

**Judgment**  
**of the Court of First Instance of the Unified Patent Court delivered on 8**  
**May 2025**  
**concerning EP 2 778 423 B1**

HEADNOTES:

1. If, in his reply to the counterclaim for nullity, the defendant introduces new prior art into the proceedings to substantiate the lack of novelty and/or inventive step, this constitutes an extension of the counterclaim for nullity within the meaning of Rule 263 of the Rules of Procedure. The admission of this additional prior art is therefore only possible if the defendant can convince the court that the documents in question could not already have been submitted with the counterclaim for nullity and if the admission of further documents does not unduly prejudice the claimant in the conduct of the proceedings.
2. The same applies where the state of the art, which was already submitted with the counterclaim for nullity, is relied upon for the first time in the reply to the counterclaim for nullity to mount a new challenge to novelty and/or inventive step. In such cases too, the defendant must convince the court that, having exercised due care, it was not possible for it to include the (further) challenge to novelty and/or inventive step, contained for the first time in the reply to the counterclaim for invalidity, and that the admission of this further challenge to novelty and inventive step does not lead to an unreasonable disadvantage to the claimant in the exercise of his rights.

KEYWORDS:

Counterclaim for nullity; reply; new prior art; new challenge

Plaintiff:

**Grundfos Holding A/S**, represented by its managing director, Mr Poul Due Jensen, and the chairman of its board of directors, Mr Jens Winther Moberg, Poul Due Jensens Vej 7, 8850 Bjerringbro, Denmark

represented by: Dr Markus B. Bölling, Solicitor, Mitscherlich Patent- und Partners, Karlstraße 7, 80333 Munich, Germany

In association with: Patent Attorney Christian Rupp, Patent Attorney Alexander Bach, Mitscherlich Patent and Attorneys PartmbB, Karlstraße 7, 80333 Munich, Germany

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Defendant:

**Hefei Xinhua Canned Motor Pump Co., Ltd.**, No. 1 Yanglin Road, Hi-Tech District, Hefei, Anhui, 230088, People's Republic of China

represented by: Solicitor Dr Michael Rüberg, Patent Attorney Oliver Tavenkorn, Boehmert & Boehmert Anwaltspartnerschaft mbB, Pettenkoferstraße 22, 80336 Munich, Germany

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PATENT IN DISPUTE:

European Patent No. EP 2 778 423 B1

JUDICIAL BODY/CHAMBER:

Düsseldorf Local Board JUDGES:

The decision was delivered with the participation of Presiding Judge Thomas as Rapporteur, Presiding Judge Voß representing legally qualified Judge Dr Thom, legally qualified Judge Kupecz and technically qualified Judge Heikkinen-Keinänen.

LANGUAGE OF THE PROCEEDINGS: German

SUBJECT: Action for infringement and counterclaim for annulment

HEARING: 27 March 2025

BRIEF SUMMARY OF THE FACTS:

1. The claimant is bringing proceedings against the defendant for infringement of the German, French

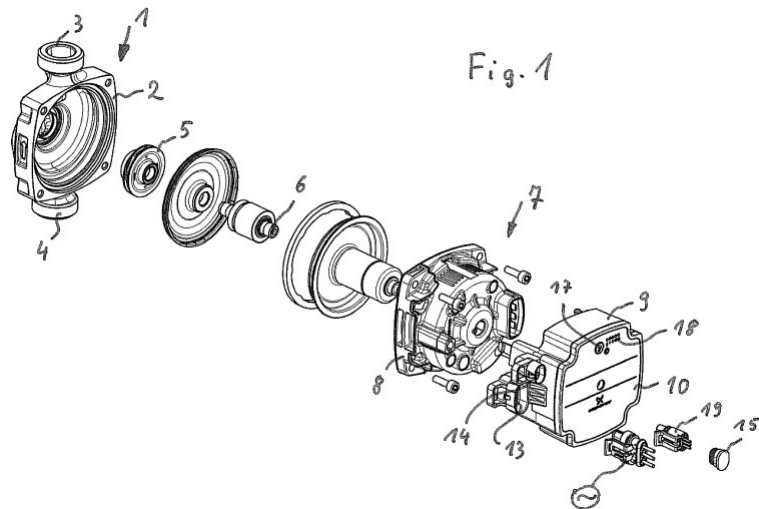
and Italian parts of European patent EP 2 778 423 B1 (hereinafter: the patent in dispute).

2. The patent in dispute was filed on 11 March 2013 in the German language of the proceedings. The publication of the notice of grant took place on 28 February 2018. The patent in dispute is in force in Germany, France and Italy. No opposition was filed with the European Patent Office against the grant of the patent in dispute.
3. The patent in dispute is entitled 'Centrifugal pump unit'. Its claim 1 reads:

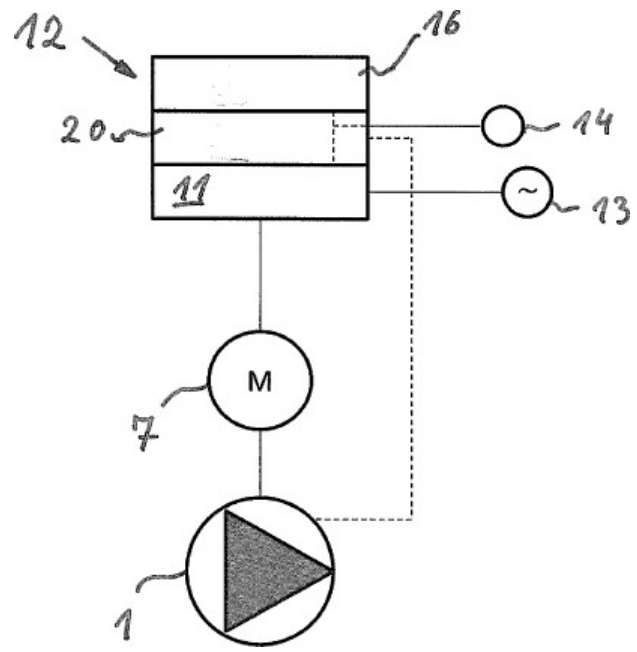
Claim 1:

"Heating circulation pump unit comprising a centrifugal pump (1), an electric motor (7) driving the pump (1), an electronic speed controller (11) for the motor (7) and an internal electronic control system (16), in which the control variable is the speed of the motor (7), wherein the speed controller (11) and the control system (16) form part of the unit, a signal input for external control of the motor (7) is provided and means (20) for switching from the internal electronic control (16) to an external speed control or for activating an external speed control, **characterised in that** the means (20) for switching are electronic means which determine whether an external control is connected or not and, upon determining that an external control is connected, switch to the external control."

4. Figures 1 and 2, shown below, illustrate a preferred embodiment of the invention.
5. Figure 1 shows a heating circulation pump unit in an exploded view:



6. Figure 2 is a block diagram of a unit as shown in Figure 1:



7. In its claim, the claimant challenges the defendant's offering and distribution of heating circulation pumps in Germany, France and Italy. These include the heating circulation pumps marketed in Germany, amongst other places, by the German company Jürgen Schlösser Armaturen GmbH under the product designations JSA 20-4/130, JSA 20-6/130, JSA 25-4/180 and JSA 25-6/180, which the defendant also offers and distributes under its product name 'GPA III' (hereinafter: 'the contested product'):

# UMWÄLZPUMPE UND ISOLIERUNG

MANIFOLD LINE

Anfrage stellen

## PRODUKTINFORMATIONEN:

Hocheffizienz- Umwälzpumpe mit Gusseisenkörper für Heizungsanlagen mit integrierter Differenzdruckregelung.

Regelmodus und Förderdruck (Differenzdruck) sind einstellbar.

Der Differenzdruck wird über die Pumpendrehzahl geregelt.

Die Pumpe kann in vier Hauptmodi betrieben werden:

- > AUTO - automatische Anpassung
- > BL - variabler Differenzdruck  $\Delta p$  - v: BL-Modus (Stufe I, II, III)
- > HD - Konstanter Differenzdruck  $\Delta p$  - c: HD-Modus (Stufe I, II, III)
- > HS - Konstante Geschwindigkeit: HS-Modus (Geschwindigkeit I, II, III)



## PRODUKTVARIANTEN:

| Artikel-Nr.    | Typ          | Leistung [W] | [m3/h] | [m H2O] | Anschluss [G] |
|----------------|--------------|--------------|--------|---------|---------------|
| 2400 3232 027  | JSA 20-4/130 | 25           | 2,2    | 4       | G 1"          |
| 2400 3232 017  | JSA 20-6/130 | 39           | 2,8    | 6       | G 1"          |
| 2400 3232 022* | JSA 25-4/180 | 25           | 2,5    | 4       | G 1 1/2"      |
| 2400 3232 018  | JSA 25-6/180 | 39           | 3,2    | 6       | G 1 1/2"      |

| Artikel-Nr.   | Typ                                | EAN             |
|---------------|------------------------------------|-----------------|
| 2400 3232 019 | EPP-Isolierung für JSA-Pumpe 130mm | 42604 7795 8600 |
| 2400 3232 020 | EPP-Isolierung für JSA-Pumpe 180mm | 42604 7795 8617 |

8. The defendant also offers its GPA III pumps via its website [www.shinhoodump.com](http://www.shinhoodump.com) to prospective customers based in Germany, France and Italy, amongst other places, in German, French and Italian:



# GPA III HOEFFIZIENZZIRKULATIONS Pumpe



Heim / Produkte / Hocheffiziente Umwälzpumpe / GPA III Hocheffizienz-zirkulationspumpe



**Heißer Verkauf von GPA32-7 . 5  
180 III Hocheffizienz-  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**heißer Verkauf GPA25-7 . 5 III  
Hocheffizienz-Umwälzpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**Hocheffizienz-Umwälzpumpe  
GPA20-7.5 III  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**Lieferant der hocheffizienten  
Umwälzpumpe GPA32-7 III  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**Hocheffiziente Umwälzpumpe  
GPA25-7 III  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA20-7 130 III Hocheffizienz-  
Umwälzpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA32-6 180 III Hocheffizienz-  
Umwälzpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**Hocheffizienz-Umwälzpumpe  
GPA25-6 III  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA20-6 130 III Hocheffizienz-  
Umwälzpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA32-5 180 III Hocheffizienz-  
Umwälzwasserpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA25-5 130/180 III  
Hocheffizienz-  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA20-5 130 III Hocheffizienz-  
Umwälzwasserpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA32-4 180 III Hocheffizienz-  
Umwälzpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA25-4 130/180 III  
Hocheffizienz-Umwälzpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**



**GPA20-4 130 III Hocheffizienz-  
Umwälzpumpe  
Umwälzpumpen gpa III-Serie  
passend für: -Gewerbeheizung**

Heim / Hocheffiziente Umwälzpumpe / GPA III Hocheffizienz-zirkulationspumpe / Hocheffiziente Umwälzpumpe GPA25-7 III



## Hocheffiziente Umwälzpumpe GPA25-7 III

**Umwälzpumpen**  
**gpa III-Serie**  
 passend für:

- Gewerbeheizung
- gewerbliche Heißwasserumwälzung
- Warmwasserumwälzung
- Haushaltsheizung
- Industrieheizung
- Sonnensystem
- Klimaanlage
- in Wärmepumpe integriert

elektronisch geregelte Umwälzpumpen für Wohngebäude und thermische Solaranlagen.  
 shinhoo GPA III-Pumpen sind hocheffiziente Umwälzpumpen, für Heizung, Klimaanlagen, Wärmepumpen und thermische Solarsysteme. die ideale Wahl für grundlegende Funktionsanforderungen. einsetzbar als universelle Aufrüstungs- und Ersatzpumpe .

Die Pumpe verfügt über drei Konstantkurvenmodi, Proportionaldruckkurven, Konstantdruckkurven, Auto- und Nachtmodus. Die Drehzahl kann auch durch ein Niederspannungs-PWM-Signal von einem Controller gesteuert werden, um das System zu optimieren Leistung, sowohl PWM1 zum Heizen als auch PWM2 für Solaranlagen sind verfügbar.

