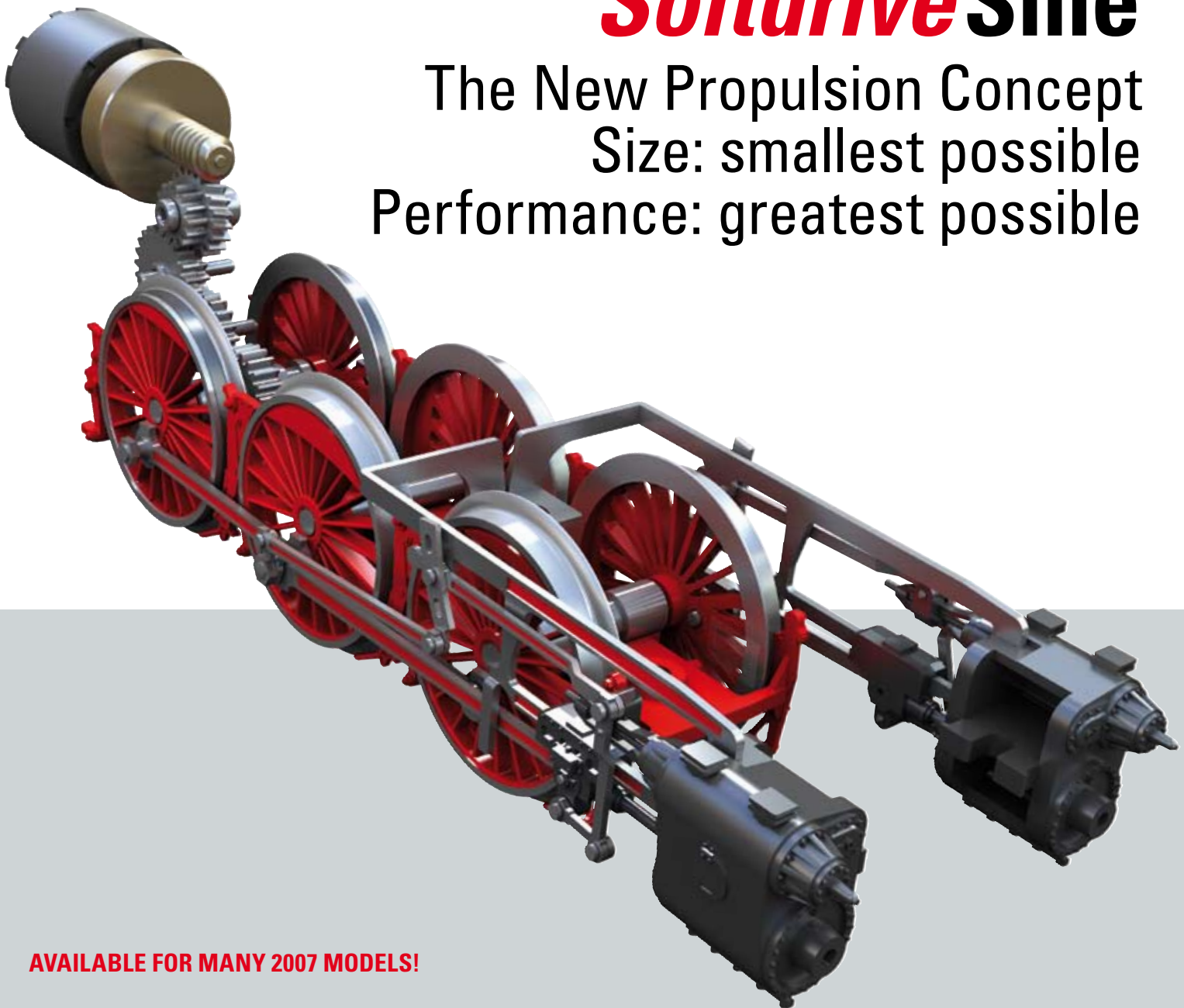


märklin

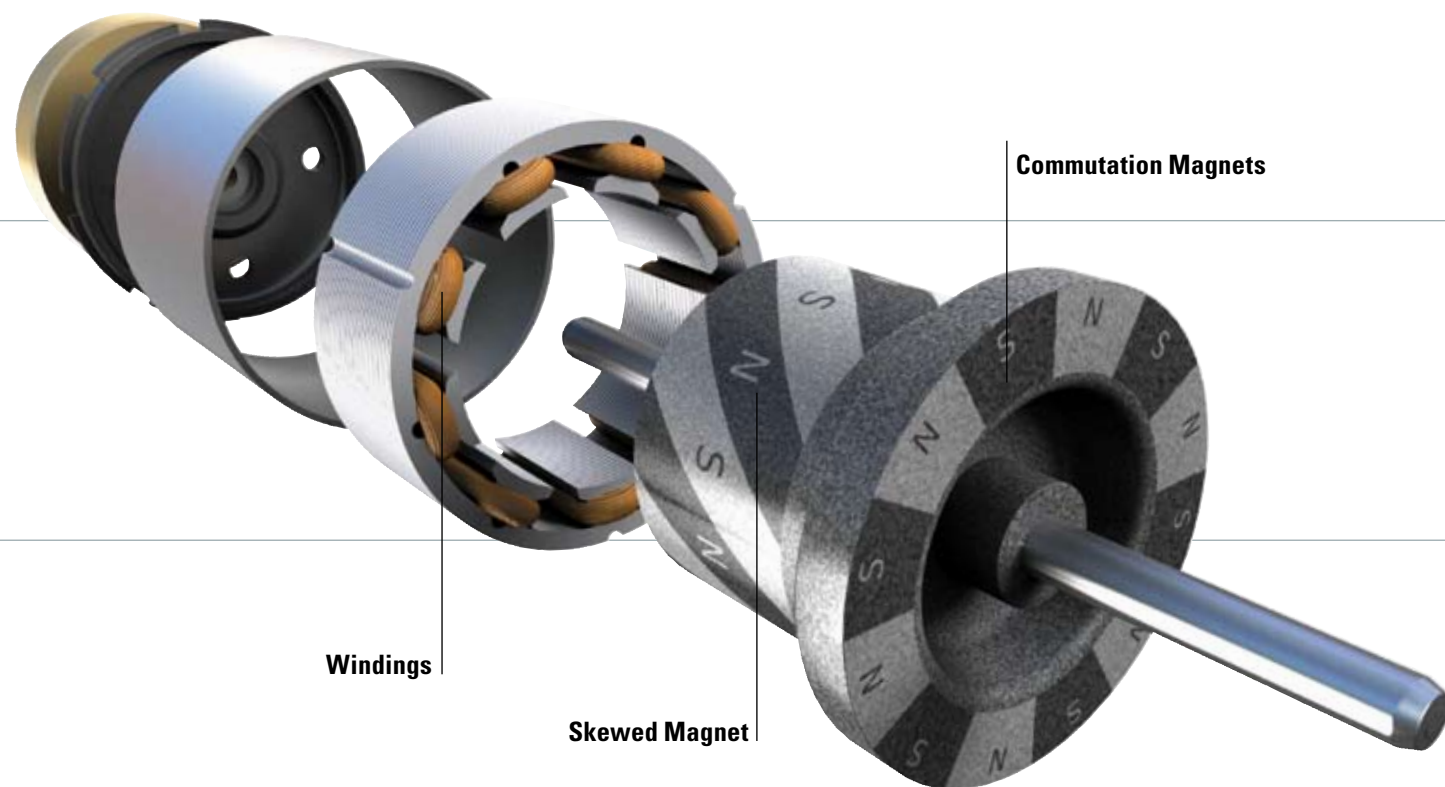
innovation

***Softdrive*Sine**

The New Propulsion Concept
Size: smallest possible
Performance: greatest possible



AVAILABLE FOR MANY 2007 MODELS!



“...the ***SoftdriveSine*** is the best and most innovative propulsion concept from Märklin.”

