

Thermia Legend



Great savings
Low GWP
Proven technology
Value for money



SCOP
5,34

Low
GWP


Hot Water
240
liters

Thermia Legend - our new fixed-speed B/W heat pump

The Diplomat Optimum series won a fine reputation for its good qualities. Now it is time to launch its successor - Thermia Legend.

While retaining all the prime features of the Diplomat Optimum, we have raised Legend to even higher performance levels.

The new Legend will be targeting the same on/off entry-level segment as the Diplomat Optimum it replaces.



Legend in Brief:

- Built on proven fixed-speed technology & components
- ZNew efficient & low GWP refrigerant - R452B
- The low sound concept from Calibra Eco
- Stainless high-grade TWS hot water tank
- Controller based on Diplomat Optimum
- PWM-controlled circulators with Optimum technology
- New white/black color setting and design
- Installer friendly chassis
- Wide range of accessories & low aftermarket complexity

Thermia Legend will be targeting the same customer segment as current Diplomat Optimum, with the capability to reach and attract new customers also in the entry segment below Calibra and Calibra Eco.

Product Range

Legend 400V models are available with a built-in water heater or as a Duo version with a separate water heater.

Voltage/Heat Pump	Legend	Legend Duo
400V	4 kW, 6 kW, 8 kW & 10 kW	6 kW, 8 kW, 10 kW, 13 kW & 17 kW
230V	Q1-Q2 2022	—————
	Included water heater	MBH Legend 200, MBH Legend 300

MBH Legend 200 is suitable for up to 13 kW, in most applications. MBH Legend 300 is suitable for all sizes and is required for 17 kW.

High Performance & Low Environmental Impact

Despite its entry-level designation, the new Legend is better than many competitors in the premium on/off-segment with a SCOP (Seasonal Coefficient of Performance) of up to 5,24 (cold climate, floor heating).

Competitor comparison – SCOP

10 kW	THERMIA LEGEND	BOSCH COMPRESS 6000/IVT HQ	NIBE 1245	ADVANTAGE
SCOP Floor heating (W35)	5,24	4,85	4,90	+8%
SCOP Radiators (W55)	3,94	3,60	3,90	+9%

Note that above competitor comparison refers to corresponding brands topline/premium on/off. (Entry-level models perform at a lower level and are not included.)



Thanks to the more climate-friendly refrigerant R452B (same as Calibra Eco), combined with class-leading low refrigerant charges, the Legend is in a class of its own when it comes to climate friendliness in the on/off-segment.

Compared to competitors, the CO₂ equivalent of the Legend is 15-25% to a traditional heat pump, meaning a reduction of 75-85% emissions!

CO₂-Equivalent & Refrigerant Comparison

10 kW	THERMIA LEGEND	BOSCH COMPRESS 6000/IVT HQ	NIBE 1245	ADVANTAGE
Refrigerant	R452B	R410A	R407C	
GWP	698	2088	1774	-66%
Filling amount (kg)	0,9	1,9	1,9	-53%
tCO ₂ Equivalent	0,628	3,967	3,37	-85%

R452B is a lower GWP refrigerant, similar to R410A in terms of performance and many properties, classed as A2L (mildly flammable).

The reliable scroll compressor technology has been used by Thermia since 1994 and is known for both durability and high performance. All Legend 400V models feature a 3-phase compressor and soft starter as standard.

Compressor Comparison, 400V

10 kW (400V)	THERMIA LEGEND	BOSCH COMPRESS 6000/IVT HQ	NIBE 1245	ADVANTAGE
Compressor technology	Scroll	Scroll	Piston	Scroll compressor
Starter technology	Soft starter (11A)	Contractor (45A)	Soft starter (21A)	Soft starter

Legend is more efficient compared to both Diplomat Optimum as well our main competitors in the entry-level segment.

Lower Sound Levels

With the same chassis used for Calibra, the new Legend runs very quietly. Sound levels are as low as 40-42 dB(A) for models up to 10kW with a built-in water heater. Combined with improved sound quality, it gives the Legend a good position in its segment.

Sound Comparison

10 kW	THERMIA LEGEND	BOSCH COMPRESS 6000/IVT HQ	NIBE 1245	ADVANTAGE
B0/W35	41 dB(A)	N/A	42 dB(A)	-1 dB(A)
B0/W55	42 dB(A)	53 dB(A) 49 ¹	42 dB(A)	-11 dB(A)

1) Figure for IVT HE9 basic included as additional reference as this has a better quota than the premium. Reference from public energy label.

Plenty of Hot Water

The stainless TWS hot water tank used in the Legend is made from the same high-grade stainless steel as Atlas & Calibra. This enables the new heat pump to produce much more hot water than competitor models. Legend is fitted with our TWS (Tap Water Stratification) technology, which means that hot water is produced faster and at higher temperatures than with traditional technology.