[JETZT ANFRAGEN](#)

CLAIMS OF THE PARTIES:

Claims:

9. The claimant requests that

- I. to declare that the defendant infringes EP 2 778 423 B1 when it manufactures heating circulation pump units comprising a centrifugal pump, an electric motor driving the pump, an electronic speed controller for the motor, and an internal electronic control system in which the control variable is the speed of the motor, whereby the speed controller and the control system form part of the unit, a signal input for external control of the motor is provided, and means are provided for switching from the internal electronic control system to an external speed control system or for connecting an external speed control system, in Germany, offers or causes to be offered, places on the market or causes to be placed on the market, or uses or causes to be used, or imports or possesses for the aforementioned purposes, in Germany, France or Italy, where the means for switching over are electronic means which determine whether an external control is connected or not and, upon determining that an external control is connected, switch over to the external control;
- II. order the defendant to refrain from manufacturing heating circulation pump units comprising a centrifugal pump, an electric motor driving the pump, an electronic speed controller for the motor, and an internal electronic control system in which the control variable is the speed of the motor, the speed controller and the control system forming part of the unit, a signal input is provided for external control of the motor, and means are provided for switching from the internal electronic control system to an external speed control system or for connecting an external speed control system,

to be offered or caused to be offered, placed on the market or caused to be placed on the market, used or caused to be used, or imported or possessed for the aforementioned purposes in Germany, France or Italy, where the

means for switching are electronic means which determine whether an external control is connected or not and, upon determining that an external control is connected, switch to the external control;

- III. order the defendant to provide the claimant, in a clear and comprehensible statement, with information regarding the extent to which it has committed the acts described in Section II since 28 February 2018, specifying
  1. the origin and distribution channels of the infringing products,
  2. the quantities delivered, received or ordered and the prices paid for the infringing products, and
  3. the identity of all third parties involved in the manufacture or distribution of the infringing products,

whereby the defendant must submit copies of the relevant purchase documents, namely invoices or, alternatively, delivery notes, to substantiate the information set out in points III.1 to III.3 above, provided that details requiring confidentiality may be redacted from the data subject to disclosure;

- IV. order the defendant to provide the claimant with a clear and comprehensible statement setting out the extent to which it has carried out the acts referred to in Section II since 28 February 2018, specifying
  1. the individual deliveries, broken down by delivery quantities, delivery times, delivery prices and model designations, as well as the names and addresses of the commercial customers,
  2. the individual offers, broken down by offer quantities, offer dates, offer prices and model designations, as well as the names and addresses of the commercial recipients of the offers,
  3. the advertising carried out, broken down by advertising medium, circulation figures, distribution period and distribution area,
  4. the production costs, broken down by individual cost factors, and the profit achieved;
- V. to order the defendant to surrender the products described in Section II, which are in its direct or indirect possession or ownership, to a bailiff to be appointed by the claimant for the purpose of destruction at the defendant's expense;
- VI. order the defendant to recall the products specified in Section II, which have been placed on the market since 28 February 2018, from commercial customers, drawing attention to the breach of contract

and with a binding undertaking to refund any payments, to bear the necessary packaging and transport costs as well as the customs and storage costs associated with the return, and to take the products back;

- VII. in the event of a breach of the orders under II., III., IV., V. or VI., to pay the court a penalty of up to EUR 250,000 for each instance of non-compliance;
- VIII. to declare that the defendant is obliged to compensate the claimant for all damages in excess of the provisional damages referred to in Clause IX, which have been incurred and will be incurred by the claimant as a result of the acts described in Clause II and committed since 28 February 2018;
- IX. order the defendant to pay the claimant provisional damages in the amount of EUR 64,000;
- X. the defendant shall bear the costs of the proceedings and the claimant's other costs;
- XI. Should the court make the enforcement of this judgment conditional upon the Plaintiff providing security, the Plaintiff requests that the following partial securities be set:

| <b>Antrag</b>                            | <b>Teilsicherheit</b>                   |
|--|---|
| <b>Ziff. II. (Unterlassung)</b>          | <b>700.000,- EUR</b>                    |
| <b>Ziff. IV. (Auskunft)</b>              | <b>50.000,- EUR</b>                     |
| <b>Ziff. V. (Rechnungslegung)</b>        | <b>50.000,- EUR</b>                     |
| <b>Ziff. VI. (Vernichtung)</b>           | <b>100.000,- EUR</b>                    |
| <b>Ziff. VII. (Rückruf)</b>              | <b>100.000,- EUR</b>                    |
| <b>Ziff. IX. (vorl. Schadenser-satz)</b> | <b>in Höhe des zuer-kannten Betrags</b> |

- 10. With regard to the wording of the 'in particular, if' claims, reference is made to the statement of claim.
- 11. The defendant requests that
  - I. that the claim be dismissed;
  - II. the costs of the proceedings be borne by the claimant.

Counterclaim:

- 12. The defendant requests
  - I. that European Patent EP 2 778 423 B1 be declared invalid in its entirety pursuant to Article 65(2) of the UPCA in conjunction with Article 138(1) and Article 139(2) of the EPC;

- II. order the claimant to pay the costs of the proceedings.
13. The claimant requests that
- I. that the counterclaim for revocation be dismissed;
  - II. that the defendant be ordered to pay the costs of the counterclaim for revocation and the associated costs incurred by the claimant.

Requests for amendment of the patent:

14. In the event that the Board considers the counterclaim for revocation to be well-founded, the claimant requests, by way of alternative claims, that the contested patent be upheld to the extent of the sets of claims formulated as alternative claims 1 to 6 in the corresponding order. For the specific wording of the auxiliary claims, reference is made to the request for amendment of the patent dated 22 July 2024.
15. The defendant has opposed the alternative claims.

FACTUAL AND LEGAL ISSUES:

Action for infringement:

16. In the defendant's view, the patent in suit explicitly identifies the problem and solution as combining all pump types previously known in the cited prior art into a single unit, so that this can then be used for all the stated applications.
17. The means provided for in the claims must be such as to permit both a genuine switchover from the internal electronic control to an external speed control and the engagement of the external speed control. In the latter case, the internal and external speed controls would be combined with one another in terms of timing and function. Subclaims 6 and 7 separately claim protection for specific embodiments of this 'switching on'. The functions of switching over and switching on, which are fundamentally separate from one another, must, according to the claims, be combined in a means provided for this purpose.
18. In order to implement the technical teaching protected by the contested patent, it is necessary for the electronic means (for switching and connecting) to 'determine' whether an external control signal is connected and, upon doing so, to trigger the process of 'switching', including a possible 'connection'. This must be accompanied by a decision-making logic that goes beyond merely 'translating' the PWM signal and overriding the internal control when an external control signal is applied.
19. Based on this understanding, the defendant contends that the contested embodiment does not make use of the technical teaching of the contested patent.
20. The defendant makes use of a state of the art for heating circulation pumps created by the claimant itself and published well before the priority date. This prior art corresponds to the 'GRUNDFOS DATA SHEET UPM2, UPM GEO, UPM2K Circulation Pumps 50/60 Hz' (hereinafter: 'UPM pump') from December 2012 (see Annexes B&B 7). The signals, control principles, interfaces and PWM input signals described therein, together with their example values, as well as the circuit diagrams and graphs, corresponded to the

The contested embodiment is identical in all respects relevant here. Accordingly, the 'UPM pump' from the prior art also functions identically to the contested embodiment in all relevant respects (detection of and switching to the external signal).

21. The contested embodiment is neither capable of determining the respective operating environment, nor does it permit the connection of external control signals. The contested embodiment lacks any electronic means that would allow the connection of an external speed control system. A control logic that would permit on-demand switching to the internal control signal has neither been demonstrated nor is it actually present in the contested embodiment. Switching to external control on an as-needed basis is not possible. As soon as a stable (i.e. interference-free) external PWM signal is present, this always takes precedence over the internal control of the contested embodiment and subsequently controls the pump continuously, i.e. until the signal ceases. As long as the contested embodiment receives a stable PWM signal, the speed of its motor is determined exclusively by the value of this external signal. The contested embodiment has no means of using the stable PWM signal only for a specific period or under specific conditions.
22. Furthermore, the contested embodiment does not employ any electronic means which, after determining whether an external controller is connected and assessing the operational requirements, would automatically switch to that controller. There is no means capable of switching to an external controller or to the internal control system. In the contested embodiment, the input PWM signal is merely 'translated' into a language readable by the built-in microprocessor, which then 'overrides' the internal pump control. Switching over is not possible. Instead, the input signals are converted via the interfaces into commands that the microprocessor can read. Furthermore, this microprocessor is dependent on the software with which it is programmed. This software is developed by the defendant itself and loaded onto the processor. The internal logic of the software only allows the microprocessor to override the signal from the internal control system with the translated input PWM signal. The pump is then controlled via 'external elements and components' connected to the interfaces. How the microprocessor is to route the signals and what is switched on, off or switched over is determined solely by the software, which does not enable decision-making in accordance with the patent or switching or switching over as required. Consequently, in the contested embodiment, there is no additional decision-making logic that goes beyond the mere routing known from the prior art.
23. Finally, the defendant refers to the settlement discussions held between the parties prior to the proceedings. During those discussions, the defendant indicated, among other things, its willingness to grant a licence for purely commercial reasons. The claimant, too, had initially appeared willing to grant a licence. At the time the claim was served on the Unified Patent Court, the parties were in the midst of price negotiations.
24. The claimant has contested this submission.
25. Insofar as the defendant refers to out-of-court licence negotiations, these did not take place in the manner described. The claimant has no overriding interest in licensing the patent in dispute to competitors. Rather, its objective is the exclusive in-house use of the technical teaching patented in its favour. Against this background, the legal representatives

had, exceptionally, held out the prospect of granting a licence only in the event of a swift resolution of the dispute and subject to the specific conditions listed in detail (see Annex K 11). However, the relevant letter was not received by the defendant's legal representatives until after the present infringement action had been served.

26. Contrary to the defendant's view, the contested embodiment makes use of the technical teaching of the patent in dispute.
27. The prior art comprises
  - heating circulation pumps which are operated (only) by means of an *internal electronic control*,
  - heating circulation pumps which are operated (only) via an *external control system* for regulating the pump speed (typically in boilers), and
  - heating circulation pumps which are operated (only) by means of an *internal electronic control system*, but whose setpoints can be altered by external inputs,

was known. On this basis, the objective of the invention is to design a standard centrifugal pump unit in such a way that it can be used both in a heating system with an internal electronic control system and in a boiler with external control, or (even) in a combined application.

28. Contrary to the defendant's view, the presence of means for switching from the internal electronic control to an external speed control, as well as for engaging an external speed control, is not a prerequisite for the realisation of the technical teaching claimed. Activation and switching over as required are one and the same thing and not independent alternatives. Accordingly, the presence of *both* means for switching from internal electronic control to external speed control *and* means for activating an external speed control is not a prerequisite for realising the claimed technical teaching. Rather, the scope also covers a centrifugal pump unit which can be used *both* in a heating system operating with internal electronic control *and* in a boiler with external control. In the solution according to the invention, this is ensured in particular by the means for continuous switching.
29. On the basis of this understanding, the defendant did not substantially dispute the realisation of the technical teaching protected by patent claim 1.

#### Counterclaim for nullity:

30. In the defendant's view, the contested patent should be declared invalid in its entirety, as the ground for invalidity of lack of industrial applicability within the meaning of Article 138(1)(b) of the European Patent Convention (EPC) is present.
31. In the defendant's view, it is not apparent to the person skilled in the art from the specification of the contested patent what is to be understood by the term 'electronic means' and how these are to be configured in order to arrive at the subject-matter of the invention. From the prior art, the skilled person is already familiar with frequency converter-controlled heating circulation pump units as well as signal transmission via a pulse-width-modulated signal, via which the speed

the pump can be controlled. It is also known to those skilled in the art that, in order to adjust the motor's power, a speed controller – for example, in the form of a frequency converter or an H-bridge – is required in addition to the pulse-width-modulated signal. Since it is also clear to the person skilled in the art that, for these pump units known from the prior art, some means are required which can detect and evaluate the applied signal in order to make it available to the speed controller, i.e. the frequency converter, he will attempt to find information in the specification of the contested patent regarding the design of the electronic means. However, he would not succeed in this. This is because the 'means for switching or connecting' are only very roughly outlined in the specification of the contested patent.

32. Consequently, the invention lacks feasibility for at least two reasons:
33. If the skilled person were to interpret the term 'means' in claim 1 as meaning that the same means could be suitable for both switching and connecting, the invention would not be workable, as the term 'means' is used in the plural in claim 1. This would contradict the notion that what might neutrally be described as a 'hardware device' is required to fulfil two purposes simultaneously. If, on the other hand, the skilled person were to interpret the plural 'the means' as referring to several devices, namely at least one for switching and one for connecting, there would likewise be no workable invention, because the defining feature does not cover means intended exclusively for connecting an external speed control (but not for switching), and consequently does not provide any implementable teaching by which this purpose could be achieved. The person skilled in the art is therefore faced with the problem of either implementing the means as a single component, but then not knowing whether the 'means for switching' relate to that single component or whether several means are in fact required. Alternatively, they might envisage several means, each for connecting or for switching, but then receive no information regarding the configuration of the means for connecting.
34. Furthermore, the "switching means" in claim 1 is also undefined. The person skilled in the art would infer from paragraph [0012] of the description of the contested patent and from Figure 2 thereof that a decision must be made as to whether the switching is to take place continuously or on demand. The criteria for determining whether the switching should take place could therefore not be implemented purely digitally (on or off), as the embodiment with the switch contacts on the hardware connector for a cable from an external controller would suggest. In this embodiment, a microswitch on the connector receptacle for the signal line would ensure that the switching took place when the cable was plugged in, irrespective of any other circumstances in the pump's operating state. The person skilled in the art would therefore conclude that the electronic means for switching must consequently determine for itself whether a controller is connected and switch over automatically. This presupposes that the means is capable, in a first step, of carrying out a computational process at the end of which the question of whether an external controller is connected or not is answered. In a further step, the electronic means would then have to 'decide', on the basis of predetermined parameters, whether to switch to the external control or not ('switch on'/'switch over'). Once again, this depends on a computational process. However, a simple plug or microswitch cannot perform this task. In contrast, patent claim 1 is worded such that, in the event of an external control system being detected, the system automatically switches over. This, however, contradicts the meaning of the word 'switch on', according to which it must be possible that, upon detection of an external control system, the system

Upon detection of an external control signal, the internal control system is not deactivated but is maintained. To achieve this, a computational process within the pump must send signals and process them in parallel whilst determining whether and how to switch to which signals. Nor is it apparent to a person skilled in the art, based on the specification of the contested patent, how the means for this might be designed.

