The D-series is the first single-cylinder diesel engine series that can be equipped with an organically adapted, sound-insulated noise encapsulating housing, the SilentPack. The SilentPack reduces the radiated noise emission by up to 12 dB(A) in a 7 meter radius.
The capsule consists of a sheet metal construction mounted on the engine with structure-borne noise insulation. All control and service points are accessible from the outside. The sound suppressor is housed in a separate capsule over the flywheel. Due to the cooling air circulation, SilentPack engines – like all other Hatz engines – can be used under virtually all climatic conditions.

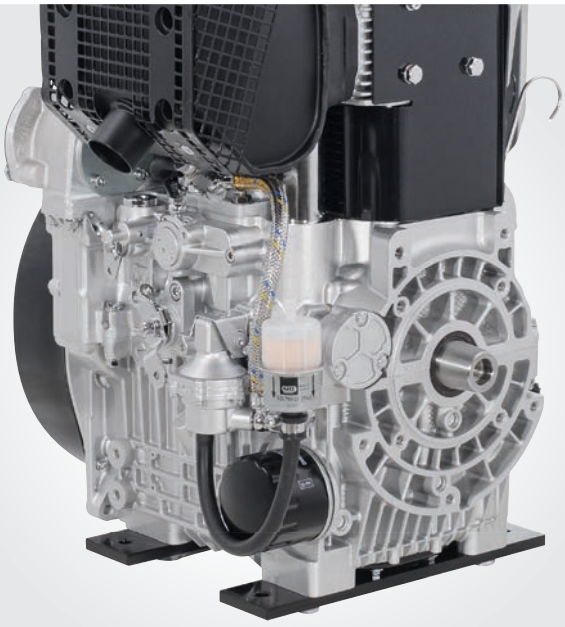
Power range
The D-series is available in a power range from 3.5 to 11.2 kW at a maximum speed of 3600 rpm (1D90, 1D90V and 1D81C: 3000 rpm).

Additional features

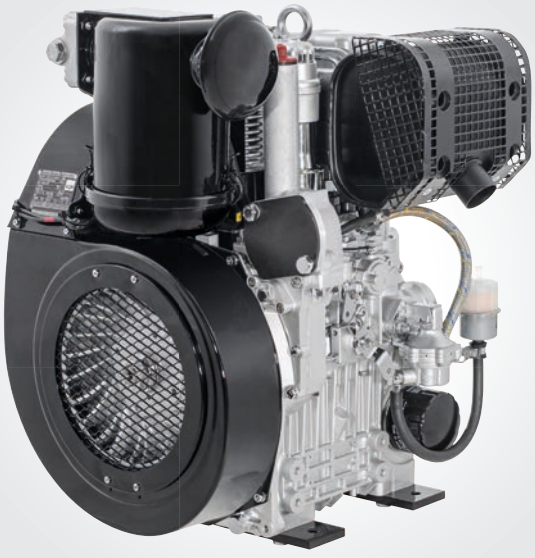
- Air cooling with flywheel blower fan
- Crankhandle start and/or electric start with 12 V or 24 V
- 1D90 optionally available as vertical model
- Noise reduced by 95 % with optional SilentPack

Engine variations	1D42	1D50	1D81	1D90	1D90 V	1D42 C	1D81 C
Cylinders	1	1	1	1	1	1	1
Displacement [ccm]	413	517	667	722	722	413	667
IFN rating according to ISO 3046-1 max. [kW @ 3600 rpm]	7.3	7.7	10.1	11.2 @3000	11.2 @3000	5.2	9.6 @3000
Weight [kg]	71	80	97	98	106	93	118
Feature	–	–	–	–	Vertical crankshaft	SilentPack	SilentPack

2G40
The 2G40 is an all purpose industrial diesel engine. It convinces through its low weight due to the lightweight alloy construction, its low fuel consumption, and its high operating reliability as, for instance, it does not have a V-belt.



Power take off on both sides
On the 2G40, power take off possibilities are available on the crankshaft (conical drive shaft) and directly on the flywheel. Due to the special flange dimension, generating sets can be flanged directly to the power take off on the crankshaft without an intermediate housing.



