

Autobosch



Powertrain
solutions



We are Aurobay – we believe in hybrid futures

Accelerating our journey towards a fossil fuel-free future means moving beyond dependence on individual technologies, scarce resources or fragile infrastructures.

Aurobay develops and produces world-class powertrain solutions for a global market. We are leading the way in innovation, offering engines running on everything from low- to negative-greenhouse gas fuels, including e-fuels and electrification, offering transmissions and hybrid systems.

As a pioneering global supplier of propulsion technology, development services and contract manufacturing with capabilities in two continents, we create value for customers and consumers by producing premium hybrid powertrains that already power millions of vehicles.

Aurobay combines the heritage of Volvo cars in Sweden and Geely in China. In one business we bring together expertise, dynamism, global reach and commitment to innovation.

Aurobay solutions and services



End-to-end powertrain partnerships

- Powertrain research and development for great fuel efficiency, performance and neat vehicle integration
- Optimizing high-volume production for minimal cost and maximum quality and efficiency
- Production and assembly of combustion engines, hybrid powertrains and range extenders
- Access to high-quality and sustainable suppliers, thanks to our scale, knowhow and networks
- Flexible logistics set-up of engines and vehicle mounted installation parts to complete the powertrain



Analysis and verification

- State-of-the-art simulations for powertrain development
- Hardware and software testing in both test cell and vehicle simulation environments
- Diagnostics, calibration and verification of combustion, emissions, air, thermal and fluids
- Assembly, build and instrumentation of your prototype to inform mass production
- Analysis of your powertrain data and calibration optimization



Contract & Component Manufacturing

- Production and assembly of hybrid systems, combustion engines and E-drives and transmissions
- Production of components for combustion engines, electric motors and transmissions
- Remanufacturing set-ups for used engines to their original performance to give them a second life
- Reconditioning tools to save costs and minimize environmental impact
- Support with design for manufacturing: consultancy from our R&D and Manufacturing Engineering teams to optimize your designs for production