35. Furthermore, the specification of the contested patent does not sufficiently disclose how the electronic means determine whether an external control system is connected or not.
36. Furthermore, the teaching of the contested patent protected by claim 1 is, in each case, based on DE 101 39 510 A1 (D 5), the GRUNDFOS DATA SHEET UPM2, UPM GEO, UPM2K Circulation Pumps 50/60 Hz document “Grundfosliterature-4927111.pdf”, including a screenshot of a website (D 6/D 6a), WO 2008/073413 A2 (D 15), WO 2008/073436 A2 (D 16), a Grundfos manual “Grundfos Magna Series 2000 Installation and Operating Instructions” (D 17) and the “GRUNDFOS Data Booklet MAGNA, UPE Series 200 circulator pump” (D 19) (Art. 24(1)(c) EPC in conjunction with Art. 138(1)(a) and Art. 54 EPC), whereby the citations D 15 to D 19 were only introduced into the proceedings with the reply to the counterclaim for nullity.
37. Finally, the defendant disputes the inventive step (Article 24(1)(c) of the European Patent Convention in conjunction with Art. 138(1)(a) and Art. 56 EPC). In this context, the defendant relies on a combination of EP 0 866 228 A2 (D 1), EP 0 735 273 A1 (D 2), D 6 and EP 2 151 578 B1 (D 8), each with the prior art D 5. In addition, in its reply to the counterclaim for revocation, the defendant referred for the first time, with regard to patent claim 1, to a combination of document D 5 with a handbook “ALPHA (model A) Manual (D 7)” and of D 5 with Commission Regulation (EU) No 622/2012 of 11 July 2012 amending Regulation (EC) No 641/2009 as regards the eco-design requirements for external wet-rotor circulation pumps and wet-rotor circulation pumps integrated into products (D 20).
38. In addition, in a written submission dated 19 February 2025, as part of an application for the admission of further written submissions (App\_8530/2025), the defendant submitted a decision of the Chinese National Intellectual Property Office dated 6 January 2025 (hereinafter: the Office, see Annexes B&B D 21), of which it submitted a German translation to the file as Annex B&B D 22 by written submission dated 10 February 2025 (App\_11606/2025).
39. With regard to the arguments concerning the lack of legal validity of the sub-claims, as also contended by the defendant, reference is made to the counterclaim for nullity.
40. The claimant defends the contested patent in the granted version. In the alternative, it asserts a total of 7 alternative claims, the wording of which is set out in the reply of 22 July 2024.

#### Legal consequences:

41. In the defendant’s view, the claims for an accounting, recall and destruction asserted by the claimant are disproportionate.
42. The defendant is not required to provide details of the names and addresses of commercial customers or of individual offers, broken down by offer quantities, times, prices and model designations, nor the names and addresses of the recipients of the offers,

in accordance with the principle of proportionality. The requested information is not necessary for quantifying the damages.

43. A recall of the heating circulation pumps, many of which have already been installed in building heating systems, is disproportionate in the commercial context as well, taking into account both the associated effort and the costs, unless such a recall is already exempt in the private sphere.
44. Furthermore, a recall is also disproportionate because the parties were engaged in licence negotiations prior to the filing of the action before the Unified Patent Court. The claimant misled the defendant as to its willingness to grant a licence, yet is now demanding a complete recall by means of an action that is not warranted.
45. Furthermore, even taking into account the interests of the customers – in particular tradespeople and property owners – a recall would not be compatible with the principle of proportionality.
46. Finally, the court could set any damages in appropriate cases such as the present one as a lump sum. The parties had been negotiating a licence at the time the action was brought. The lump sum should therefore be based on the licence fee most likely to have been agreed.
47. The claimant has contested these arguments.
48. In particular, the claimant requires the information sought in the context of the disclosure of information and the provision of accounts in order to determine the damages to which it is entitled and to verify the details to be provided by the defendant. The order for the provision of accounts sought is also proportionate. The defendant already possesses the information to be provided by virtue of the accounting retention obligations applicable to it. The defendant could therefore convert this into a structured and self-explanatory statement without unreasonable effort. Nor does the competitive relationship between the parties render the requested accounting disproportionate.
49. Nor does the sought-after recall raise any concerns from the perspective of proportionality. As a result of the defendant's actions, a large number of patent-infringing heating circulation pumps, the exact number of which is not yet known to the claimant, are currently present in the German, French and Italian distribution channels. These pumps are blocking potential demand for corresponding models manufactured by the claimant. The claimant therefore has a legitimate interest in remedying this disruption caused by the defendant. No less severe means of remedying the disruption is apparent. Nor can the defendant successfully invoke the interests of third parties. The fact that a recall order conflicts with the interests of third parties is inherent in such an order. This alone does not constitute disproportion. Rather, the third-party interests concerned would have to carry such weight that they significantly outweigh the patent holder's interest in enforcing the statutory right to recall. However, this is not the case here.
50. Nor is the sought-after destruction disproportionate. In this respect, there is already a lack of

any indication from the defendant as to how it intends to modify the products into a form that does not infringe the patent.

51. Insofar as the defendant seeks a lump-sum award of damages, it is for the claimant to determine, through its submissions, whether the court should award damages pursuant to Article 63(3)(a) or (b) of the European Patent Convention. Furthermore, in the present proceedings, the claimant is seeking, for the time being, only a declaration of liability for damages on the merits. The amount of damages would therefore, if at all, be relevant in subsequent proceedings for damages.
52. The defendant has contested the claimant's submissions. In particular, as an alternative to a recall, there is the option of sealing the signal inputs of the pumps, thereby making it impossible to connect an external speed control. Furthermore, the defendant could require its customers to sign declarations of intent subject to penalties, which are intended to guarantee that the pump is not controlled externally.

LEGAL ASSESSMENT:

A. Admissibility of the claim and the counterclaim for annulment

53. The infringement action is admissible. In particular, the Düsseldorf Local Chamber has international jurisdiction pursuant to Article 31 of the UPC Agreement in conjunction with Article 71b(2) in conjunction with Article 7(2) of Regulation (EU) No 1215/2012 (hereinafter: the Brussels Ia Regulation). Furthermore, pursuant to Article 32(1)(a) of the UPC Agreement, the Unified Patent Court (UPC) has exclusive jurisdiction over actions for actual or threatened infringement of European patents, provided that – as in this case – no opt-out (Article 83(3) of the UPC Agreement) has been declared. Since the defendant did not file an opposition within the opposition period, both the jurisdiction of the UPC and the jurisdiction of the Düsseldorf Local Chamber are deemed to have been accepted, Rule 19(7) of the Rules of Procedure.
54. There are likewise no objections to the admissibility of the counterclaim for revocation. In particular, the EPG also has international jurisdiction. Pursuant to Article 32(1)(e) of the EPGÜ, the EPG has exclusive jurisdiction over counterclaims for the revocation of (European) patents. As there is currently no opt-out from the exclusive jurisdiction of the Court in relation to the patent in dispute, the international jurisdiction of the EPG – as the common court of the Member States of the EPGÜ – is established under Article 31 EPGÜ in conjunction with Article 24(4), 71a(2)(a), 71b(1) of the Brussels Ia Regulation – is established for the present counterclaim for nullity.

B. Relevant person skilled in the art

55. In the Board's view, the relevant person skilled in the art is a mechatronics engineer with a degree from a university of applied sciences and several years' experience in the development of circulation pumps.

C. Scope of protection of the contested patent

56. The contested patent relates to a centrifugal pump unit in the form of a heating circulation unit.
57. As the person skilled in the art will gather from the introductory remarks in the specification of the contested patent, centrifugal pump units typically consist of a centrifugal pump and a device connected to it

a drive motor, an electronic speed controller (such as a frequency converter) for the motor, and an internal electronic control system in which the controlled variable is the motor speed; the speed controller and control system form part of the unit and are typically housed in a terminal box or electronics box adjacent to the pump and motor casings. Control variables in such a control system include, for example, the differential pressure between the inlet and outlet of the pump, the volumetric flow rate, and variables derived therefrom (para. [0002]).

58. As the patent specification in dispute goes on to explain, in modern heating circulation pumps of the aforementioned type, it is common in the prior art for the internal electronic control system not only to provide a wide range of selectable control curves, but also for the unit to be equipped with an internal processor and corresponding software capable of automatically adjusting the control setpoints based on the conditions in the heating system, in particular the prevailing pressure profiles, the approaching temperature of the fluid being pumped, the flow rate and the like, to adapt the setpoint values of the control system independently to the heating system. This self-learning setpoint adjustment of the internal control system has the advantage that the pump adapts almost perfectly to the requirements of the heating system and can be operated with comparatively low energy consumption (para. [0003]).
59. In addition, frequency converter-controlled heating circulation pump units are state of the art, in which an external control system is provided to regulate the pump speed. This external control system is typically part of the central control system of a heating system. The interface for speed control is a control input on the pump, via which a pulse-width-modulated signal is transmitted, whereby the pulse width determines the effective voltage or frequency and thus the speed of the pump. Such pumps are found, for example, in gas boilers, such as those used as compact heating units in flats or in smaller houses (para. [0004]).
60. On this basis, as evidenced by the description of the contested patent, various pump series have become established: on the one hand, self-learning heating circulation pumps, which are installed on-site in heating systems, and on the other hand, externally controlled heating circulation pumps, which are typically installed by the manufacturer in boilers. Examples of pumps representing the prior art are disclosed, for instance, in EP 0 886 228 A2 and in EP 0 735 273 A1. As the hydraulic requirements are often the same in both cases, the centrifugal pump units differ practically not at all in their mechanical design. However, manufacturers must always produce two series with the same connection specifications for the pump housing. Furthermore, with regard to replacement, different centrifugal pump units must always be kept in stock for each of the aforementioned applications, which is time-consuming and expensive (para. [0005]).
61. Finally, in the case of larger heating circulation pumps, such as those installed in parallel groups of two to eight pumps, it is state of the art (Grundfos Magna UPE pump) to control these individual heating circulation pumps, each of which has an internal electronic control system, from the outside, whereby the internal control system itself is not influenced, but only the setpoint values (para. [0006]).
62. On this basis, according to the description of the contested patent, the invention is based on the task (the technical problem) of designing a centrifugal pump unit of the general type in such a way that it can be used both in a heating system with an internal electronic control system and in a heating system with external control, or in a combination of both

(para. [0007]).

63. To solve this problem, claim 1 of the contested patent protects a heating circulation pump unit characterised by a combination of the following features:
1. Heating circulation pump unit
    - 1.1. comprising a centrifugal pump (1),
    - 1.2. with an electric motor (7) driving the pump (1),
    - 1.3. with an electronic speed controller (11) for the motor (7)
    - 1.4. and comprising an internal electronic control system (16),
      - 1.4.1. in which the control variable is the speed of the motor (7).
  2. The speed controller (11) and the control system (16) form part of the unit.
  3. A signal input is provided for external control of the motor (7).
  4. Means (20) are provided
    - 4.1. for switching from the internal electronic control (16) to an external speed control or for engaging an external speed control.
    - 4.2. The means (20) for switching are electronic means which determine whether an external control is connected or not and, upon detection of a connected external control, switch to the external control.
64. Pursuant to Article 69 EPC in conjunction with the Protocol on its interpretation, the patent claim is not merely the starting point but the decisive basis for determining the scope of protection of a European patent. The interpretation of a patent claim does not depend solely on its exact wording in the linguistic sense. Rather, the description and the drawings must always be taken into account as aids to the interpretation of the patent claim and should not be used merely to resolve any ambiguities in the patent claim. However, this does not mean that the patent claim serves merely as a guideline and that its subject-matter also extends to what, following an examination of the description and the drawings, appears to be the patent proprietor's claim for protection (UPC\_CoA\_335/2023, Order of 26 February 2023 in conjunction with Order of 11 March 2024, GRUR-RS 2024, 2829, Headnote 2 and paras. 73–77 – 10x Genomics v. NanoString; UPC\_CFI\_452/2023 (LK Düsseldorf), Order of 9 April 2024, p. 13, GRUR-RS 2024, 7207, para. 49 – Ortovox v. Mammüt; see also UPC\_CFI\_7/2024 (Düsseldorf Division), decision of 3 July 2024 – Franz Kaldewei v. Bette; UPC\_CFI\_239/2024 (The Hague Division), decision of 22 November 2024 – Plant-e v. Arkyne (Bioo); UPC\_CFI\_50/2024 (Düsseldorf Regional Court), judgment of 10 April 2025 – Yellow Sphere v Knaus Tabbert).
65. That being said, certain features require explanation.
66. The heating circulation pump unit protected by patent claim 1 is characterised by the fact that it has an internal electronic control system (16)

(feature 1.4), which, together with the speed controller (11), forms part of the unit (feature 2). Since a signal input for external control of the motor (7) is also provided (feature 3.), the pump – unlike the solutions known from the prior art described in paragraphs [0003] and [0004] – can be controlled not only exclusively internally or externally, but either internally or externally as required.

67. According to the invention, means (20) are further provided for switching from internal electronic control to external speed control or for engaging an external speed control (features 4 and 4.1).
68. Whilst, in common parlance, ‘switching off’ is understood to mean a (complete) switch from the internal electronic control system to an external speed control system, in the case of ‘switching on’, the external speed control system operates alongside the internal control system.
69. That the contested patent is also based on such an understanding is already clear from the English version of the patent claim (although this is not decisive for the scope of protection) (“means (20) are provided *for switching over* from the internal electronic regulation (16) to an external speed control or *for the connection* of an external speed control”). Either a switch is made from the internal to the external control (‘switching over from ... to’ = switching over) or the external control is merely added to the internal control (‘for connection of ...’ = switching in).
70. In line with this, the specification of the contested patent further explains in paragraph [0028] as part of the description of the preferred embodiment:

“[...] the control and regulation electronics (12) are switched via an electronic switch (20) in such a way that, when a PWM signal is applied to the input formed by the plug (14), a corresponding speed signal for the motor (7) is generated via the frequency converter (11) [...]. The control and regulation electronics (12) therefore switch to the external input; the internal regulation may then be switched off completely or partially.”

(Underlining added)

If the internal control is switched off completely, this corresponds to the switchover. In contrast, if the internal control is switched off only partially, it remains active; the external control is therefore merely switched on.

