645

DEUTZ MWM KHD

Tailored Power Systems and Service from DEUTZ MWM

DEUTZ MWM-Antriebskonzepte erfüllen Anforderungen von heute mit Ausrichtung auf die Aufgaben der Zukunft – zuverlässig und umweltfreundlich, bei hoher Verfügbarkeit und minimalen Betriebskosten.

Der DEUTZ MWM Product Support umfaßt jede Phase der Installation: Von der Planung über die Fertigung bis hin zur Montage und Inbetriebnahme der gesamten Antriebsanlage. Dafür steht ein kompetentes Team mit Know-how und Erfahrung zur Verfügung.

Innovative Technologien sichern den wirtschaftlichen Betrieb von Motoren und Anlagen bei rationeller Energieverwendung. Von der Netzersatzanlage bis hin zur schlüsselfertigen Dieselkraftstation für den Schwerölbetrieb, in Kraft-Wärme-Kopplungsanlagen sowie als Haupt- und Hilfsantriebe von Schiffen.

Dem Personal des Betreibers werden in Schulungen umfassende Kenntnisse vermittelt. Nach der Inbetriebnahme steht erfahrenes Service-Personal zur Verfügung – weltweit rund um die Uhr.

The 645 Series in Detail

The compact, economical medium-speed engine from DEUTZ MWM

The DEUTZ MWM 645 series was developed taking into account many years of experience in the construction of medium-speed diesel engines. Trouble-free results over many years of heavy fuel operation up to IF 700 (CIMAC K55) make these engines series the ideal solution for coping with the quality of today's fuels.

The 645 series comprises six, eight and nine cylinder in-line engines, with a large number of similar, interchangeable parts.

Applications: marine main and auxiliary engines, stationary power plants for base-load or peak-load power generation.

Cylinder-block crankcase

One-piece construction with suspended main bearings. Ideal flux of force. High component stiffness, produced by cross-bolted main-bearing caps. Crankcase and main-bearing caps made of nodular cast iron.

Cylinder liner

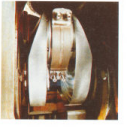
Special construction for high-power output, provided with intensive cooling of the combustion chamber region, made of highly wear-resistant material.

Cylinder head

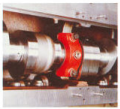
A four-valve head with valve cages and cooled valve seats. An intermediate plate relieves the combustion chamber plate from mechanical stresses. All valves are equipped with Rotocap rotators.

Crankshaft

Dimensions in accordance with the classification societies' standards, with unhardened journals and bolted-on balance weights. Full power take-off at the free crankshaft end. Grooved bearings for main and big-end bearings.



The 645 Series in Detail



Connecting rod

Diagonally split with a serrated joint. Lubrication of small-end bearing through an oil-way in the connecting rod.

Piston

Built-up, oil-cooled piston. Steel crown with hardened ring grooves. Cooling-oil supply via connecting rod.

Camshaft

One-piece shaft with hydraulically mounted cams. Injector cams hydraulically adjustable.

Engine speed control

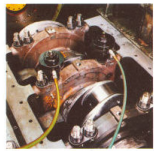
The engines are provided with mechanical or electronic governors depending on the respective application.

Injection equipment

Individual pumps and injectors with cooled nozzles.

Main bearing removal

The construction with suspended bearing makes it possible to remove the bearings easily. After undoing four nuts using a hydraulic tool a lifting device is applied below the bearing cap to be lowered. During this process the bearing cap with its four holes is guided by the studs, preventing it from tilting sideways. After lowering it, the two bearing shells can be taken out.



Excellence in Engines and Logistics

Pooled Strength – Engine Sales and After-Sales Service

- DEUTZ SERVICE INTERNATIONAL GmbH – DSI for short – is a young but experienced company of the KHD group.

  DSI as a specialized company has gained a reputation for the worldwide service of DEUTZ and DEUTZ MWM engines and power plants.

- Our service network spreads out around the globe. In total, over 3.000 service locations in 150 countries with 15.000 skilled experts are ensuring service support for each and every customer.

  For management purposes, the global network is divided into three large trading areas which have coordinated logistics. The structure in general provides a closely-knit dealer network in each country whose activities are coordinated by resident service companies and agents. In case of need, the DSI headquarter's service staff is ready to give regional assistance and is also able to take charge of complete plant installations.