2G40H
The 2G40H version also has an extremely compact auxiliary power take off with gear wheels for operation of hydraulic pumps rated up to 30.6 Nm. Of course the compatible gear hydraulic pumps are also available from Hatz.

G-series
The two-cylinder power package

As our customers can confirm, Hatz diesel engines are the most robust and durable in this market segment. Where they are installed makes no difference; whether at very low temperatures or in a tropical climate, the Hatz 2G40 carries out its job reliably. With regular maintenance many thousands of hours are commonplace, with HATZ original spare parts of course.

Lightweight and compact
Like all other Hatz diesel engines, the extremely compactly built two-cylinder engine excels through its high reliability, and it can be used flexibly due in no small part to its dimensions. The light metal construction of the housing and die-cast aluminum cylinder heads keep the weight low, between 88 kg and 105 kg depending on the version.

Environmental aspects
The Hatz 2G40 is exclusively produced and marketed to the specification of the strict US exhaust standard of the EPA (Environmental Protection Agency). Measures for reducing inner engine friction losses result in higher efficiency, and therefore also in an extremely low specific fuel consumption.

Low operating costs
The air cooled 2G40 is the absolute front runner in terms of low total operating costs. This is due not only thanks to the low fuel and engine oil consumption, but also to the remarkably low maintenance costs. For example, the engine does without any belts at all. In the basic version with oil bath filter, only the fuel filter, engine oil filter, and engine oil need to be changed regularly.

Power range
The 2G40 delivers a maximum 15.6 kW at a speed of 3600 rpm (IFN according to DIN ISO 3046/I).

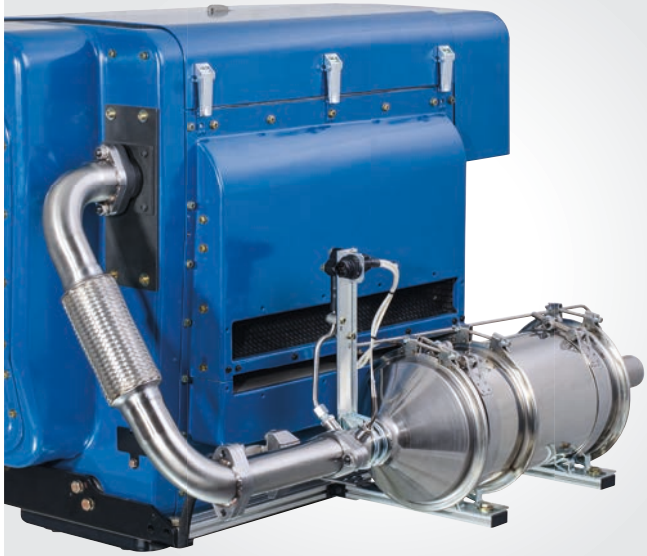
Additional features

- Air cooling and alternator integrated in flywheel blower fan
- Pressurized lubrication with gear pump
- Electric start with 12 V or 24 V
- Self bleeding injection pump

Engine variations	2G40	2G40H
Cylinders	2	2
Displacement [ccm]	997	997
IFN rating according to ISO 3046-1 max. [kW @ 3600 rpm]	15.6	15.6
Weight [kg]	88.8-105.2	88.8-105.2
Feature	Power take off possible on both sides	Additional auxiliary power take off for hydraulic pumps

L41-43 noise-encapsulated engines
The innovative Hatz SilentPack is still unrivaled today by competitors. The engine capsule reduces radiated noise emission by 90 %. This means, 10 SilentPack engines emit no more noise than a single non-encapsulated engine.

Exhaust gas recirculation (EGR)
For years the Hatz 4L42C has been successfully fitted with a robustly designed exhaust gas recirculation system for fulfillment of the emission standards in Europe and the USA. To satisfy the current standards, the 3L43C and 4L43C are also fitted with the proven exhaust emission technology for NO_x reduction.



Diesel particulate filter (DPF)
Exhaust stages 97/68/EC Stage IIIB and EPA Tier 4 final currently in force require the use of a diesel particulate filter (DPF) with integrated oxidation catalyst. Hatz has developed a closed filter system with active regeneration in operation.