71. However, the person skilled in the art, when attempting to determine the scope of protection of claim 1, must not lose sight of the fact that features 4 and 4.1 do not require the means to actually switch or engage. Rather, they merely provide for means (20) *for switching* from the internal electronic control to an external speed control or *for engaging* an external speed control. Feature 4.1. thus merely contains statements of purpose. Where a patent claim contains statements of purpose, these usually serve to facilitate a better understanding of the invention. As a rule, they have the indirect effect of defining the subject-matter protected by the patent in such a way that it must not only fulfil the spatial and physical features, but must also be configured to be usable for the purpose specified in the patent claim (UPC\_CFI\_463/2023 (Düsseldorf Regional Court), Order of 30 April 2024, Headnote 2 – 10x Genomics v Curio Bioscience). In other words, statements of purpose define the subject-matter protected by a patent more precisely in that it must not only fulfil the spatial and physical

It must satisfy the features explicitly set out in the patent claim. Rather, the device must also be designed in such a way that it can bring about the effect mentioned in the patent claim. Applied to feature 4.1, the means must therefore be designed in such a way that it can bring about a switching or an engagement. Feature 4.1 does not require suitability for cumulative switching and engagement.

72. The task formulated in paragraph [0007] of the description of the contested patent does not necessitate a different assessment any more than the prior art cited in the specification of the contested patent.
73. As the skilled person will gather from paragraphs [0003], [0004] and [0006] of the specification of the contested patent, a total of three types of heating circulation pump units were known in the prior art:
1. heating circulation pumps with an internal electronic control system (paragraph [0003]);
  2. frequency converter-controlled heating circulation units, in which an external control is provided for regulating the pump speed (para. [0004]);
  3. larger-scale heating circulation pumps in which groups of two to eight pumps are installed in parallel, each having an internal electronic control system, each of which can (also) be controlled externally without affecting the internal control system (para. [0006]).

(Underlining added)

Whilst the first two variants are controlled either internally or externally, heating circulation pumps in the third group are characterised by the fact that the internal electronic control is supplemented by an external control signal without this impairing the internal electronic control.

74. On this basis, the skilled person will also take into account that the disadvantages mentioned in paragraph [0005] relate exclusively to the first two variants: although the hydraulic requirements are often the same in both cases, the centrifugal pump units differ only slightly in their mechanical design. Nevertheless, where the connection specifications of the pump housing are the same, two series must always be produced, which must then also be stocked accordingly.
75. Against this background, if the contested patent describes the objective of the invention as designing a centrifugal pump unit of the general type in such a way that it can be used both in a heating system with an internal electronic control system and in a boiler with external control or in a combined application (para. [0007], emphasis added), the person skilled in the art will interpret this in the light of their prior knowledge of the pump types known in the prior art. It will then become clear to them that this ultimately addresses two scenarios:
1. The heating circulation pump unit can be used both in heating systems operating with internal control and in a boiler with external control.

2. The heating circulation pump unit can be used in heating systems that are controlled both internally and externally ('or a combination of both').

Only in the latter variant is the ability to switch on an external control unit an absolute requirement. Consistent with this, feature 4.1 merely requires the ability to switch or switch on, but not that the relevant means must always be capable of both switching and switching on.

76. Feature 4.2 further specifies the means (20) for switching in that they must be electronic means which determine whether an external control is connected or not and which, upon determining that an external control is connected, switch to it.
77. Apart from the requirement that the means must be electronic (and thus not merely mechanical), the means are described exclusively in functional terms: they must (1) *determine* whether or not an external control unit is connected and (2) *switch* to that control unit if one is connected. Feature 4.2 requires nothing more. In particular, it contains no specifications as to how the detection of the connection of an external controller is carried out. This can therefore be achieved directly, for example, by detecting the contact between the plug and the mating connector via a microswitch within the plug (see para. [0027]). However, the scope of protection also covers a design in which the detection is carried out indirectly, for example by detecting the presence of an external control signal. Furthermore, claim 1 leaves the decision as to how the switching is carried out to the discretion of the person skilled in the art.
78. Insofar as the defendant, by contrast, requires the existence of a decision-making logic in the sense that the means must be capable of making its own decisions regarding the external signal and the assumption of control of the rotational speed, such an interpretation is already incompatible with the wording of claim 1. According to this, the means (20) determine whether or not an external controller is connected. If such an external controller is connected, the means (20) switch to the external controller. Patent claim 1 does not grant the means any scope for its own decision-making regarding the question of switching. If the condition – connection of an external controller – is met, the consequence of this condition being met is, rather, the switching over. There is equally no indication in Patent Claim 1 that the means, as further argued by the defendant, decide between switching over and switching on the external controller in the event of the connection of an external controller being detected.
79. The description of the contested patent does not necessitate any other assessment. This applies in particular when taking into account paragraph [0012], which states:

‘According to the invention, the means for switching the internal electronic control to an external speed control or for connecting an external speed control are designed such that they determine whether an external control is connected or not and, upon detection of a connected external control, switch to the external control either permanently or, where applicable, on demand.

(Underlining added)
80. The “switching as required” mentioned there is not reflected in the patent claim relevant to the scope of

scope of protection. Insofar as paragraph [0012] then states that a suitable electronic circuit determines at intervals whether the signal input is connected to an external controller or not, this is explicitly (“for example”) an example to which the invention cannot be reduced. The same applies in so far as the description of the contested patent refers, immediately following the determination of ‘handshaking’ or suitable ‘calibration cycles’. Finally, the configuration of the ‘control and regulation electronics’ described in paragraph [0027] in conjunction with Figure 2 is merely an explanation of a preferred embodiment, without the scope of protection being limited to such a configuration. There is no evidence to suggest that the contested patent, as argued by the defendant, seeks to distinguish itself from the prior art in paragraph [0004] of the contested patent description precisely by virtue of the presence of an internal decision-making and control logic.

81. Even though the defendant ultimately refers to the grant file to support its differing view, the question—which the Court of Appeal has not yet definitively answered—as to whether, and if so to what extent, this may be taken into account when interpreting the contested patent does not require a decision in the present case. The extent to which paragraph [0013] may still be taken into account in the context of the interpretation of the patent, or whether it should have been amended during the grant proceedings, is not relevant to the decision in the present case. Even if a simple switch on the pump unit is excluded from the scope of protection of the contested patent due to the limitation introduced during the grant procedure to *electronic means designed to determine* whether an external control is connected or not and, *upon detection* of an external control, the external control is *switched*, may no longer fall within the scope of protection of the contested patent, this does not, based on the foregoing considerations, necessitate, conversely, that only a design possessing control and decision-making logic be included within the scope of protection.

#### D. Counterclaim

82. The counterclaim for nullity is unsuccessful on the merits.

#### I. Inventive step

83. There is no doubt that the invention as disclosed in claim 1 is disclosed so clearly and completely that a person skilled in the art can carry it out, thereby satisfying the requirements of Article 83 EPC.
84. To satisfy the requirements set out therein, the subject-matter of a patent must be sufficiently disclosed on the basis of the patent as a whole, including the examples, taking into account the general knowledge of the person skilled in the art. Although the invention must be disclosed in the patent specification in a manner that enables its implementation, general technical knowledge must also be taken into account when assessing whether the disclosure is sufficient (UPC\_CFI\_355/2023 (Düsseldorf Regional Court), decision of 28 January 2025, p. 36 – Fujifilm v. Kodak).
85. On that basis, the defendant’s submissions do not significantly call into question the feasibility of the invention.
86. In so far as the defendant argues that the person skilled in the art faces the problem of implementing the ‘means for switching or connecting’ referred to in the claim as a single component, but then does not know whether the means for switching relate to that single component or whether several components are required after all, or whether he envisages several means, each for connecting

and switching, but find nothing in the specification of the contested patent regarding the configuration of means for switching, these considerations do not concern the feasibility but, at most, the clarity of the claim. However, this does not constitute grounds for invalidity within the meaning of Article 138 EPC (see: UPC\_CFI\_50/2024 (Düsseldorf Regional Court), decision of 10 April 2025, para. 134 – Yellow Sphere v Knaus Tabbert). The defendant's arguments in this regard are therefore, from the outset, not capable of seriously calling into question the validity of the contested patent. Apart from that, the person skilled in the art is not merely aware of means for switching. Rather, the description of the contested patent specifically cites a switch as an example of such a means (see paragraph [0013] as well as subclaims 3 and 4). The invention is therefore capable of being carried out.

87. The same applies with regard to the technical design of the mechanism for detecting the connection of an external speed controller, which the defendant continues to raise in relation to the feasibility of the invention. In this respect, the skilled person will gather from sub-claim 4 that the switching means comprise a sensor or microswitch configured to detect a connection of the electrical connector of the signal input. In addition, the skilled person will find in paragraph [0027] a further indication that, in the embodiment shown in Figures 1 and 2, the control electronics are designed to independently detect whether the plug (14) is in contact with a mating plug (19). For this purpose, a microswitch is provided within the plug (14) which detects this and electronically determines whether an electronic control unit is connected via the mating plug. As soon as this is the case, the control and regulation electronics (12) are switched via the electronic switch (20) in such a way that, when a PWM signal is applied to the input formed by the plug (14), a corresponding speed signal for the motor (7) is generated via the frequency converter (11). There are no apparent reasons why, based on the understanding of the scope of protection set out in detail above, the invention should lack feasibility.

## II. Novelty

88. The prior art cited by the defendant does not anticipate the technical teaching of the contested patent in a manner prejudicial to novelty.

### 1. Standard of the novelty test

89. An invention is considered novel if it differs from the prior art in at least one of its known features. Only that which is immediately apparent to a person skilled in the art from the publication or prior use is considered to be anticipated by the prior art (see UPC\_CoA\_382/2024 (Court of Appeal), order of 14 February 2025, APL\_39664/2024 – Abbott v. Sibio). Findings which a person skilled in the art only arrives at on the basis of further considerations or by consulting further documents or uses do not form part of the state of the art (see UPC\_CFI\_50/2024 (Düsseldorf Regional Court), decision of 10 April 2025, para. 136 – Yellow Sphere v. Knaus Tabbert; UPC\_CFI\_7/2024 (Düsseldorf Division), decision of 3 July 2024 – Kaldewei v. Bette; UPC\_CFI\_239/2024 (The Hague Division), decision of 22 November 2024 – Plant-e v. Arkyne (Bio)).

### 2. Novelty assessment on a case-by-case basis

90. On this basis, the invention protected by patent claim 1 is found to be novel in relation to the prior art cited by the defendant.

a) DE 101 39 510 A1 (Annex B&B D 5, hereinafter: DE '510 or D 5)

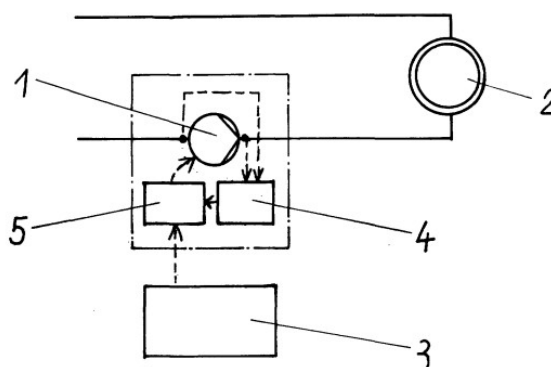
91. DE '510 A1 relates to a method for controlling the speed of a circulation pump in the heating circuit between a boiler and at least one heat-consuming heating circuit in a heating system, using a control unit. To carry out the method, a circulation pump is used which is equipped with a measuring device for detecting the pressure difference and with an additional input for a signal for pulse width modulation (para. [0010]). As the skilled person can further gather from the prior art, the method disclosed therein enables a conventional pump, which operates by measuring the pressure difference in the connected pipe of the heating circuit, to be controlled. This combines the operating principles of a pressure-differential-controlled pump and a pulse-width-modulated pump without sacrificing their respective advantages. A control circuit, preferably of modular design, can be mounted either directly on the circulation pump or on the control unit. The two input signals for pulse width modulation and pressure difference, both of which allow conclusions to be drawn regarding the desired flow rate, are continuously evaluated by the control circuit (para. [0011]).
92. An embodiment of the invention disclosed in D 5 is shown in Figures 1 and 3 of the citation, which are inserted below. Figure 1 shows the response of a circulation pump following the processing of different signals by a control circuit:

Fig. 1

| pulsweitenmoduliertes Signal (vom Regelgerät) | Signal entsprechend der Druckdifferenz (Pumpe) | Reaktion der Pumpe (nach Regelschaltung)         |
|---|--|--|
| kein  | 0-100 %  | Signal Druckdifferenz; 0-100 %                   |
| 0-100 %                                       | 0-100 %  | Signal Regelgerät; 0-100 %                       |
| 30 %  | 80 %   | Maximalwert-Auswahl, Signal Druckdifferenz; 80 % |
| 30 %  | 80 %   | Minimalwert-Auswahl, Signal Regelgerät; 30 %     |

93. Figure 3 illustrates the arrangement of a circulation pump in a heating circuit with internal measurement of the pressure difference and an internal control circuit for signal selection:

Fig.3



94. In the arrangement shown above, the measuring device (4) for detecting

the pressure differential and the control circuit (5) for signal selection are integrated into the circulation pump (1). If the control unit (3) does not supply a signal for pulse width modulation to the control circuit, the circulation pump (1) operates according to the internally measured pressure differential. If, on the other hand, a signal for pulse width modulation is present at the control circuit (5), this is given priority or not in accordance with the specified selection criteria.