Hot Water Comparison

10 kW	THERMIA LEGEND	BOSCH COMPRESS 6000/IVT HQ	NIBE 1245	ADVANTAGE
Hot water technology	Stainless TWS	Double wall-CU	Coil tank-CU	Stainless TWS
Hot water 40°C ¹	240 l	N/A ²	235 l	>2%

1) Compressor operation according to EN16147

2) Bosch/IVT does not present figures without auxiliary heater



Traditional technology

In a traditional water heater for heat pumps the heater is surrounded by the hot water from the heat pump. The resulting heat transfer is both poor and slow.



TWS technology

In a TWS hot water tank, the hot water is led from the heat pump in a coil through the water that is to be heated. This delivers more effective heat transfer and more hot water.

Design, Features & Functionality

By further improving the controller from Optimum, many years of improvements can be combined into a user-friendly and familiar interface, with some new functionalities.

An excellent heat pump choice for customers who place more emphasis on savings and simplicity than advanced features.

NEW FUNCTIONS INCLUDED

- + External brine pump control
- + Start internal brine pump (cooling)
- + Smart Grid ready
- + System pump control
- + Brine monitoring function for replacement market
- + Immersion heater in different steps with/without compressor



PWM Controlled Circulation Pumps with Optimum Technology

PWM (Pulse with Modulation) controlled circulation pumps are used in Legend. The PWM controlled circulation pumps benefit from the Optimum technology used in our fixed-speed heat pumps to ensure an optimized flow for heating, hot water and the brine circuit. The system is self-adaptive and has been proven for years. "Plug & Play" at its best.

The circulation pumps are carefully selected from the series as used on Atlas and Calibra for reduced after-market complexity.



Modern Scandinavian Design & Intuitive Display

The new design of the snap-in display has taken elements from Atlas combined with a reversed display color (dark background and white text) from G3 with new buttons. Combined with an updated white cabinet color (RAL 9016) like Calibra White, the product is designed for even greater customer satisfaction.

- Shiny black glass-like display
- Inverted color setting with white text
- Buttons with improved look and feel
- Intuitive heat adjustment with heritage from other Thermia models
- Same modernized white cabinet color as Calibra White
- Adapted Legend MBH water heaters available for the Duo version



Connected Heat Pump

Just like most other competing entry-level products, Legend offers the option of online monitoring.

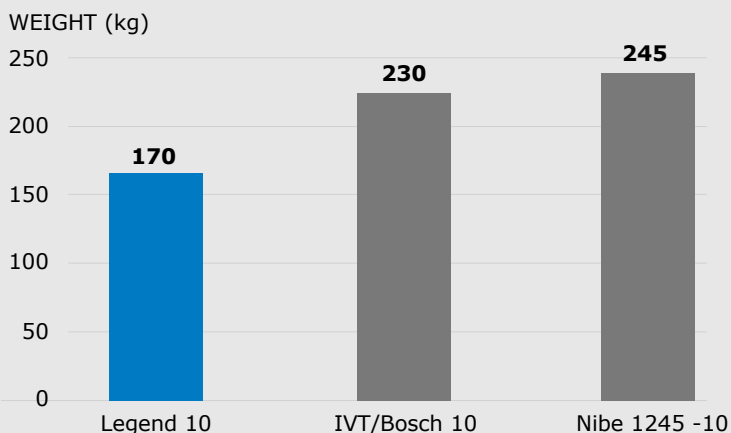
Legend can use the same online kit as Diplomat Optimum. Some additional functionality is planned for Legend and further information will follow due course.

Clean & Simple Design with Exceptional Low Weight

In line with the improvements made in the new Calibra and Atlas platform, Legend also takes advantage of the new chassis, which is designed to make work easier for installers.



Legend – 30 % lighter, 75 kg less



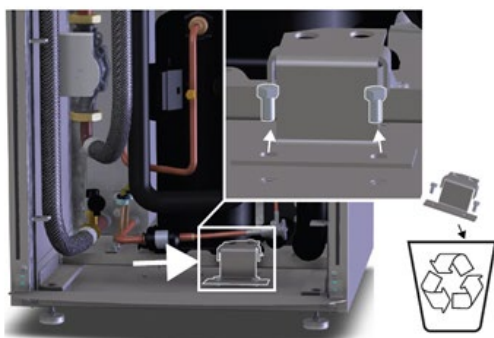
The new construction and mechanical design has significantly reduced the weight of the heat pump.

Thermia Legend weighs 170 kg and that's 75 kg less compared to competition.

Worth knowing when installing Legend

Electrical connections, labeling and installation guides follow the same pattern as Atlas and Calibra ECO to make installation smooth and uncomplicated.

The brine concept is taken from Calibra, and Legend also features the extra bleed above the circulation pump to be bled before commissioning.



Legend also features a new safety device to secure the compressor during transportation. This may be implemented on other models in the future.