L-series
Economic, fail-safe, quiet

These are the qualities that characterize L-series engines. Their rugged design gives them an extremely long service life. Their high operating reliability allows L-series engines to be operated reliably in even remote areas or for applications without constant monitoring.

The rugged construction is achieved through use of a crankcase and single cylinders made from indestructible gray cast iron. The power train and bearing points are also generously dimensioned giving them an extremely long service life. The L-series has two power take off points allowing connection of accessory equipment on the governor side as well as the flywheel side.

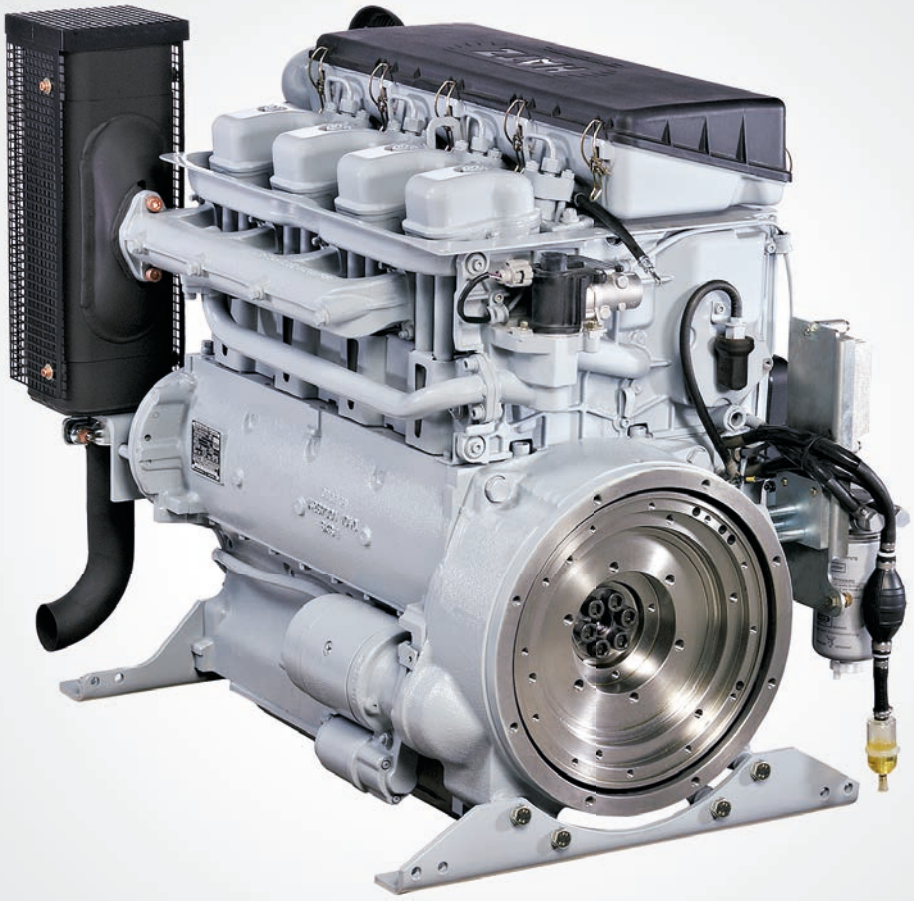
The SilentPack®
The innovative Hatz SilentPack is still unrivaled today by competitors. Radiated noise emission is reduced by 90 % due to use of the engine capsule. This means, 10 SilentPack engines emit no more noise than a single non-encapsulated engine. The capsule consists of a sheet metal construction mounted on the engine with structure-borne noise insulation. All control and service points have easy outside accessibility. Due to the cooling air circulation, SilentPack engines – like all other Hatz engines – can be used under virtually all climatic conditions.

Environmental aspects
Hatz diesel engines in the L/M-series are the only exhaust-reduced, air-cooled engines available in this power range. The 4L42C with exhaust gas recirculation (EGR), the 3L43C as well as the 4L43C are also fitted with an electronic speed governor and separable diesel particulate filter (DPF). Engines in the L43 series fulfil the strict emission standards of EU regulation 97/68/EC Stage IIIB as well as the regulations of the US EPA Tier 4 final.