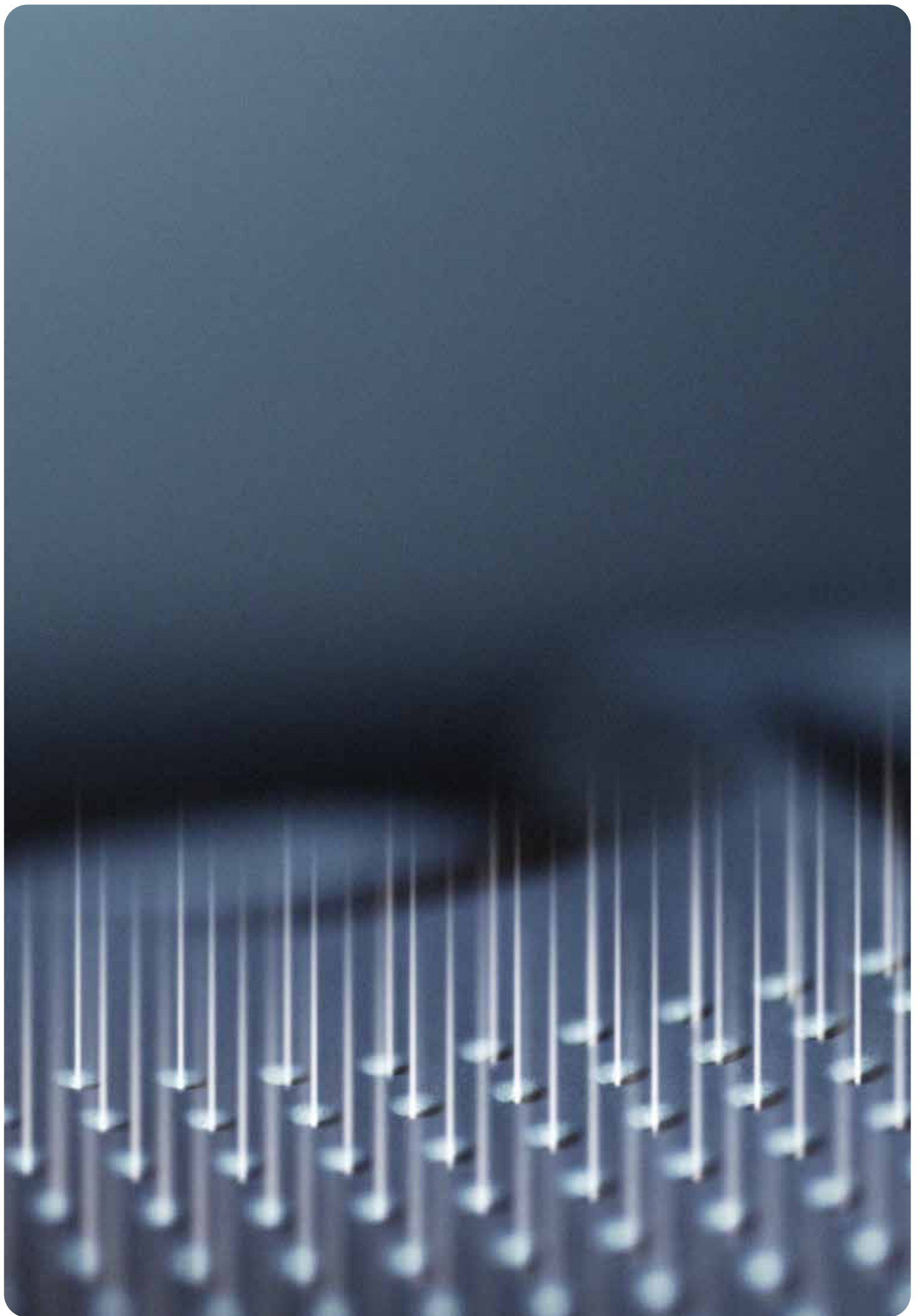
Tailored engineering services

- Defining an engine concept from scratch through simulation verification to running prototype
- Parameter optimization and component development to meet the requested emission standards from a given hardware configuration
- Feasibility studies to ensure powertrain and powertrain component designs will perform well and be cost-effective to produce and install
- Production processes and machine flow planned according to lean principles to maximize efficiency
- Engine component design, both internal and external, including physical verification
- Powertrains and powertrain components designed for efficiency, cost-effectiveness and manufacturability at high or low volumes
- State-of-the-art, digitally-enabled quality control to eliminate failures through the complete chain

Award-winning engine architecture

Aurobay aims to be the supplier of choice for world-class powertrain solutions. We're focused on developing next generation combustion engines and hybrid solutions and transmissions – creating a portfolio of powertrains that will suit the needs of every market and every infrastructure.

Our compact hybrid-ready engines are highly efficient, based on our award-winning modular architecture that adapts easily to a wide range of vehicles. They offer outstanding performance at optimal cost of ownership.



Engines

Designed & developed
in Sweden

Spark ignition 2.0 liter



Compact, modular high-performance 4-cylinder engine that's hybrid-ready with world-class fuel efficiency.

- Fuel: Petrol, E25 (HP, MP, LP), E30 (HP+), M15
- Hybridization: MHEV 48 V (HP, MP, LP), PHEV 400 V (HP+)
- Cylinders: 4

Compression ignition 2.0 liter



A high performance, clean and efficient 4-cylinder diesel that's hybrid-ready and suitable for biofuels.

- Fuel: Diesel, HVO 100
- Hybridization: MHEV 48 V
- Cylinders: 4

Spark ignition 1.5 liter



Lightweight, modular 1.5L engine that's hybrid-ready with excellent low-end torque and drivability.