As R452B is an A2L refrigerant, standards stipulate that the heat pump should not be installed in direct proximity to constant flames, such as pilot flames gas boilers (not common in most markets but may exist in older applications.) The same applies to Calibra Eco.

Pipe Connections

For added convenience, models up to 10kW have a 22 mm hot water connection, heating system and bleeding of TWS.

Duo 13 & 17 have 28 mm heating connections and 22 mm supply to MBH. The MBH also has 22 mm connections on top of the hot water tank.

All sizes have a 28 mm brine connection.



Dimensioning Legend

It is important to ensure free flow and sufficient water volumes in the heating system to achieve reliable long-term operation. For dimensioning and calculation of heat pump selection and comparison with different heat pump models, please use HPC2.



In general, the savings efficiency of the Legend is even better than Diplomat Optimum. This means that the bore hole will need to be somewhat deeper for the Legend to obtain the same brine temperatures compared to Optimum. This is because more energy is collected from the natural source and less electricity is consumed.

With regards to brine pump capacity, the brine pump is dimensioned so that a typical installation, up to 10 kW, can be installed on one collector (depending on model, minimum 600-meter collector capacity at delta 4K, B0W35 with PEMDN40). For Legend Duo 13 & 17, in most cases it is advisable to use two or more parallel collectors to reduce the pressure drop.

Further information and product data are available in the product datasheet, manuals, and will be continuously updated in Partnerlogin (local adaption needed).

Accessories & customized installations

A wide range of accessories are available from the launch of Legend. In many cases, the accessories and spare parts will be the same as for Optimum or Calibra.

Available accessories:

MATERIAL NUMBER	PRODUCT
204596	MBH Legend 200
204597	MBH Legend 300
086L1898	Thermia Online
086U6009	Expansion card
086U6003	Room sensor with display (510/915/920)
086L3231	Magnetic filter Ø22
086L3232	Magnetic filter Ø28
086L6340	Extension socket kit (gray)
086L2260	VVC pipe kit
086U3754	Pool control kit
086U2773	Temperature sensor NTC 22 with Molex connector
086U7999	Three-way valve kit Ø28/22 LK 230v 8sec
086L3146	Actuator ESBE ARA661 3-point 230v 120sec
086U5269	Actuator ESBE ARA 673 3P 24V 240SEC
086U5265	Shunt valve DN20-KVS 6,3 VRG 131
086U5266	Shunt valve DN25-KVS 10 VRG 131
086L3745	Flow guard Electronic SI5006 230v
086U9122	Level guard, brine vessel
086U5122	Thermia Vent (Optimum design)

Further accessories such as the passive cooling module and kit for connecting brine on top of the heat pump may be added later and will be included in a later product information sheet.



Order and deliveries

The introduction of Legend has been brought forward so that we can deliver our products as quickly as possible during this spring. As a result, Optimum and Legend will, for a short time, be produced simultaneously. This means that some orders initially placed for Diplomat Optimum may be changed to Legend. Any changes on the order acknowledgement will be initiated by Thermia and cannot be altered due to customer demand.



Any customers affected by a possible change of order will be contacted by the order office. In the event that an order is changed on Thermia's initiative, the price will not be affected. With the launch of Legend, we will begin to phase out Diplomat Optimum.

	PRODUCT	DATE	INFORMATION
Start of Sales	LEGEND	2022-02-15	Prel delivery in April 2022
Last order	OPTIMUM	2022-02-14	See list below
HPC2	LEGEND	2022-02-15	
Product datasheet and pricelists	LEGEND	Please fill local date	Available ...[Thermia.dk/Thermia.com]
Product training	LEGEND	Please fill local date/s	Digital training available. For more info, contact:
Installation & user manuals	LEGEND	Prior to delivery	Continuously published: Partnerlogin

PRODUCT PHASING OUT	NEWLY-LAUNCHED PRODUCTS
DIPLOMAT OPTIMUM 4	LEGEND 4 400V
DIPLOMAT OPTIMUM 6	LEGEND 6 400V
DIPLOMAT OPTIMUM 8	LEGEND 8 400V
DIPLOMAT OPTIMUM 8 SP	LEGEND 8 230-1
DIPLOMAT OPTIMUM 10	LEGEND 10 400V
DIPLOMAT OPTIMUM 10 SP	LEGEND 10 230-1
DIPLOMAT OPTIMUM 12 ¹	N/A
DIPLOMAT DUO OPTIMUM 6	LEGEND 6 DUO 400V
DIPLOMAT DUO OPTIMUM 8	LEGEND 8 DUO 400V
DIPLOMAT DUO OPTIMUM 10	LEGEND 10 DUO 400V
DIPLOMAT DUO OPTIMUM 12	LEGEND 13 DUO 400V
DIPLOMAT DUO OPTIMUM 16	LEGEND 17 DUO 400V

1) Diplomat Optimum 12 will not be replaced in the new Legend portfolio and Diplomat Duo 4, among with the other 1~230V models have already been phased out