Power range

L-series engines are available in a power range from 15.0 to 48.8 kW, depending on the number of cylinders and speed setting (IFN according to DIN ISO 3046/I). The maximum torque lies between 100 and 195 Nm.

Engine variations		2L41C	3L41C	3L43C	4L41C	4L42C	4L43C
Cylinders		2	3	3	4	4	4
Displacement [ccm]		1,716	2,574	2,574	3,432	3,432	3,432
IFN rating [kW @ 3000 rpm]		24.4	36.7	34.1	48.8	46.1	44.7
Weight [kg]		303	363	365	433	438	438
Certification	EPA 4 final	0-19 kW	–	19-37 kW	–	–	19-56 kW
	EU IIIA	19-37 kW	19-37 kW	–	19-37 kW constant	37-56 kW constant	–
	EU IIIB	–	–	–	–	–	37-56 kW variable
Feature		–	–	EGR DPF	–	EGR	EGR DPF



4M42
Hatz diesel engines in the L/M-series are the only exhaust-reduced, air-cooled engines available in this power range. The 4M42 with exhaust gas recirculation, the 3M43 as well as the 4M43 are also fitted with an electronic speed governor and removable diesel particulate filter.

Simple operation
The M-series engines are fitted with an automatic hydraulic belt tensioner, self-bleeding injection pump, automatic cold start feed, and a signal transmitter for air filter maintenance as standard. Operation is also therefore easy even for non-specialists without long familiarization.

Diesel particulate filter
Hatz has developed a closed diesel particulate filter system with active regeneration in operation to give maximum flexibility to its customers. When the filter needs cleaning, it is fitted with quick fasteners for fast and non-destructive dismantling.

M-series
Always ready for operation

The M-series is the long-running success among the industrial diesel engines. The 2, 3 and 4 cylinder engines have been successfully established in the market for about 30 years – and they are still considered to be unbeatable. The rugged basic power train, above all the strongest crankshaft of all engines in the market, has remained unchanged since the market launch. So running times of many tens of thousands of hours are no problem for the engines in the M-series.