95. On this basis, the disclosure of a centrifugal pump (feature 1.1) is already lacking. Although a circulation pump is disclosed, no mention is made of its type. In this context, the defendant pointed out at the hearing that the person skilled in the art, on the basis of Regulation (EU) No 622/2012 amending Regulation (EC) No 641/2009 as regards the eco-design requirements for external wet-rotor circulation pumps and wet-rotor circulation pumps integrated into products (see Annex D 20), according to which the term 'circulation pump' refers to a centrifugal pump (Article 2(1) of that Regulation), is compelled to design the pump as a centrifugal pump, this is unconvincing for the simple reason that, whilst the Regulation defines the term 'circulation pump' as a centrifugal pump for the purposes of the Regulation, However, it does not follow from the Regulation that a circulation pump must (always) be designed as a centrifugal pump. Even if the person skilled in the art, assuming in favour of the defendant, reads D 5 in conjunction with D 20, it does not follow directly and unambiguously from such a combination that the circulation pump shown in D 5 is in fact a centrifugal pump within the meaning of claim 1 of the contested patent.
  96. Furthermore, the prior art does not disclose an *electronic* speed controller for the motor within the meaning of feature 1.3. Even though speed control is mentioned in paragraph [0018] and a speed controller would therefore appear to be essential, such a controller could, for example, take the form of a hydraulic clutch and thus not be electronic in nature. Consequently, there is also no disclosure of feature 1.3.
- b) 'Grundfos Data Sheet UPM2, UPM GEO, UPM2K Circulation Pumps 50/60 Hz' (Annex B&B D 6, hereinafter: Data Sheet)
97. Nor does the data sheet submitted as prior art D 6 disclose the technical teaching of the contested patent, which is protected by claim 1 of the contested patent, in a manner detrimental to novelty.
  98. The data sheet describes three series of circulation pumps. Whilst the UPM2 pump is designed for installation in boilers or other heating applications with remote control of the pump speed, the UPM Geo and UPM2K circulation pumps are particularly suitable for cold water applications (see Appendix D 6, p. 3, left-hand column). As the skilled person will further note from the data sheet, the UPM2 model comprises remotely controllable, speed-regulated high-efficiency circulation pumps with a permanent magnet rotor and frequency converter, whereby control is effected via a digital, pulse-width-modulated low-voltage signal (Annex D 6, p. 3, top of right-hand column). The control of the pumps in question is therefore fundamentally external; there is no internal electronic control within the meaning of feature 1.4.
  99. The mode of operation of the PWM input signal is described in more detail on p. 9 of the data sheet as follows:

## PWM-Eingangssignal

Bei hohen Prozentwerten des PWM-Signals (Arbeitszyklus) verhindert eine Hystereseffunktion, dass die Pumpe immer wieder ein- und ausschaltet, wenn das Eingangssignal um den Schalterpunkt schwankt.

Bei niedrigen Prozentwerten des PWM-Signals läuft die Pumpe aus Sicherheitsgründen mit maximaler Drehzahl. Dann läuft die Pumpe bei einem Kabelbruch im Gaskessel mit maximaler Drehzahl weiter, um die Wärme vom Hauptwärmetauscher abzuführen. Diese Funktion ist auch für Wärmepumpen geeignet, um sicherzustellen, dass die Pumpen die Wärme bei einem Kabelbruch abführen.

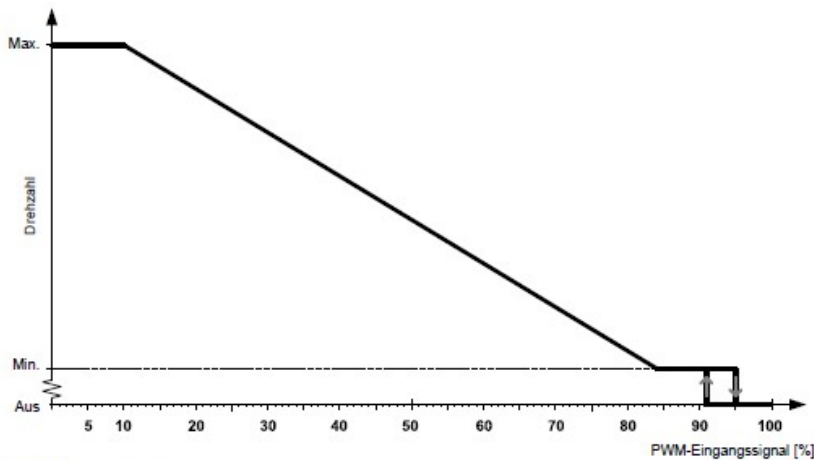


Abb. 6 PWM-Eingangsprofil

| PWM-Eingangssignal [%] | Pumpenstatus   |
|------------------------|--|
| < 10                   | Die Pumpe läuft mit maximaler Drehzahl.  |
| 10-84                  | Die Pumpendrehzahl wird linear vom maximalen auf den minimalen Wert abgesenkt.   |
| 85-91                  | Die Pumpe läuft mit minimaler Drehzahl.  |
| 91-95                  | Eine Hystereseffunktion verhindert, dass die Pumpe immer wieder ein- und ausschaltet, wenn das Eingangssignal um den Schalterpunkt schwankt. |
| 96-100                 | Betriebsbereitschaft.  |

100. As can be seen from the figure shown above, the pump is controlled via the PWM signal when its percentage value lies between 10% and 84%. Within this range, the pump speed decreases linearly from maximum to minimum. If the percentage drops below 10%, for example due to a cable break, the pump continues to run at maximum speed to transfer heat from the primary heat exchanger. Conversely, if the percentage is between 85% and 91%, the pump runs at minimum speed. If the percentage of the PWM input signal is between 91% and 95%, the external speed control applies a hysteresis to prevent the pump from repeatedly switching on and off when the input signal fluctuates around the switching point. When the PWM signal is between 96% and 100%, the pump is ready for operation.
101. On this basis, there is no internal control mechanism, i.e. no comparison of actual and setpoint values within the meaning of feature 1.4. Control is effected solely via the (external) PWM signal. If, in exceptional cases, such a signal is absent or too weak, the pump automatically runs at maximum speed (see Annex D 6, p. 19, bottom of left-hand column); internal control does not take place in this instance either. Insofar as the defendant, against this background, points out that the pump is controlled internally by a small frequency converter operated by DC voltage (see Annex D 6, p. 17, bottom of right-hand column), such a frequency converter does not itself operate without control or feedback regulation. In other words, such a frequency converter runs the pump at a specific speed when it receives the appropriate instructions. Against this background, the skilled person is aware that, in terms of its technical function, the frequency converter is merely the speed controller for the pump. It can only control the pump depending on the PWM input

control the low-voltage signal applied to the input, i.e. supplied externally. The fact that the frequency converter/speed controller of D 6 additionally receives a signal generated by an internal control system cannot be inferred from D 6, according to which the pump speed is determined by a remote control system (see Annex D 6, p. 3, left-hand column).

102. As there is no internal electronic control, the data sheet also does not disclose any means for switching as defined in feature group 4.

c) Further prior art

103. Furthermore, in its reply to the counterclaim for nullity, the defendant extended its challenge to novelty to include WO 2008/073413 A2 (Annex B&B D 15), WO 2008/0734336A2 (Annex B&B D 16), the 'Grundfos Manual – Grundfos Magna Series 2000' (Annex B&B D 17) and the 'Grundfos Data Booklet MAGNA, UPE Series 2000 circulator pump' (Annex B&B D 19), this constitutes an extension of the claim within the meaning of Rule 263 of the Rules of Procedure (see also: UPC\_CFI\_390/2023 (Munich Regional Court, Panel 1), decision of 13 September 2024, p. 42 – Koninklijke Philips N.V. v. Edrich).
104. Under this provision, a party may, at any stage of the proceedings, apply to the court for leave to amend or extend the claim, including to bring a (declaratory) counterclaim. The application must state the reasons why the amendment or extension was not already included in the original pleading. Subject to paragraph 3, leave shall be refused if the party applying for the amendment cannot, having regard to all the circumstances, satisfy the court that (a) the amendment in question could not have been made earlier with due diligence and (b) the amendment does not unreasonably hinder the other party in the conduct of the proceedings. Both conditions must be satisfied independently of one another. The burden of proof that neither the requirements of Rule 263(1) of the Rules of Procedure nor the grounds for exclusion under Rule 263(2) of the Rules of Procedure are met lies with the applicant. The applicant must therefore explain why the amendment was not included in the original pleadings. Likewise, the Court must be in a position to rule on the grounds for exclusion set out in Rule 263(2) of the Rules of Procedure on the basis of the applicant's explanation (UPC\_CFI\_114/2024 (Munich Circuit, Panel 1), Order of 25 September 2024, p. 13 et seq. – Heraeus v. Vibrantz; UPC\_CFI\_483/2024 (Munich Circuit, Panel 2), Order of 28 February 2025 – Esko-Graphics v. XSYS).
105. Even if, in the defendant's favour, it can be assumed – even without an explicit application – that the introduction of the additional citations implicitly constitutes an application for the admission of the associated extension of the counterclaim for nullity, the defendant has not put forward any arguments as to why, pursuant to R. 263(2) VerfO, could justify the admission of this extension of the counterclaim for nullity despite the delay. The defendant has not put forward any reasons as to why the documents in question could not have been introduced into the proceedings at the same time as the counterclaim for nullity. Nor can it be established that the admission of the citations introduced into the proceedings for the first time with the reply unreasonably impedes the plaintiff in the conduct of the proceedings.
106. In this context, it should be borne in mind that the proceedings before the EPG are 'front-loaded'. Consequently, the grounds for invalidity must be raised in the counterclaim for invalidity. Furthermore, the documents on which the defendant relies to substantiate the counterclaim for nullity must be submitted together with the counterclaim for nullity. This is already apparent from Rule 25(1)(b), (c) and (d) of the Rules of Procedure. Accordingly, the counterclaim must

one or more grounds for annulment, the facts put forward and, where available, the evidence submitted. Given the sequence of pleadings provided for in the Rules of Procedure in standard cases, and the strict time limits associated with this, this is the only way to ensure that the claimant is not unduly disadvantaged in the conduct of the proceedings. If the grounds for nullity are set out in the counterclaim for nullity, the claimant may respond to these submissions within a period of two months (Rule 29(a) of the Rules of Procedure) and, if necessary, react with an amendment pursuant to Rule 30(1) of the Rules of Procedure. By contrast, the claimant has only one month to file a rejoinder to the counterclaim for annulment (Rule 29(c) of the Rules of Procedure). Furthermore, at this stage, the claimant may only submit amendments subject to the additional conditions set out in Rule 30(2) of the Rules of Procedure.

107. On that basis, it would have been incumbent on the defendant not only to set out the reasons that initially prevented it from introducing the further citations into the proceedings at an early stage. Rather, it would also have been incumbent on the defendant to explain why taking them into account would not unreasonably hinder the claimant in the conduct of its case. The defendant has not sufficiently fulfilled any of these requirements; in particular, it is not apparent that the defendant's supplementary submissions were prompted by the claimant's submissions following the counterclaim for nullity. Therefore, the further citations are not to be admitted (see: UPC\_CFI\_263/2023 (CD Paris), decision of 29 July 2024 – Bitzer v. Carrier; UPC\_CFI\_390/2023 (LK Munich, Panel 1), decision of 13 September 2024 – Koninklijke Philips N.V. v. Edrich; UPC\_CFI\_430/2023 (Nordic-Baltic Regional Division), Interim Order of 7 October 2024 – Abbott v. Dexcom).

### III. Lack of inventive step

#### 1. Standard

108. Under Article 56 EPC, an invention is deemed to involve an inventive step if it does not follow in an obvious manner from the prior art for a person skilled in the art.
109. In the view of the Munich Central Chamber (UPC\_CFI\_1/2023 (CD Munich), decision of 16 July 2024 – Sanofi v. Amgen), a view which the Düsseldorf Local Chamber has repeatedly endorsed in the past (UPC\_CFI\_363/2023, decision of 10 October 2024, – Seoul Viosys v. expert; UPC\_CFI\_16/2024, decision of 14 January 2025 – Or-thovox v. Mammut; UPC\_CFI\_50/2024 (Düsseldorf Local Chamber), decision of 8 March 2025, paras. 166–173), an assessment must always be made on a case-by-case basis when examining inventive step, taking into account all relevant facts and circumstances. An objective approach must be adopted. The subjective views of the applicant or inventor are irrelevant. The only relevant factor is what the claimed invention actually contributes to the state of the art.
110. Inventive step must be assessed from the perspective of a person skilled in the art, based on the entire prior art, including general technical knowledge. It must be assumed that the person skilled in the art had access to the entire generally available prior art at the relevant time. The decisive factor is whether the claimed subject-matter is so apparent from the state of the art that the person skilled in the art would have arrived at it on the basis of their knowledge and skills, for example through obvious modifications of what is already known.