The Principle of the New ***SoftdriveSine*** Motor

Thanks to a new positioning of the magnetic field, Märklin has succeeded in developing a motor, which begins to move as smooth as silk and with no jerkiness even at low operating voltage. The key to it is the skewed arrangement of the 12 magnets. The magnetic field is displaced in rotation according to the principle of three-phase current. When this magnetic field is in a perpendicular position, it is difficult to bring the 12-pole rotator along at low speeds. Märklin's solution to this with the *SoftdriveSine* is to arrange the magnets diagonally. The cogging action of the motor is reduced to a minimum and less centrifugal force is thereby necessary. The current draw for *SoftdriveSine* is reduced by half compared to conventional motors. A high level of torque is produced across the entire rpm range. Contacts that wear out such as commutators and brushes are not necessary; the motor requires no maintenance. Thanks to a special electronic circuit, it works in all modes of operation (analog or digital) and will impress people with its fine control characteristics.

The new Märklin *SoftdriveSine* motor is very compact and even fits into smaller locomotives. The size is the same as the previous compact design standard C-Sine motor. The *SoftdriveSine* is, in conjunction with the reworked control electronics, the best and most innovative propulsion concept from Märklin. Based on its performance, it is the foundation for all future high end locomotives from Märklin in the H0 area and will win over the ambitious model railroader with the best of running characteristics.

► SUPERIOR RUNNING CHARACTERISTICS AND PROTOTYPICAL OPERATING BEHAVIOR:

The new design of the *SoftdriveSine* motor allows jerk-free running, even with a heavy load and steep grades. The typical running characteristics of switch engines, express or freight locomotives are prototypically reproduced. This can be seen particularly during acceleration and braking. The high quality ball bearing mount for the motor enables running that is as smooth as silk and low in noise.

► COMPLETELY REWORKED CONTROLS:

Several locomotives increasing the total load on the layout does not cause any break in speed for the locomotives. The motor's performance remains constant even on curves. Stopping in a signal block with the braking component can be done prototypically.

► EXTREMELY HIGH LEVEL OF PERFORMANCE:

The new *SoftdriveSine* motor will impress people with its high performance density compared to conventional

motors. Even at low speeds, the *SoftdriveSine* motor reaches a high level of torque and outstanding pulling power as a result.

► INNOVATIVE MOTOR DESIGN:

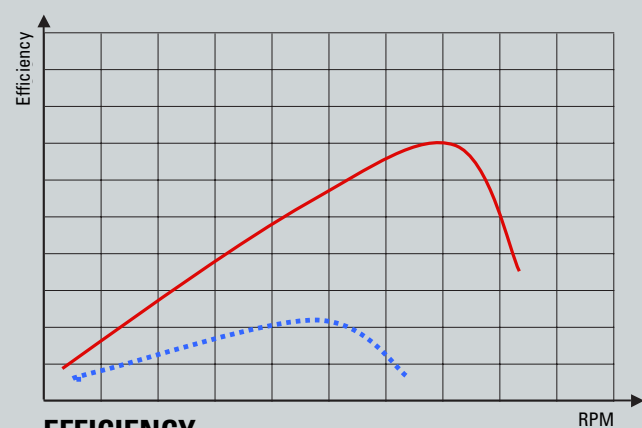
The diagonal arrangement of the magnets (oblique magnetization) reduces the cogging action of the motor to a minimum. This allows extremely fine running characteristics.

► THE SMALLEST POSSIBLE SIZE:

The *SoftdriveSine* motor can be installed directly in the boiler of steam locomotives (instead of in the tender) by virtue of its small size. Even with powered rail cars such as the rail bus you still have a prototypical open unobstructed view through the windows for the car.