- Reliable back-up of all DEUTZ and DEUTZ MWM engines is optimally ensured through a common network.

For troubleshooting and quick assistance in an emergency we have established a special round-the-clock emergency service. The "hot line" of our emergency phone directly connects the customer with our emergency staff at DSI Cologne headquarters or the local service bases. We are there to help – worldwide, round the clock.

Wherever you see the logo

DEUTZ SERVICE

it marks the gateway to:

- Service for DEUTZ and DEUTZ MWM engines
- Genuine parts with certified quality
- Direct access to the original manufacturer's service support
- Member of a worldwide service network

Worldwide
DEUTZ SERVICE
Round the Clock

Engine Series 645
Diesels for Sets

E

DEUTZ MWM KHD

Bore / Stroke	mm	330 / 450		
Configuration		In-line engine		
Number of cylinders		6	8	9
Displacement	dm^3	230.9	307.9	346.4
Engine type		TBD 645 L6	TBD 645 L8	TBD 645 L9

Application	Code for engine power ①	Speed 1/min	Engine output ② kW		
Generating sets for operation stationary and on board	SCXN	600	2550	3400	3825

Mean piston speed m/s	Speed 1/min	Mean effective pressure at SCXN-power bar		
9.0	600	22.1	22.1	22.1

Specific fuel consumption to DIN ISO 3046, part 1/04.91, related to diesel fuel with a net calorific value of 42 700 kJ/kg, without engine-mounted pumps.	Speed 1/min	ISO specific fuel consumption at SCXN-power g/kWh		
	600	178	178	178

① Code for engine output to DIN ISO 3046, part 7/05.89

SCXN Cont. net brake power, exeedable by 10 % for 1 hour within 12 hours of operation

② Engine output to DIN ISO 3046, part 1/04.91 is determined under operating conditions of the manufacturer's test bed and adjusted to the following reference conditions:

Total barometric pressure		1000 mbar
Air temperature	– for stationary generating set	25 °C
	– for generating set on board	45 °C
Charge air coolant temperature		40 °C

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Carl-Benz-Strasse 3 · D-68167 Mannheim · Phone (0621) 384-0

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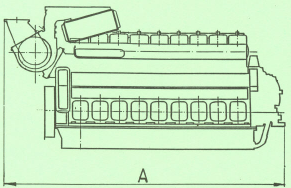
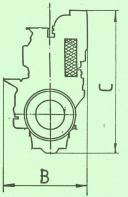
Dimensions/Weights





Engine type	Engine weight dry w/o accessories	Dimensions in mm		
		A	B	C
TBD 645 L6	28000 kg	5660	2210	3570
TBD 645 L8	35000 kg	6640	2210	3570
TBD 645 L9	38500 kg	7130	2210	3570

Subject to modification

Engine Series 645
Marine Diesels

E

Bore / Stroke	mm	330 / 450		
Configuration		In-line engine		
Number of cylinders		6	8	9
Displacement	dm^3	230.9	307.9	346.4
Engine type		TBD 645 L6	TBD 645 L8	TBD 645 L9

Application	Code for engine power ①	Speed 1/min	Engine output ② kW		
Engines for ship propulsion with fixed pitch and variable pitch propeller	SCFN	600	2550	3400	3825

Mean piston speed m/s	Speed 1/min	Mean effective pressure bar		
9.0	600	22.1	22.1	22.1

	Speed 1/min	ISO specific fuel consumption $\frac{g}{kWh}$		
ISO specific fuel consumption to DIN ISO 3046, part 1/04.91, related to diesel fuel with a net calorific value of 42 700 kJ/kg; without engine-mounted pumps.	600	178	178	178

① Code for engine power to DIN ISO 3046, part 7/05.89

SCFN Cont. net brake fuel stop power

② ISO-power to DIN ISO 3046, part 1/04.91 is determined under operating conditions of the manufacturer's test bed and adjusted to the following reference conditions:

Total barometric pressure	1000 mbar
Air temperature	45 °C
Charge air coolant temperature	40 °C

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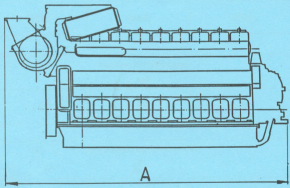
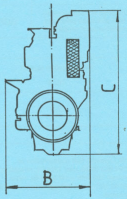
Dimensions/Weights





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