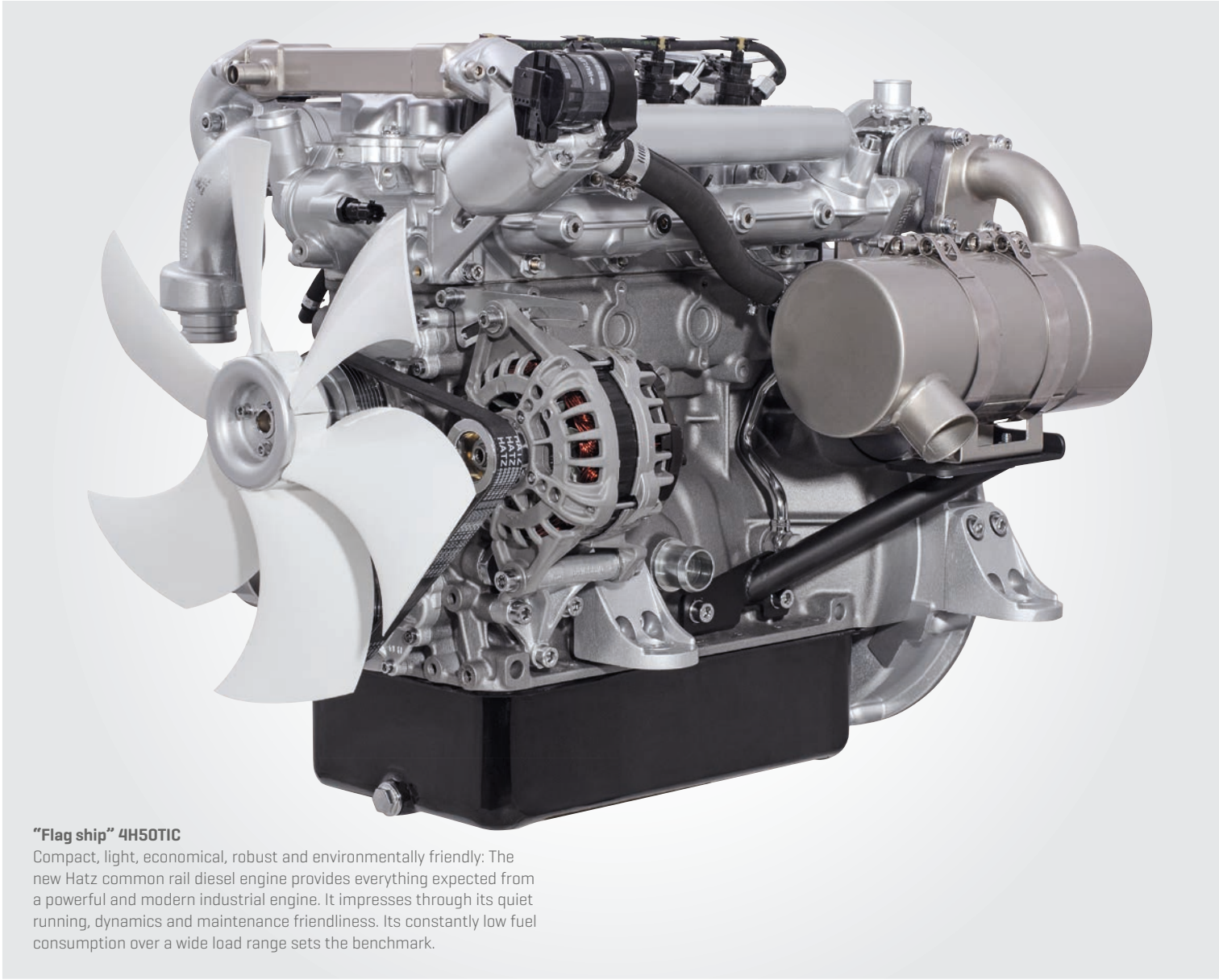
The qualities of the L-series can also be transferred to the M-series; both engines have a nearly identical construction. The only difference for engines in the M-series over the L-series is the SilentPack. Without the engine capsule the M engines are ideal for installation in machine rooms. When it comes to operating reliability and ruggedness, these engines – like all Hatz engines – set the industry benchmark.
The M-series has three power take off points. Therefore accessory equipment can be operated at the crankshaft and pulley on the flywheel side, as well as on the governor side.

Fuel consumption and cold start
M-series engines are among the most efficient in the market. Fuel consumptions of 212 g/kWh testify to the optimized combustion process. 6-hole VCO nozzles, as well as the monoblock single pumps, and the optimized combustion chamber geometry all make their contribution to this. Without a pre glow system the engines start reliably as low as -10°C; with a pre glow system and corresponding resources even -32°C is no problem.

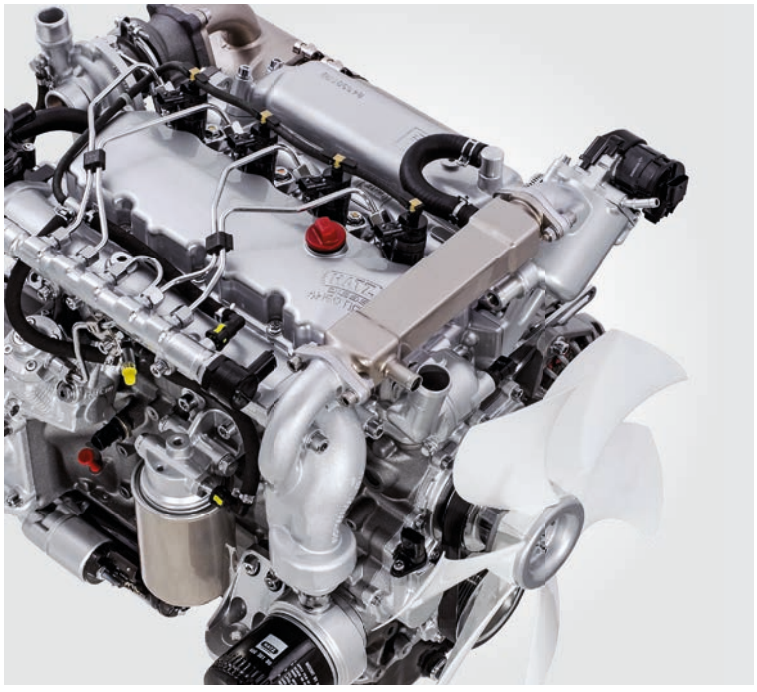
Maintenance and repair with little effort
Maintenance of the M-series does not cause any great effort, because it has easy outside accessibility for all points necessary for oil checks, oil refill, oil change, and oil filter change as well as for valve adjustment and cleaning/changing of the integrated air filter. The M-series is built with a modular construction principle. Length-independent components such as cylinder heads, cylinders, conrods, bearing shells, injection nozzles, injection pumps, air filters, engine regulators, starter, and alternator are identical for all engines. Engine repair is easier and more cost effective. Furthermore, storekeeping for wearing parts is much easier to organize.