111. In order to assess whether a claimed invention was obvious to a person skilled in the art or not, it is first necessary to identify a starting point within the prior art. It must be demonstrated why a person skilled in the art would regard a particular part of the prior art as a realistic starting point. A starting point is realistic if its teaching would have been of interest to a person skilled in the art who, at the priority date of the contested patent, was seeking to develop a product or process similar to that disclosed in the prior art, i.e. one having a similar fundamental problem to the claimed invention (see UPC\_CoA\_335/2024, Order of 26 February 2024, p. 34 – Nanostring v. 10x Genomics, under ‘cc’ in the original German version, ‘For a person skilled in the art who, at the priority date of the patent in question, was faced with the task of [...] D 6 was of interest’). There may be several realistic starting points, although it is not necessary to determine the ‘most promising’ starting point.
112. If one compares the claimed subject-matter as interpreted with the prior art, the question arises as to whether it would have been obvious to a person skilled in the art to arrive at the claimed solution, starting from a realistic disclosure of the prior art and taking into account the underlying problem. If it was not obvious to arrive at this solution, the claimed subject-matter satisfies the requirements of Article 56 EPC.
113. Generally speaking, a claimed solution is obvious if, starting from the state of the art, a person skilled in the art would be motivated (i.e. would have an incentive; see the CoA in NanoString v. 10x Genomics, p. 34), to consider the claimed solution and to implement it as the next step (‘next step’, cf. UPC\_CoA\_335/2024, Order of 26 February 2024, p. 35, second paragraph – NanoString v. 10x Genomics) in the development of the state of the art. On the other hand, it may be relevant whether the person skilled in the art would have anticipated particular difficulties in carrying out the next step or steps. Depending on the facts and circumstances of the case, it may be permissible to combine disclosures from the prior art.
114. A technical effect or advantage achieved by the claimed subject-matter compared with the prior art may be an indication of inventive step. A feature selected arbitrarily from a number of possibilities generally cannot contribute to inventive step.
115. A retrospective approach must be avoided. The question of inventive step should not be answered by searching, with hindsight and in the light of the patented subject-matter or solution, for (combined) disclosures in the prior art from which that solution could be derived.

b) The present case

116. Measured against this, the defendant’s arguments are not sufficient to call the inventive step into question.

aa) D 6 with D 5

117. This applies, first of all, to the combination of prior art document D 6 and prior art document D 5 referred to by the defendant.
118. It is already questionable whether D 6 constitutes a realistic starting point for assessing inventive step.

119. The solution disclosed in D 6 differs from patent claim 1 in that, unlike the solution according to the contested patent, it lacks an internal electronic control system as part of an assembly and, consequently, also lacks a means for switching from such an internal electronic control system to an external speed control (feature 1.4 and feature group 4). Even though both D 6 and the contested patent relate to a heating circulation pump assembly, the two solutions differ in their fundamental design and configuration: the pump disclosed in D 6 is designed solely for external control. The problem underlying the contested patent—namely, to design a generic centrifugal pump unit in such a way that it can be used both in a heating system operating with internal electronic control and in a heating system with external control, or in a combined configuration—therefore does not arise in the first place.
120. Apart from that, the skilled person has in any case no reason to combine the solution disclosed in D 6 with the design shown in D 5.
121. The pumps disclosed in D 6 are designed for remote speed control. In this embodiment, the external speed control typically controls the pump. If the PWM input signal falls below 10%, the pump runs at maximum speed. In contrast, D 5 discloses the addition of a further continuous signal in the form of an internal control signal based on the measured values of the heating circuit. If no PWM signal is present, the pump runs on the basis of the internal control signal. If an external PWM input signal is present in addition to the internal control signal, the control circuit can select either the maximum or minimum value for controlling the pump.
122. On this basis, the control systems of the D 6 and the D 5 are not compatible as such. A person skilled in the art would therefore not transfer the control loop of the D 5 to the internal control system of the D 6.
- bb) EP 0 866 228 A2 (D 1) with D 5**
123. Insofar as the defendant continues to attempt to justify the lack of inventive step on the basis of EP 0 866 228 A2 (Annex B&B D 1, hereinafter: EP '228 or D 1), it is not apparent what reason the person skilled in the art would have to combine the solution disclosed therein with the control system disclosed in D 5.
124. EP '228 discloses a pump unit for heating systems which is preset to a throttling or control curve, preferably at the factory (col. 1, lines 49–54). Thanks to this factory presetting of the throttling or control curve, the unit can be operated like a pump unit without control electronics or with a fixed control curve (col. 2, lines 8–12). To enable a specialist to use the unit even in applications requiring speed control, the unit is also equipped with an adjustment device by means of which the unit can be adapted to the requirements of the heating system (col. 2, lines 22–28). If the adjustment device is wired, a plug socket may be provided in the unit, for example in the terminal box, such as those known for accommodating diagnostic plugs (col. 2, lines 29–37). As the skilled person will note from column 3, lines 3–8 of the prior art, the adjustment device is ‘intended exclusively for adjustments to be carried out by the skilled person’.
125. Even if, on this basis, D 1 constitutes a realistic starting point for

As regards the assessment of inventive step, it is not apparent what reason the person skilled in the art would have to combine the solution disclosed in D 1 – which is characterised by an internal control system that can only be adjusted using a device that may be connected via a cable – with the external control system disclosed in D 5.

126. The pump unit disclosed in D 1 is characterised precisely by the fact that it has an internal control system which can be adapted by the person skilled in the art to the individual requirements of the respective heating system solely by means of an external adjustment device (see col. 1, l. 56 – col. 2, l. 8). The corresponding adjustment device is expressly described as being intended exclusively for adjustments to be carried out by a person skilled in the art (see col. 3, lines 3–8). The adjustment option provided for in D 1 is therefore not an external speed control within the meaning of the contested patent, which is why there is also no need for means for switching between an internal and an external control (feature 3 and feature group 4).
127. Since D 1 fulfils its fundamental objective—namely, to create a pump unit that, on the one hand, meets the requirements of a pump unit supported by modern electronics and, on the other hand, can nevertheless be used as a standard unit without the need for time-consuming adjustments—by means of a pre-set throttle or control curve that can be adjusted in only one direction via a separate adjustment mechanism, the design of the internal control system forms the core of the solution disclosed in D 1. Thanks to the factory presetting to a throttle or control curve, the unit can be operated like a pump unit without control electronics or with a permanently installed control curve (col. 2, lines 8–12). The necessary flexibility in application is achieved via the external adjustment option (intended for the skilled person) (col. 3, lines 3–8).
128. This combination of a standardised internal control system and its external adjustment facility, which forms the core of the solution disclosed in D 1, would be negated by the provision of an external control system and the switching means then required. Therefore, based on D 1, the person skilled in the art has no reason to combine the solution provided therein with an external control system and switching means.

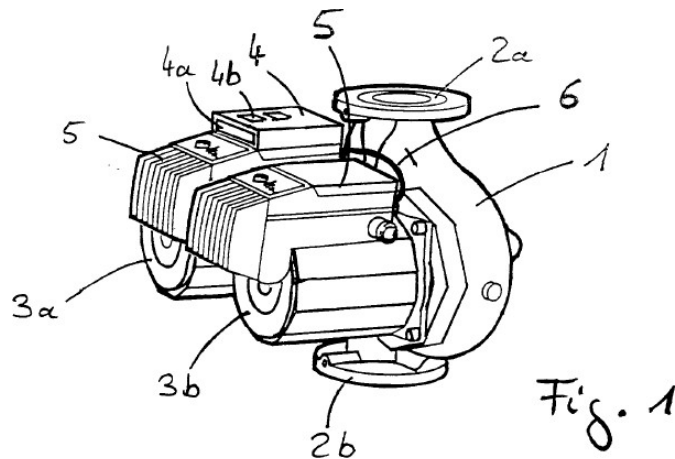
cc) EP 2 151 578 B1 (D 8) with D 5

129. Nor is there any lack of inventive step based on EP 2 151 578 (Annex B&B D 8, hereinafter: EP '578 or D 8) in combination with D 5.
130. Patent D 8 discloses a circulation pump unit comprising an electric drive motor and a control device for controlling the drive motor. The control device comprises a communication interface designed for connection to at least one external sensor and/or at least one further unit to be controlled by the control device (col. 1, lines 47–58). The control device is designed such that it can assume the function of an external control unit, as used in known systems. The communication interface enables the control unit to communicate with other system components, in particular with other devices to be controlled (col. 2, lines 7–11). In this context, the control unit of a circulation pump unit or a pump can simultaneously take over the control or regulation of other units, as the external control unit does in the aforementioned systems. In addition, sensors can be connected via the communication interface to supply the control unit with system parameters, enabling the pump to be controlled

131. Whether the circulation pump unit disclosed in D 8 – which is designed for large-scale installations with numerous circulation pumps and a central control unit – constitutes a realistic starting point for assessing inventive step is already questionable, but does not require a final decision. Even if this were the case, D 8 in any event lacks the disclosure of electronic means within the meaning of feature group 4, which determine whether an external control is connected or not and which, upon detection of a connected external control, switch over to it (feature group 4). Such an electronic means, which fulfils the requirements set out in feature 4.2 in the form of switching over as soon as the connection of an external controller has been detected, is, as explained, not disclosed in D 5 either.
132. Insofar as the defendant argues, in this context, that a slave pump always requires coordination between an internal control system and an external control system, this may well be the case. However, this does not necessarily mean that priority must be given to the external control system when the electronic means in question detects the connection of an external control system (emphasis added). Rather, according to the solution described in D 8, the main master pump is connected via a communication interface for data transmission to at least one auxiliary (slave) pump, wherein the auxiliary pump comprises a control device which is configured to control the auxiliary pump in dependence on data received from the main pump (see D 8, para. [0021]). Control therefore continues to be carried out – depending on data received from the main pump – by the control of the slave pump. The main pump and the slave pump are therefore permanently connected to one another. A complete switchover to an external control system in the event that the connection of such a system is detected by an electronic means within the meaning of feature group 4 does not take place and is also not necessary.
133. Given the scope of the disclosure in D 8, the skilled person had no reason to further develop the solution disclosed therein towards an exclusive relationship between internal and external control. Nor does any such reason arise, in particular, with regard to the embodiment shown in Figures 1 and 2 and described in paragraph [0027] et seq. It is true that, in the system shown there, the main pump (12) controls the entire system, i.e. it controls the other pumps (44), (46) and (48) as well as the valves (see para. [0036] et seq.). However, the auxiliary pump (46), which is controlled by the main pump, controls the heating of the water in the water storage tank as well as the withdrawal of water from the water storage tank (para. [0039]). Even though the auxiliary pump (46) is controlled by the main pump and thus externally, it therefore evidently also has an internal control system to process the control signals received from the main pump. Consequently, there is no switching from an internal control system to an external control system.
- dd) EP 0 735 273 A1 (D 2) together with D 5
134. Finally, the technical teaching protected by the contested patent is not obvious from EP 0 735 273 A1 (Annex B&B D 2, hereinafter: EP '273 or D 2) in conjunction with citation D 5.
135. EP '273 discloses a double pump with two impellers arranged in a housing, each impeller being driven by a separate electric motor. Furthermore,

a higher-level control and/or regulation system is provided, by means of which the speeds of the two electric motors can each be independently set or regulated as desired between motor standstill and the rated speed (see D 2, para. [0001]).

136. Figure 1 of D 2, shown below, illustrates the solution disclosed therein by means of a preferred embodiment:



137. Figure 1 shows a twin pump with a housing (1) having a pump suction side (2b) and a pump discharge side (2a). Two pump impellers (not shown) are arranged within the housing (1), each driven by the electric motors (3a, 3b). Control units (5) are mounted on the motor housings as modules using screw connections. The higher-level control module (4) is mounted on the control unit (5); this is connected to the control unit of the second electric motor (3b) via a transmission cable (6) and controls it via the cable (6).

138. On this basis, the prior art in any event fails to disclose an electronic means within the meaning of feature group 4 which determines whether an external controller is connected and which, upon detecting a connected external controller, switches over to that external controller.

139. On the basis of D 2, the person skilled in the art also has no reason to provide such a means. The solution disclosed therein is characterised by the fact that the respective control (5) of the individual pumps regulates the motor speed of the associated electric motor in accordance with the reference variable specified by the higher-level control and/or regulation (4) (see sub-claim 2). The higher-level control system and the respective control system therefore operate in constant coordination. No switching is required. This is made clear by the explanation of the block diagram shown in Figure 3 of D 2, where it states in column 5, lines 40–45:

‘Each control system 5 is connected to the higher-level control system 4 via an additional communication interface. The control systems 5 exchange data with the higher-level control system via the communication interface.’

140. Such data exchange presupposes that the higher-level controller or control system (4) communicates with the circuits (5). This will prevent the person skilled in the art from providing a means that switches between the two circuits.

ee) D 5 with D 7 or D 20

141. Since the defendant first referred to a combination of D 5 with D 7 or with D 20 in its reply to the counterclaim for nullity in the context of the discussion of inventive step, this also constitutes a new ground of attack and therefore an extension of the claim, the admissibility of which can only be considered under the conditions laid down in Rule 263 of the Rules of Procedure.
142. However, these are not available. The defendant has failed to provide any valid reasons as to why the further challenge to the inventive step, which has now been introduced into the proceedings, was not already included in the counterclaim for nullity. Nor, given the strict time limits under the EPG, can it be assumed that the plaintiff's conduct of the proceedings would be unduly prejudiced by the admission of this claim.
143. In so far as the defendant seeks to justify the discussion—first raised in its reply to the counterclaim for nullity—regarding a combination of D 5 with D 7 or D 20 on the grounds that the claimant had disputed the disclosure of a centrifugal pump and an electric motor in D 5 (see reply to the counterclaim for nullity, p. 26), this argument cannot succeed simply because the defendant had already conceded in the counterclaim for nullity itself that D 5 did not explicitly disclose either the configuration of the circulation pump as a centrifugal pump or the drive of the pump by means of an electric motor (see counterclaim for nullity, p. 25 above). On that basis, the defendant's own submissions already provided grounds for discussing, at least in the alternative, the (alleged) lack of inventive step in the counterclaim for nullity, based on D 5. Nevertheless, in its counterclaim for nullity, the defendant chose to discuss inventive step exclusively on the basis of D 1, D 2, D 6 and D 8, in each case in combination with D 5. The defendant has failed to demonstrate any plausible grounds which would nevertheless justify allowing the discussion of D 5, first raised in the reply to the counterclaim for nullity, to be taken as a starting point, which is why the associated extension of the counterclaim for nullity could not be permitted.
144. Even if one were to take a different view, the defendant has in any event failed to explain what reason the person skilled in the art would have had to combine D 5 with each of the cited documents. If, as in this case, the defendant only challenges the inventive step in the further course of the invalidity proceedings by invoking a further combination of documents, and if the associated extension of the counterclaim for invalidity is exceptionally admissible, the defendant bears a high burden of proof in this respect. The defendant's submissions do not satisfy these high requirements. In so far as the defendant assumes in its reply to the counterclaim for invalidity (see p. 31, second full paragraph) assumes that, starting from D 5, the person skilled in the art is faced with the task of specifying the pump known from D 5 in such a way that it is optimised for use as a circulation pump in heating systems, this view appears not only retrospective but also contrived and not prompted by citation D 5. The mere reference to the fact that D 7, according to its title, already relates to a 'circulation pump' is, by contrast, no more sufficient to justify such a motivation than the further observation that both documents, taken individually, disclose a number of patent features.

ff) Decision of the Chinese National Intellectual Property Office dated 6 January 2025 (hereinafter: the Office)

145. Insofar as the defendant, outside the scope of the opportunities afforded to it to submit comments, has submitted a decision of the Chinese National Intellectual Property Office dated 6 January 2025 (see Annexes B & B 22), by which a Chinese parallel patent was revoked on the grounds of lack of inventive step, the Office bases its decision on a combination of D 5 and D 7. However, as already explained, the defendant failed to introduce the combination of these documents into the present proceedings in good time, which is why its submission in this regard and the associated amendment to the claim could not be admitted. Against this background, the Board also disregarded the Office's decision pursuant to Rule 9(2) of the Rules of Procedure.