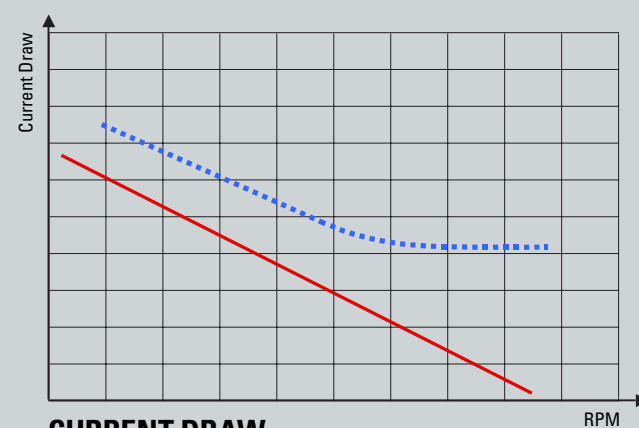
► LONG WORKING LIFE:

The *SoftdriveSine* motor works free of wear without brushes and is designed with maintenance-free ball bearings for extremely long life cycles.



EFFICIENCY

The clearly greater efficiency of the *SoftdriveSine* motor increases the power reserves for the locomotive controller (transformer).



CURRENT DRAW

The *SoftdriveSine* motor draws considerably less current compared to a conventional motor.

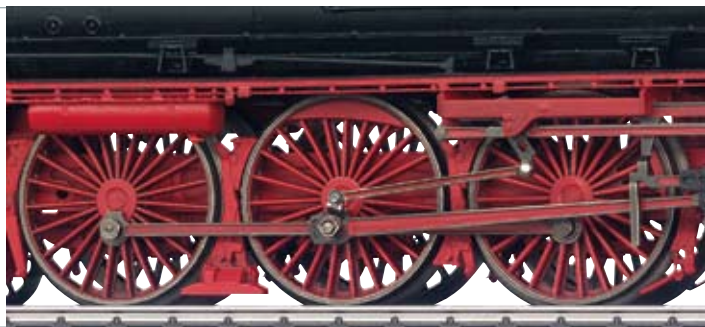


TORQUE

Even at low rpm the *SoftdriveSine* achieves a high level of torque and therefore good pulling power.

— *SoftdriveSine* Conventional Motor





All Märklin Locomotives with the New *Softdrive* Sine Propulsion Concept:

MODEL YEAR 2007

The Insider Model for 2007 (class 05, item no. 39050) is one of the first models to be equipped with this new propulsion concept.

- 26218** DB class 218 push/pull train, 3-unit "Silberlinge" set in red
- 26540** DB train set "50 Years of the TEE", Era IV
- 29680** Gotthard mega starter set
- 37772** DB SVT 04 powered rail car, Era III
- 37902** DB AG class 290 switch engine, Era V
- 39050** DB class 05 express steam locomotive, Era III
- 39121** DB class E 10.12 electric locomotive, Era III
- 39180** DB class 218 diesel locomotive, mfx with sound
- 39181** DB class 218 diesel locomotive, mfx without sound
- 39401** SNCF class CC 40100 electric locomotive, Era IV
- 39402** SNCB class 18 electric locomotive, Era IV
- 39500** DB class E 50 electric locomotive, Era III
- 39540** SBB class Rae "Gottardo" TEE powered rail car train, Era III
- 39562** SBB "Crocodile" freight locomotive in brown, Era II
- 39590** SBB class Ae 81/4 electric locomotive, Era III
- 39890** DB AG class 189 electric locomotive, Era V
- 39970** DB class 701 catenary maintenance powered rail car, Era IV
- 39981** ÖBB rail bus with control car, Era III

Gebr. Märklin & Cie. GmbH
Stuttgarter Straße 55 - 57
73033 Göppingen
Germany

www.maerklin.com

An exact description of these models can be found in our Märklin New Items Brochure for 2007 or at www.maerklin.de/Produkte.

We reserve the right to make changes and delivery is not guaranteed. Pricing is not guaranteed, and data and measurements may vary in accuracy. Some of the images are hand samples. The regular production models may vary slightly from the models shown here.

All rights reserved. Copying, even in part, is prohibited.

Printed in Germany. E 113539 -04 2007

© Copyright by Gebr. Märklin & Cie. GmbH