Power range
M-series engines are available in a power range from 16.4 to 53.1 kW, depending on the number of cylinders and speed setting (IFN according to DIN ISO 3046/I). The maximum torque lies between 105 and 220 Nm.

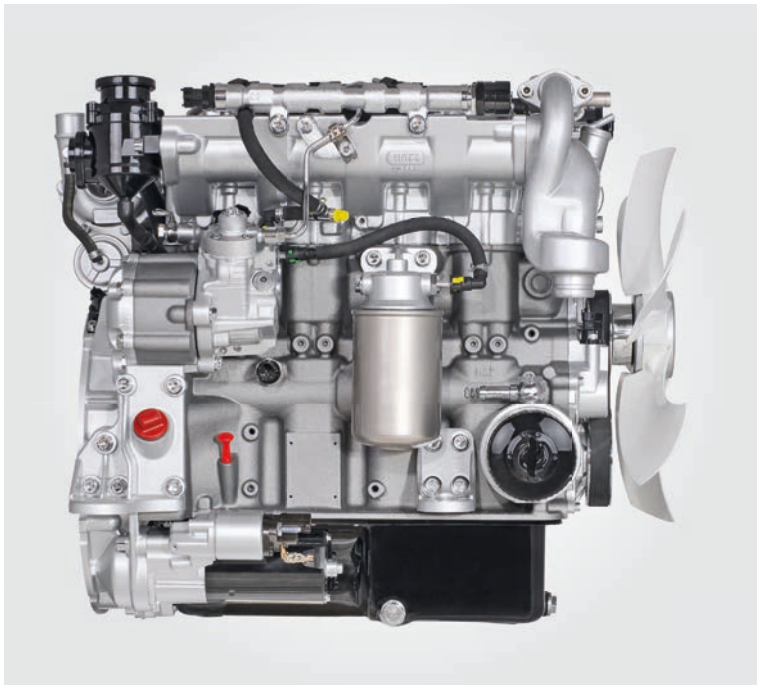
Engine variations		2M41	3M41	3M43	4M41	4M42	4M43
Cylinders		2	3	3	4	4	4
Displacement [ccm]		1,716	2,574	2,574	3,432	3,432	3,432
IFN rating [kW @ 3000 rpm]		26.3	39.8	36.4	53.1	51.5	48.4
Weight [kg]		258	308	310	373	378	378
Certification	EPA 4 final	0-19 kW	–	19-37 kW	–	–	19-56 kW
	EU IIIA	19-37 kW	19-37 kW	–	19-37 kW constant	37-56 kW constant	–
	EU IIIB	–	–	–	–	–	37-56 kW variable
Feature		–	–	EGR DPF	–	EGR	EGR DPF



“Flag ship” 4H50TIC
Compact, light, economical, robust and environmentally friendly: The new Hatz common rail diesel engine provides everything expected from a powerful and modern industrial engine. It impresses through its quiet running, dynamics and maintenance friendliness. Its constantly low fuel consumption over a wide load range sets the benchmark.