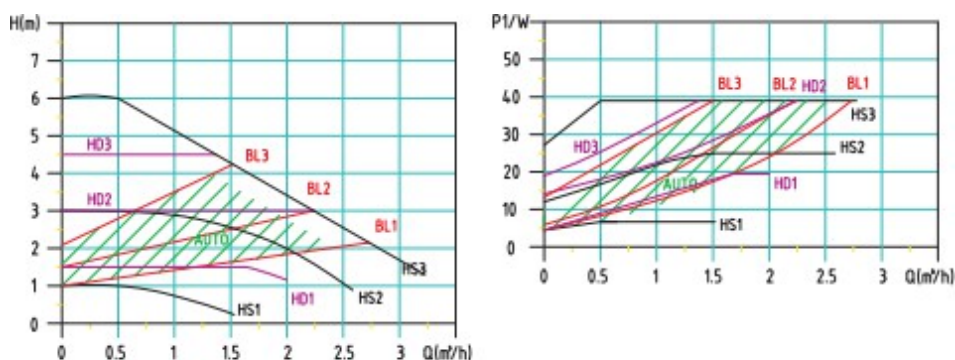
## E. Infringement

### I. Fulfilment of characteristics

146. It is correctly undisputed between the parties that feature groups 1 to 3 are realised, so that no further comments are required in this respect. Furthermore, the contested embodiment makes use of the remaining features of the contested patent. Based on the understanding set out in detail above, the contested embodiment comprises means (20) which satisfy the requirements of feature group 4.

#### 1. Functionality of the contested embodiments

147. The defendant has not disputed that the contested embodiment has an internal control system realised by three electronic components. In this context, a plurality of shunt resistors detect the signals representing the motor. The microprocessor processes the motor current signals detected by the shunt resistors in order to output suitable signals for adjusting the motor speed. Furthermore, the contested embodiment comprises an H-bridge (i.e. an electronic circuit) which supplies voltage to the electric motor. This is controlled by the aforementioned output signals from the microprocessor and thus controls the speed of the electric motor. The user can choose between four different main operating modes of the internal pump control, three of which are available at different levels/speeds. The control curves implemented by the internal pump control vary depending on the selected operating mode:

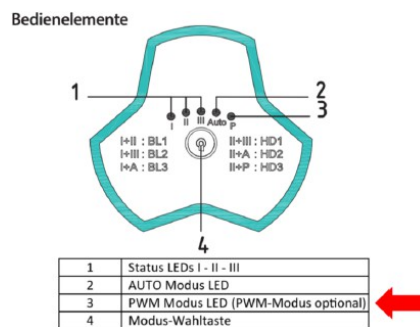


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148. In the factory-set AUTO mode, the internal control system automatically adjusts the pump output in short control intervals within the control range shown in green in the figure above, step by step, to match the actual heat demand of the heating system. Depending on the heat demand of the heating system, the setpoint values are therefore adjusted over a longer period of time by the internal control system.
149. Furthermore, the pump housing of the embodiment in question features, in addition to a suction and a discharge connection, two connections for external lines, one for the power supply and one for the connection of a control signal line:

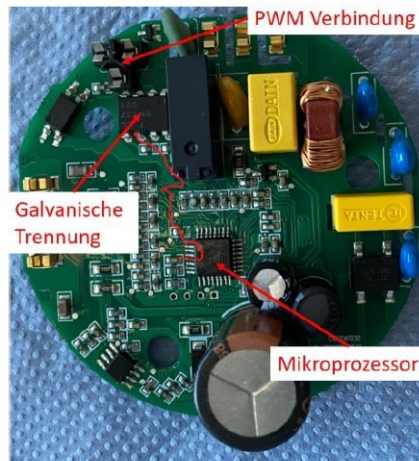


150. External control signals in the form of pulse-width modulation (PWM) signals can be fed to the microprocessor inside the pump via the control signal line.



## 2. Features 4 and 4.1.

151. That being said, the contested embodiment comprises means for switching from the internal electronic control (16) to an external speed control or for engaging an external control (features 4 and 4.1). As the Board has already set out in detail in the context of the interpretation of the patent claim, the means for this must be designed in such a way that it can effect a switchover or an engagement. This is the case with the contested embodiment.
152. The microprocessor inside the pump is connected to the external control interface via galvanic isolation:



(Leiterplatte - Rückansicht: Übertragungsweg für externe PWM-Signale zum Mikroprozessor)

153. It detects when PWM signals are applied by the external control unit via the connection on the housing. The electric motor is then no longer controlled according to the preset operating mode of the internal control system, but in accordance with the PWM signals specified by the external control unit. The duty cycle of the PWM signals determines the desired speed of the electric motor. Consequently, there is a switch from internal to external speed control.
154. The fact that, in the contested embodiment, the motor speed is determined either by the internal pump control or by the external speed control, so that there is no possibility of combining both controls (see in this regard: Annexes B&B 9a/9b and B&B 11a/11b), does not, as explained, preclude the realisation of the technical teaching claimed. Patent claim 1 does not necessarily require the provision of the option to switch on the external speed control, provided that the means enable the switchover from the internal electronic control to the external speed control as described in feature 4.2 ('or switching on').
3. Feature 4.2.
155. That the contested embodiment, based on the understanding set out above, also possesses electronic means within the meaning of feature group 4.2, is already apparent from the affidavits submitted by the defendants as Annexes B&B 9a/9b and B&B 11a/11b respectively.
156. Accordingly, the embodiment in question comprises a microcontroller (MCU), a PWM input for receiving external PWM signals, and an optocoupler isolation device. The PWM input is used to connect to an external controller in order to receive external PWM signals. The received PWM signal is then converted by the optocoupler isolation device into a digital pulse signal recognisable by the MCU. When the MCU receives the digital signal, it immediately converts the digital pulse signal into a speed signal and transmits it to the motor via the H-bridge (Annexes B&B 9a/9b, para. 5).
157. As soon as a stable PWM signal is present, the contested embodiment switches to this signal. It therefore has, in the form of the microprocessor, electronic means for switching from internal regulation to external speed control. The fact that the contested embodiment is, by virtue of its design, compelled to use the stable PWM

signal for speed control as soon as it is available and, accordingly, cannot make any decision whatsoever (see Annexes B&B 11a/11b, para. 3) does not exclude it from the scope of protection of the contested patent. Patent claim 1 does not require the granting of a decision-making capability. Rather, it actually excludes such a capability.

158. The microprocessor arranged in the housing of the contested embodiment thus constitutes an electronic component and, as such, a means which detects the connection of the external PWM speed control and subsequently switches to it.

II. Alleged identity with the design shown in Annex B&B 7

159. The defendant's objection that the signals, control principles, interfaces and PWM input signals and their example values, as well as circuit diagrams and graphs, were identical to the contested embodiment in all respects relevant here, is irrelevant to the question of whether such an objection can be of any significance at all in the context of the infringement discussion in the case of literal patent infringement (contrary to: UPC\_CFI\_452/2023 (Düsseldorf Regional Court), order of 9 April 2024, p. 16 – Ortovox v. Mammut), it is doomed to failure for that reason alone, because the circulation pump shown there, unlike the contested embodiment, cannot be operated both by means of an internal control system and via an external control unit. Rather, the pump is designed exclusively for external control (see Annex B&B 7, p. 3). If no cable suitable for transmitting PWM control signals is available, the pump shown in the prior art operates at maximum capacity and not on the basis of an internal electronic control system (see feature 1.4.).

III. The defendant's infringing acts

160. By offering and distributing the contested embodiment within the scope of the contested patent, the defendant has, undisputedly, also committed acts of infringement within the meaning of Article 25 (a) of the EPGÜ. In this context, the offering and placing on the market simultaneously give rise to a rebuttable presumption that the defendant also uses the contested embodiment or imports or possesses it for the purposes of offering, placing on the market or using it (UPC\_CFI\_7/2024 (Düsseldorf Local Chamber), decision of 3 July 2024 – Kaldewei v. Bette; UPC\_CFI\_363/2023 (Düsseldorf Local Chamber, decision of 10 October 2024 – Seoul Viosys v. expert e-Commerce; UPC\_CFI\_50/3035 (Düsseldorf Local Chamber), decision of 10 April 2025, para. 199 – Yellow Sphere v Knaus Tabbert).

F. Legal consequences

161. Now that the contested patent has been found to be valid and infringed, the following applies with regard to the legal consequences:

I. Injunction

162. Taking into account the circumstances of the case, the claimant is entitled to an injunction against the continuation of the infringement pursuant to Article 25(a) EPC in conjunction with Article 63(1) EPC.

II. Disclosure of information and rendering of accounts

163. The claimant is also entitled to information pursuant to Article 25(a) of the EPGÜ in conjunction with Article 67 of the EPGÜ.

There are no objections as regards the manner in which the information is sought. Insofar as the claimant requests details of the names and addresses of commercial purchasers, she is thereby seeking information on the distribution channels of the infringing products within the meaning of Article 67(1)(1) of the EPGÜ.

164. Furthermore, pursuant to Article 68(3)(a), (b) EPGÜ in conjunction with Rule 191(1) 1 Alt. 2 VerfO, for the purposes of legal proceedings, request such information as it reasonably requires for the purposes of its legal proceedings and which also enables it to verify the accuracy of the information provided and to obtain evidence for its calculation of damages (UPC\_CFI\_7/2023 (Düsseldorf Circuit), judgment of 3 July 2024, p. 29 – Kaldewei v. Bette; UPC\_CFI\_16/2024 (Düsseldorf Regional Court), judgment of 14 January 2025, p. 36 – Ortovox v. Mammut; UPC\_CFI\_210/2023 (Mannheim Regional Court), judgment of 22 November 2024, para. 179 – Panasonic v. Oppo). This also includes information on individual offers, broken down by offer quantities, times, prices and model designations, as well as the names and addresses of the recipients of the offers.
165. Since the claimant's application seeks to produce relevant proof of purchase, namely invoices or, in the alternative, delivery notes, the defendant's further objection that the claimant (allegedly) seeks the production of invoices and delivery notes is without merit.

### III. Recall

166. The order to recall the directly infringing products from the distribution channels is based on Section 64(2)(b) of the EPGÜ. The wording of the application is also not open to criticism from the point of view of specificity.
167. Such a recall order also raises no concerns from the perspective of proportionality (Article 64(4) of the Rules of Procedure).
168. The fact that the contested product may, as claimed by the defendant, be installed in some cases deep within building heating systems does not preclude the ordering of a recall from the distribution channels, simply because the recall requires only a recall declaration and thus a mere letter to commercial customers. The claimant does not demand removal from the distribution channels. The alternative measures raised by the defendant, and in particular the possibility of sealing the product, are therefore irrelevant in the context of the recall. Apart from that, the distribution channels include all commercial owners and thus also commercial end-users (see Tilmann/von Falck/Plassmann, Art. 64, para. 25). As long as the pump in question has not yet been installed in a building's heating system, it would therefore have to be recalled even if one were to rely – as the defendant does – on an action going beyond the recall notice.
169. Nor do the interests of homeowners and tradespeople, to which the defendant continues to refer, preclude an obligation to recall the products. Pumps installed in the buildings of private homeowners are not subject to the recall obligation from the outset. If, on the other hand, the pumps are in the possession of commercial end-users and have been installed in their buildings, the above considerations apply mutatis mutandis.
170. Finally, in so far as the defendant argues that the parties had agreed upon submission

Even if the defendant was engaged in licence negotiations at the time of the claim, and was prepared to pay reasonable licence fees on commercial terms, but was misled by the claimant regarding the latter's willingness to grant a licence, this does not preclude the ordering of a recall, simply because no licence was actually granted. Pursuant to Article 25 of the European Patent Convention, a patent grants the proprietor the right to prohibit third parties from carrying out the acts of use specified in subparagraphs (a) to (c) of that provision without his consent. The exclusive right to use the patent in dispute is therefore assigned to the claimant, who is in principle free to decide for itself whether, and if so under what conditions, it will license the patent and thereby grant third parties a right of use. As long as the claimant has not licensed the patent in dispute to the defendant and thereby granted the latter a right of use, the defendant has no right to use the patent in dispute. If, nevertheless, it places the contested embodiment on the market in a manner that infringes the patent, it cannot successfully object to any resulting recall obligation on the grounds that it had relied on a subsequent grant of a licence.