- Fuel: Petrol, E25, M15
- Hybridization: ICE 12 V, MHEV 48 V, FHEV 400 V, PHEV 400 V
- Cylinders: 3

Technical specifications

	Spark ignition 2.0 liter PHEV	Spark ignition 2.0 liter HP	Spark ignition 2.0 liter MP
Fuel type	Petrol	Petrol	Petrol
Alternative fuels	E25, M15	E30, M15	E30, M15
Certified emission standards	Brazil L7, China 6b, Euro 6b, Japan SULEV, TZEV	China 6b, Euro 6d, SULEV30	China 6b, Euro 6d, ULEV70
Planned emission standards	Euro 6e-bis	Euro 6e-bis	Euro 6e-bis
Hybridization	PHEV 400 V	MHEV 48 V	MHEV 48 V
Cylinders (#)	4	4	4
Cylinder configuration	Inline	Inline	Inline
Displacement (L)	1.969	1.969	1.969
Bore (mm)	82.0	82.0	82.0
Stroke (mm)	93.2	93.2	93.2
Engine cylinder block material	Aluminum	Aluminum	Aluminum
Cylinder head material	Aluminum	Aluminum	Aluminum
Induction	Turbocharged	E-charged and turbocharged	Turbocharged
Compression ratio	10.3:1	9.0:1	10.5:1
Valves (#/cylinder)	4	4	4
Valvetrain	Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)	Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)	Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)
Fuel injection	Direct Injection (DI)	Direct Injection (DI)	Direct Injection (DI)
Ignition sequence	1-3-4-2	1-3-4-2	1-3-4-2
Maximum power (kW @ RPM)	230 @ 5800-6000	220 @ 5400-5700	184 @ 5400-5700
Maximum torque (Nm @ RPM)	400 Nm @ 4500	420 Nm @ 2100-4800	350 Nm @ 1800-4800
Engine idling speed (RPM)	875 ± 50	750 ± 50	750 ± 50
Maximum engine speed (RPM)	6000	6300	6200
Horsepower	313	300	250
Weight (kg) engine as shipped/ DIN 70020-GZ weight (kg)	149/154	140/152	132/141

Spark ignition 2.0 liter LP	Compression ignition 2.0 liter	Spark ignition 1.5 liter
Petrol	Diesel	Petrol
E30, M15	HVO 100	E25, M15
China 6b, Euro 6d	Euro 6d	Brazil L7, China 6b, Euro 6d, Japan SULEV, TZEV
Euro 6e-bis	NRE: Euro Stage V, US Tier 4	Euro 6e-bis
MHEV 48 V	MHEV 48 V	ICE 12 V, MHEV 48 V, FHEV 400 V, PHEV 400 V
4	4	3
Inline	Inline	Inline
1.969	1.969	1.477
82.0	82.0	82.0
93.2	93.2	93.2
Aluminum	Aluminum	Aluminum
Aluminum	Aluminum	Aluminum
Turbocharged	Twin turbocharged	Turbocharged
12.0:1	15.8:1	10.5:1
4	4	4
Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)	Dual Overhead Cam (DOHC)	Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)
Direct Injection (DI)	i-ART common rail direct injection (CRDI)	Direct Injection (DI)
1-3-4-2	1-3-4-2	1-3-2
145 @ 4750-5250	173 @ 5000	132 @ 5500
300 Nm @ 1500-4500	480 Nm @ 1750-2250	265 Nm @ 1500-3000
750 ± 50	750 ± 50	900 ± 50
6000	5000	6000
197	180	235
137/141	152/165	121/126

Engines

Designed & developed
in China



BHE15 Plus

Lightweight, 1.5L dedicated hybrid engine with high performance and excellent thermal efficiency.

- Fuel: Petrol
- Hybridization: HEV/PHEV
- Cylinders: 4



BHE15 Evo

The next generation BHE15 Plus engine. A lightweight, 1.5L dedicated hybrid engine with high performance and excellent thermal efficiency.

- Fuel: Petrol
- Hybridization: HEV/PHEV
- Cylinders: 4



DHE20

2.0L dedicated hybrid engine with high performance and excellent thermal efficiency.