Premium components for a premium product
Only high quality parts are used in the 4H50TIC. These include an injection system and sensor system from BOSCH, a catalyst from HJS and other parts from well-known manufacturers.



Small, compact and powerful
The 4H50TIC has a large number of technical refinements that make it the most compact engine of its class. And with all this innovation, the well known Hatz reliability was of course not ignored.

H series
Innovation meets reliability

A groundbreaking downsizing approach was adopted in the development of the 4H50TIC. The outcome is an extremely compact, turbocharged 2-liter engine that reaches a maximum power output of 55 kW with a weight of 173 kg, setting the benchmark in its performance class. The engine fulfills the stringent exhaust emission limits in the EU and the USA even without the use of a diesel particulate filter (DPF).

Conservative-innovative engine for a long service life
All mechanical components were designed and developed with a conservative-innovative approach. The 4H50TIC therefore has two valves per cylinder, which achieves high efficiency, mechanical robustness and functional simplicity. This – as well as the exclusive use of premium products for all important components – leads to the long service life customary from Hatz.

Maintenance-friendly
A maintenance interval of 500 hours means the engine scores top points with regard to customer friendliness and reliability. The extended intervals are attributed to hydraulic valve play compensation and large sized filters. The engine also has a sensor-controlled engine protection system which switches off the engine in an emergency to prevent major damage.

BOSCH common rail system for maximum fuel efficiency
One of the key factors for the high performance compactness of the 4H50TIC is the common rail system. Hatz has decided upon the off highway CRS from Bosch with 1800 bar. It works with three precisely dosed injections per working cycle: a pre-injection, main injection and post injection. In conjunction with the other ideally matched Bosch system components, the perfect balance is reached between dynamics, quiet combustion noise, low emissions and economy.
In terms of fuel efficiency, the newly developed engine with a specific consumption of just 210 g/kWh sets new standards at the maximum efficiency point. The innovation here is that consumption values are achieved which lie close to the optimum operating point across a wide load and speed range. This makes the 4H50TIC the most efficient engine in the class of 37-56 kW.

Engine variations		4H50TIC
Cylinders		4
Displacement [ccm]		1952
IFN rating according to ISO 3046-1 max. [kW @ 3600 rpm]		55
Weight [kg]		173
Feature	EGR	AGR, DOC
Stage IIIB		37-56 kW var.
Stage IIIA	19-37 kW var. 37-56 kW const.	
Tier 4 final		19-56 kW

Fast and reliable service
is not an empty phrase
for us, rather it is the
reality we live.
Hatz Service

Hatz Service:
Worldwide and quickly there

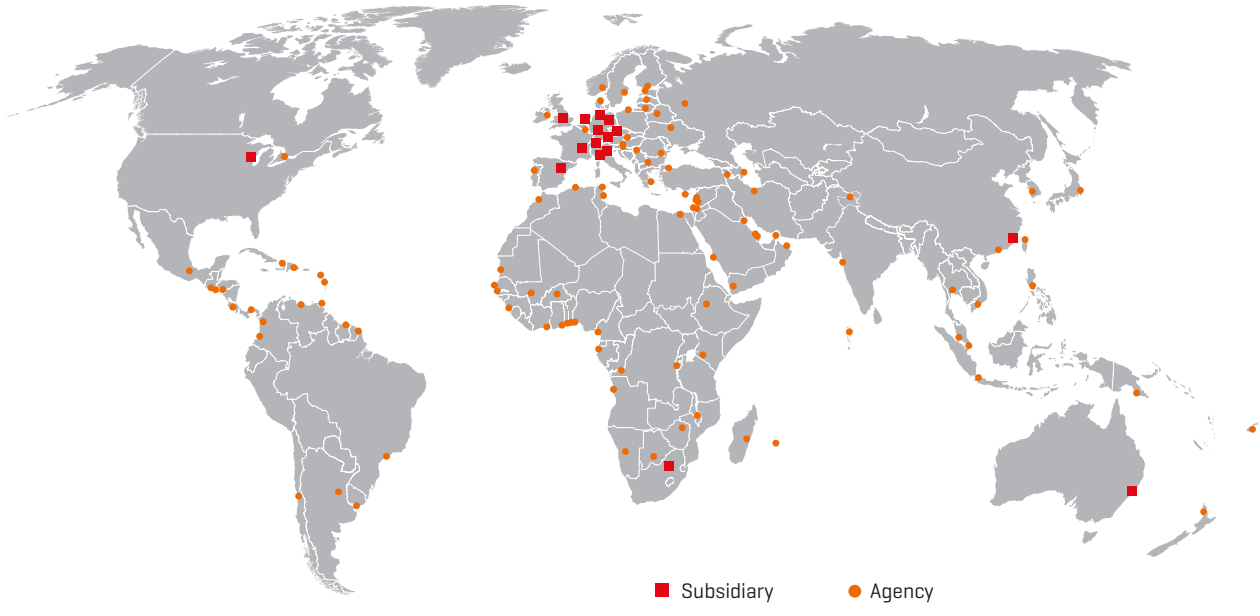
The global service network includes over 500 service centers, of which 13 are wholly owned subsidiaries and 94 are Hatz agencies in 115 countries. This means we can ensure fast supply of spare parts and replacement engines, and also quickly carry out repairs.