#### IV. Destruction

171. The order for destruction is based on Article 64(2)(e) and Article 64(4) of the EPGÜ.
172. Since the destruction is intended to reliably prevent the products from entering or re-entering the market (UPC\_CFI\_16/2024 (Düsseldorf Regional Court), judgment of 14 January 2025, p. 37 – Or-tovox v. Mammüt; Tilmann/von Falck/Tilmann, Unitary Patent, Unified Patent Court, Art. 64 UPC Act, para. 33), the sealing of the pump's signal inputs, as proposed by the defendant as a possible alternative measure, and an obligation on the defendant to have its customers sign a cease-and-desist declaration subject to a penalty, only constitute relevant alternatives if they ensure that the pumps at issue are not again placed in a patent-infringing state when such a solution is employed and can then be placed on the market (UPC\_CFI\_16/2024 (Düsseldorf Regional Court), judgment of 14 January 2025, p. 37 – Ortovox v. Mammüt).
173. To this end, the mere obligation on the defendant to obtain declarations of discontinuance subject to a penalty is insufficient, if only because such an obligation would be virtually impossible for the claimant to monitor. It therefore fails from the outset to satisfy the claimant's interest in destruction.
174. Nor has the defendant been able to demonstrate sufficiently that sealing the entrances meets these requirements. Furthermore, it cannot be established that, even taking into account the costs involved, this constitutes a less severe measure than destruction. Finally, the defendant has also failed to demonstrate that, based on the scope of protection explained in detail above, a design featuring sealing no longer falls within the scope of protection of the contested patent.

#### V. Determination of liability for damages

175. A finding on the merits regarding the award of damages is possible on the basis of Article 68(1) of the European Patent Convention. The defendant should have realised, had it exercised due care, that its actions infringed the patent in dispute.

176. In so far as the defendant objects to the claim for damages on the grounds that, if anything, a lump-sum amount should be set as damages, this question does not currently require a decision. The decision on the amount of damages is reserved for the proceedings to determine the amount of damages, which may follow the infringement proceedings. In the infringement proceedings, by contrast, the claimant merely seeks a declaration of liability for damages on the merits.

#### VI. Provisional damages

177. Pursuant to Rule 119 of the Rules of Procedure, the court may award provisional damages to the successful party, subject to conditions determined by the court, which are intended to cover at least the provisional costs of the damages and compensation proceedings on the part of the successful party.

178. The defendant did not substantially contest the amount of EUR 64,000 claimed by the claimant as provisional damages, and therefore this sum was awarded to the claimant.

#### VII. Threat of a penalty payment

179. The imposition of a penalty payment for failure to comply (Section 63(2) EPGÜ) raises no objections. This also applies from the perspective of proportionality. The imposition of a penalty payment in respect of the measures relating to disclosure, information, recall, removal and destruction is based on Art. 82(1) and (4) EPGÜ, R. 354(3) VerfO (UPC\_CFI\_7/2023 (Düsseldorf), judgment of 3 July 2024, p. 31, F. 5. – Kaldewei v. Bette; UPC\_CFI\_16/2024 (Düsseldorf Regional Court), judgment of 14 January 2025, p. 39 – Ortovox v. Mammüt; UPC\_CFI\_50/2024 (Düsseldorf Regional Court), judgment of 10 April 2025, para. 276 et seq. – Yellow Sphere v Knaus Tabbert).

180. The threatened penalty payment of up to EUR 250,000 gives the Chamber the necessary flexibility in each case to take into account the specific circumstances of the individual case, including the conduct of the infringer, and, on that basis, to set an appropriate penalty payment in accordance with Article 82(4), second sentence, of the EPGÜ in conjunction with Rule 354.4 VerfO.

#### VIII. Decision on costs

181. Pursuant to Article 69(2) EPGÜ in conjunction with Rule 118(5) VerfO and Rule 265(2)(c) VerfO, a decision on costs was to be made.

182. As the claimant has been wholly successful in its action for infringement, it is justified to order the defendant to bear the costs of the proceedings in this respect.

183. The counterclaim for annulment was unsuccessful. The defendant must therefore also bear the costs of that claim.

#### IX. Reimbursement ceiling

184. The setting of the upper limit for reimbursable legal representation costs is based on the decision of the Administrative Committee on the upper limits for reimbursable costs of 24 April 2023 (D - AC/10/24042023\_D).

X. No security

185. Pursuant to Art. 82(2) EPGÜ, R. 118(8) sentence 2 VerfO, the court may make any order or measure it is to determine subject to the provision of security.
186. As the wording of the aforementioned provision makes clear, the Chamber has discretion when ordering security, whereby the claimant's interest in the effective enforcement of its intellectual property right must be weighed against the interest in the effective enforcement of potential claims for damages in the event of a subsequent setting aside of the judgment.
187. Each case must therefore be assessed on its own merits. The factors to be taken into account when considering whether to order the provision of security include the claimant's financial situation, which may give rise to a legitimate and genuine concern that, in the event of the first-instance decision being set aside or amended, a potential claim for damages cannot be enforced and/or executed, or can only be done so at disproportionate expense. Whether and to what extent such factors exist must be determined, just as in an application for security under Rule 158 of the Rules of Procedure, on the basis of the facts and arguments put forward by the parties. If the Chamber makes an order or measure conditional upon the provision of security, this serves to protect the defendant's position and potential rights. This protection must be weighed against the burden placed on the claimant by the order to provide security. Against this background, it is incumbent upon the defendant to put forward facts and arguments as to why, in the specific case, it appears appropriate to make the order or measure, pursuant to Rule 118(8) of the Constitutional Court Rules of Procedure, conditional upon the provision of security to be determined by the court. If the defendant has complied with this, it is incumbent upon the claimant to contest these facts and grounds in a substantiated manner, particularly as the claimant generally has knowledge of and evidence regarding their financial situation. Likewise, it is the claimant's responsibility, where appropriate, to explain why, despite the reasons put forward by the defendant, his interest in enforcing his intellectual property right outweighs the requirement for a security deposit (see UPC\_CFI\_50/2024 (Düsseldorf Division), decision of 10 April 2025, paras. 282–285 – Yellow Sphere v Knaus Tabbert; UPC\_CFI\_16/2024 (Düsseldorf Regional Court), judgment of 14 January 2025 – Ortovox v Mammut; UPC\_CFI\_363/2024 (Düsseldorf Regional Court), judgment of 10 October 2024 – Seoul Viosys v expert).
188. On the basis of these principles, the defendant has not put forward any grounds that would justify making enforcement in the present case conditional upon the provision of security. The Chamber has therefore refrained from ordering such security for enforcement.

DECISION:

A. It is held that the defendant infringes EP 2 778 423 B1 if it offers heating circulation pump units comprising a centrifugal pump, an electric motor driving the pump, an electronic speed controller for the motor and an internal electronic control system in which the control variable is the speed of the motor, whereby the speed controller and the control system form part of the unit, a signal input for external control of the motor is provided, and means for switching from the internal electronic control system to an external speed control system or for connecting an external speed control system are provided, in Germany, France or Italy, or causes such products to be offered, placed on the market, used or imported or possessed for the aforementioned purposes, where the means for switching are electronic means which determine whether an external control is connected or not and, upon detection of a connected external control, switch to the external control.

B. The defendant is ordered to,

I. to refrain from providing heating circulation pump units comprising a centrifugal pump, an electric motor driving the pump, an electronic speed controller for the motor, and an internal electronic control system in which the control variable is the speed of the motor, the speed controller and the control system forming part of the unit, a signal input is provided for external control of the motor, and means are provided for switching from the internal electronic control system to an external speed control system or for connecting an external speed control system,

in Germany, France or Italy, to offer or cause to be offered, to place on the market or cause to be placed on the market, to use or cause to be used, or to import or possess for the aforementioned purposes, where the means for switching over are electronic means which determine whether an external control is connected or not and, upon determining that an external control is connected, switch over to the external control;

II. to provide the claimant, in a clear and comprehensible statement, with information regarding the extent to which it has committed the acts described in Section B. I. since 28 February 2018, specifying

1. the origin and distribution channels of the infringing products,
2. the quantities delivered, received or ordered and the prices paid for the infringing products, and
3. the identity of all third parties involved in the manufacture or distribution of the infringing products,

whereby the defendant is required to provide evidence of the information referred to in section B. II. 1.

- to B. III. 3. to submit copies of the relevant purchase documents, namely invoices or, alternatively, delivery notes, whereby details requiring confidentiality may be redacted from the data subject to disclosure;
- III. to provide the claimant with a structured and self-explanatory statement detailing the extent to which it has carried out the acts referred to in point II. since 28 February 2018, specifying
1. the individual deliveries, broken down by delivery quantities, delivery times, delivery prices and model designations, as well as the names and addresses of the commercial customers,
  2. the individual offers, broken down by offer quantities, offer times, offer prices and model designations, as well as the names and addresses of the commercial recipients of the offers,
  3. the advertising carried out, broken down by advertising medium, circulation figures, distribution period and distribution area,
  4. the production costs, broken down by individual cost factors, and the profit achieved;
- IV. to surrender the products referred to in Section II, which are in its direct or indirect possession or ownership, to a bailiff to be appointed by the claimant for the purpose of destruction at the defendant's expense;
- V. to order the defendant to recall the products referred to in section B. I. 1., which have been placed on the market since 28 February 2018, from commercial customers, taking into account the (judgment of the EPG of 8 May 2025) and with a binding undertaking to refund any fees paid, to bear the necessary packaging and transport costs as well as the customs and storage costs associated with the return, and to take the products back into its possession;
- VI. to pay the claimant provisional damages in the amount of EUR 64,000;
- VII. in the event of a breach of the orders set out in sections B. I., B. II., B. III., B. IV. and B. V., to pay a penalty payment of up to EUR 250,000 for each instance of breach.
- C. It is hereby ordered that the defendant is obliged to compensate the claimant for all damage incurred and to be incurred as a result of the acts referred to in Section II, which commenced on 28 February 2018.
- D. The counterclaim for annulment is dismissed.
- E. The defendant shall bear the costs of the action and the counterclaim for annulment.
- F. The value in dispute for the claim and the counterclaim for annulment is set at 1,000,000

- G. The upper limit for recoverable legal representation costs is set at a total of EUR 200,000 for both the action and the counterclaim for annulment.
  
- H. The orders under points B. I. to B. VII. shall only be enforceable once the claimant has notified the court of which part of the orders it intends to enforce and, where necessary, has submitted a certified translation of the orders into the official language of the Member State in which enforcement is to take place, and once the defendant has been served with the notification and, where applicable, the (relevant) certified translation.




DETAILS OF THE ORDER:



Main case reference ACT\_2097/2024 and CC\_32579/2024

UPC number: UPC\_CFI\_11/2024

Type of proceedings: Action for infringement and counterclaim for nullity

Düsseldorf, 8 May 2025 NAMES  
AND SIGNATURES

|                                       |  |
|---------------------------------------|--|
| <p>Presiding Judge Thomas</p>         | <p><b>Ronny<br/>Thomas</b>  Digital signed by Ronny Thomas<br/>Date: 5 May 2025 17:00:17 +02:00</p>                       |
| <p>Presiding Judge Voß</p>            | <p><b>Ulrike<br/>Voß</b>  Digitally signed by Ulrike Voß<br/>Date: 05/05/2025 17:19:52 +02:00</p>                         |
| <p>Legally qualified judge Kupecz</p> | <p><b>András<br/>Ferenc<br/>Kupecz</b>  Digitally signed by András Ferenc Kupecz<br/>Date: 05/05/2025 17:28:11 +02:00</p> |

|   |  |
|---|--|
| <p>Technically qualified judge Heikkinen-Keinänen</p> | <p>MerjaAnnikki<br/>Heikkinen-<br/>Keinänen</p>  <p>Signed by Merja Annikki Heikkinen-Keinänen<br/>DN: cn=Merja Annikki Heikkinen-Keinänen, o=PTT, email=Merja.Keinanen@ptt.fi, c=FI<br/>Reason: I am the author of the document<br/>Date: 06/05/2025 12:13:25 +03:00</p> |
| <p>For the Deputy Registrar Boudra-Seddiki</p>        | <p>Rachida<br/>Boudra-<br/>Seddiki</p>  <p>Digitally signed by<br/>Rachida Boudra-<br/>Seddiki<br/>Date: 06/05/2025<br/>16:04:13 +02:00</p>   |

**INFORMATION ON APPEALS:**

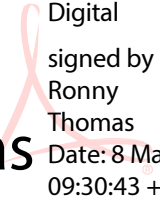
Any party whose claims have been rejected in whole or in part may lodge an appeal against this decision with the Court of Appeal within two months of the decision being served (Art. 73(1) EPGÜ, R. 220(1)(a), 224(1)(a) VerfO).

**Information on enforcement (Art. 82 EPGÜ, Art. 37(2) EPGS, R. 118(8), 158(2), 354, 355(4) VerfO):**

A certified copy of the enforceable decision shall be issued by the Deputy Registrar at the request of the enforcing party, Rule 69 of the Rules of Procedure.

This decision was pronounced in open court on 8 May 2025. Presiding Judge Thomas

Ronny  
Thomas



Digital  
signed by  
Ronny  
Thomas  
Date: 8 May 2025  
09:30:43 +02:00