- Fuel: Petrol
- Hybridization: HEV/PHEV
- Cylinders: 4

Technical specifications

	BHE15 Plus	BHE15 Evo (Next generation)	DHE20
Fuel type	Petrol	Petrol	Petrol
Alternative fuels	E10	E10	E10
Certified emission standards	CN6b, EU6d	CN6b, EU6d	CN6b, EU6d
Planned emission standards	EU6e	EU6e	EU6e
Hybridization	HEV/PHEV	HEV/PHEV	HEV/PHEV
Cylinders (#)	4	4	4
Cylinder configuration	Inline	Inline	Inline
Displacement (L)	1.499	1.499	1.974
Bore (mm)	73.4	-	82.0
Stroke (mm)	88.57	-	93.4
Engine cylinder block material	Aluminum	Aluminum	Aluminum
Cylinder head material	Aluminum	Aluminum	Aluminum
Induction	Turbocharged	Turbocharged	Turbocharged
Compression ratio	14:1	-	10.5:1
Valves (#/cylinder)	4	4	4
Valvetrain	Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)	Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)	Dual Overhead Cam (DOHC), Variable Valve Timing (VVT)
Fuel injection	Direct Injection (DI)	Direct Injection (DI)	Direct Injection (DI)
Ignition sequence	1-3-4-2	1-3-4-2	1-3-4-2
Maximum rated power (kW)	110/5500	105/5000	170/5500
Maximum cont. torque (Nm)	240/2500-4000	230/2500-4000	370/2000-4000
Engine idling speed (RPM)	1200 ± 50	1200 ± 50	1200 ± 50
Maximum engine speed (RPM)	5700	5300	6000
Weight (kg) engine as shipped	112	110	143



Transmissions

Designed & developed
in China



DHT Pro

Three-speed ratio, super compact, super powerful, output torque-to-mass ratio 41 Nm/kg DHT.

- Hybrid type: P1+P2 serial & parallel
- Hybridization: HEV/PHEV
- Driving mode: FWD/AWD
- Gears: Engine 3+Motor 3



DHT Evo

Excellent electrical performance, 'BEV' driving pleasure. High-efficiency, strong power, good NVH performance.

- Hybrid type: P1+P3 serial & parallel
- Hybridization: HEV/PHEV
- Driving mode: FWD/AWD
- Gears: Engine 3+Motor 1



7DCT Evo 300

High integration and compact structure, low weight. High-efficiency, fuel-saving transmission.