Short paths in sales and service are an important requirement in international business. This is why customer proximity is important for Hatz. We are active in all important markets with sales and service companies so that we can react quickly and flexibly to our customers' requirements. The central hub of all activities is our location in Germany.

Repair, maintenance, conditioning
The repair, regular servicing, or even the complete conditioning of Hatz engines can be carried out competently at the over 500 service centers worldwide. Well trained personnel, the worldwide and fast supply of original spare parts, and the right tools make the certified Hatz partner workshops the reliable professional for your Hatz products.

It only remains original with an original
Only the use of original Hatz spare parts guarantees a long service life, high availability, and smooth operability of your engines and systems. The initial installation of high-quality wearing parts in our products ensures a reliable and long service life. After servicing, you have the original performance with quality spare parts from Hatz by preference.

Training courses
Certified Hatz authorized workshops regularly receive the latest product documentation and training by our specialists so that they stay at the forefront of the state of the art. In this way we guarantee a constantly high level in servicing and repair by our specialist partners.



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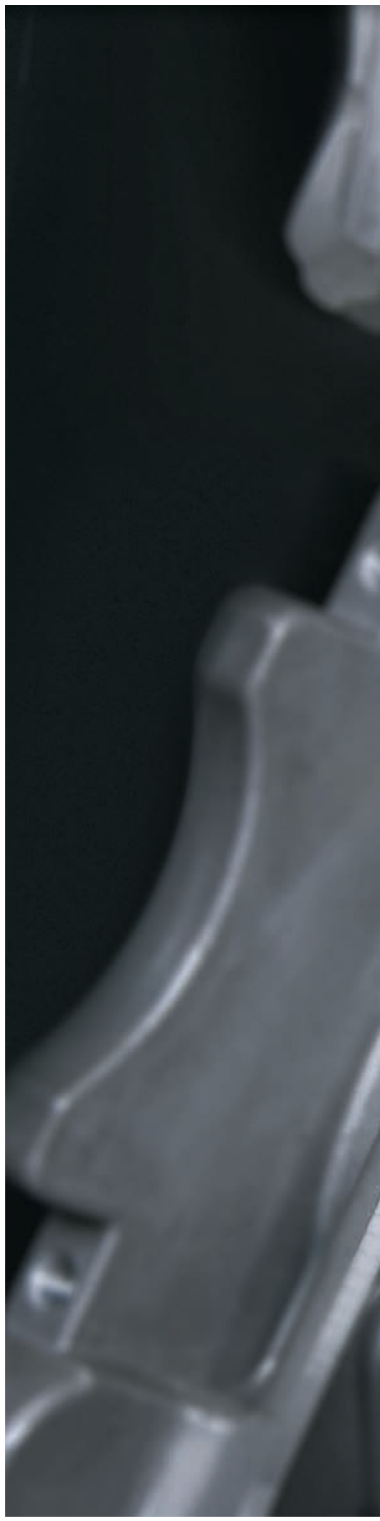

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