- ICE Application
- Driving mode: FWD/AWD
- Gears: 7



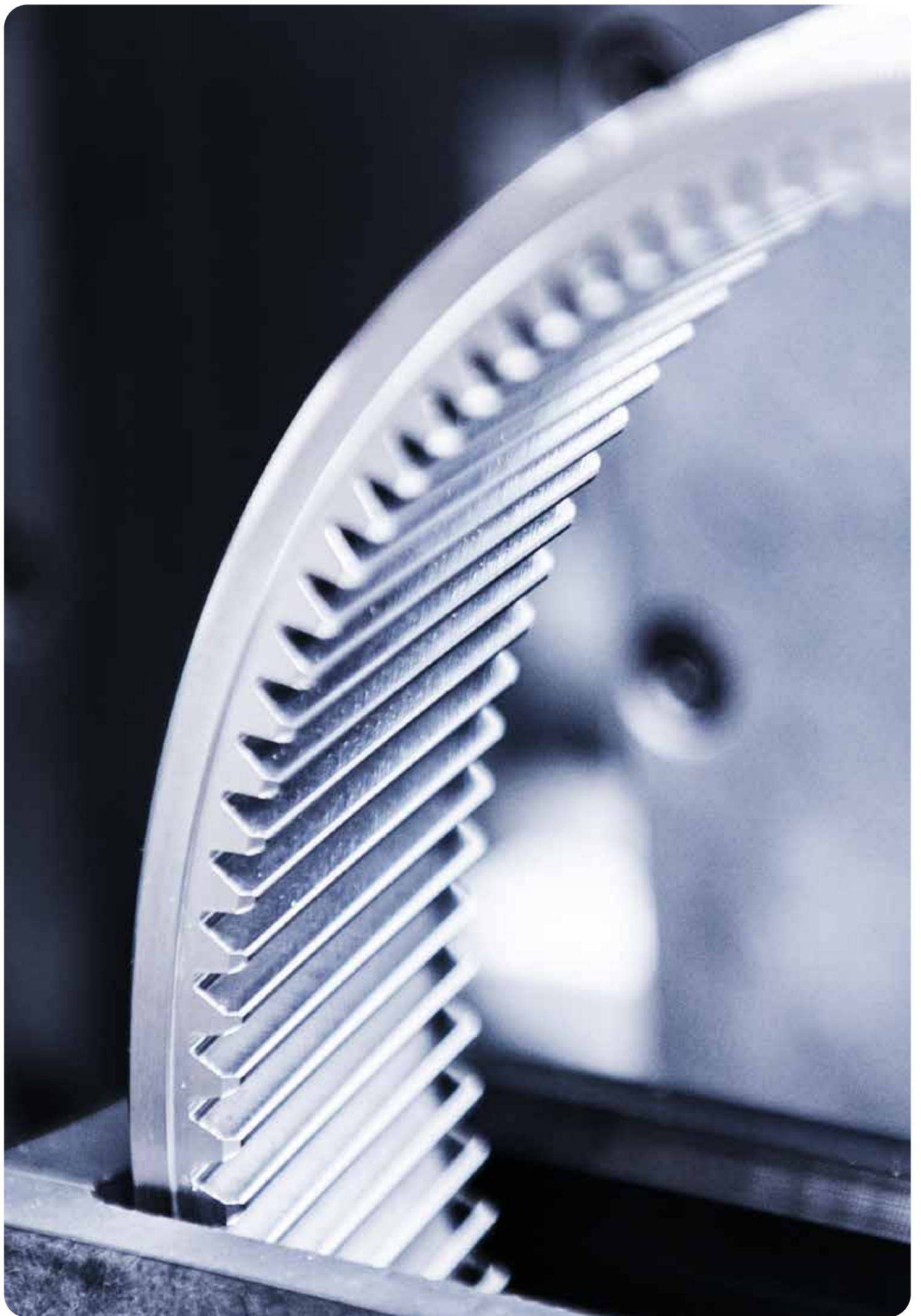
7DCT Evo 380

High integration and compact structure, low weight. High-efficiency, fuel-saving transmission.

- ICE Application
- Driving mode: FWD/AWD
- Gears: 7

Technical specifications

	DHT Pro	DHT Evo	7DCT Evo 300	7DCT Evo 380
Hybrid type	P1+P2 serial & parallel	P1+P3 serial & parallel	-	-
Hybridization	HEV/PHEV	HEV/PHEV	-	-
Size (mm)	354 × 534 × 505	380 × 595 × 570	(376~395) × 586 × 457	376 × 590 × 459
Weight with oil (kg)	120	138	80	80
Center Dis. (mm)	195	195	195	195
Gears	3+3	1+3	7	7
Shift mode	Automatic	Automatic	Automatic	Automatic
Working mode	20	14	-	-
Maximum input torque (Nm)	620	370	1 st: 255 R: 230 Other: 310	1 st: 300 R: 275 Other: 380
Maximum torque at wheel end (Nm)	4920	4920	4182	4920
Motor (peak power) (kW)	P1: 60 P2: 107	P1: 100 P3: 160	-	-



Aurobay at a glance

- World-class powertrain solutions, services and contract manufacturing
- Formed from the merger of Volvo Cars' powertrain business with Geely
- Manufacturing, R&D and sales capabilities
- Focused on developing and producing next-generation combustion engines and hybrid solutions



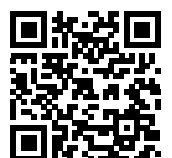
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