



Düsseldorf local division
UPC_CFI_11/2024

Decision
of the Court of First Instance of the Unified Patent Court
issued on 8 May 2025
concerning EP 2 778 423 B1

LEADERSHIPS:

1. If the defendant introduces new prior art into the proceedings in his Reply to the revocation counterclaim, with which he justifies the lack of novelty and/or inventive step, this is an extension of the revocation counterclaim within the meaning of R. 263 RoP. Admission of this further prior art can therefore only be considered if the defendant can convince the court that the documents in question could not already be submitted with the nullity counterclaim and if the admission of further documents does not unreasonably prejudice the plaintiff's conduct of the proceedings.
2. The same applies if prior art already submitted with the nullity counterclaim is used for the first time in the Reply to the nullity counterclaim for a new attack on novelty and/or inventive step. Even then, the defendant must convince the court that it was not possible with due care to include the (further) attack on novelty and/or inventive step contained for the first time in the Reply to the nullity counterclaim in the nullity counterclaim and that the admission of this further attack on novelty and inventive step does not lead to an unreasonable disadvantage to the plaintiff in the exercise of his rights.

KEYWORDS:

Action for revocation; Reply; new prior art; new attack

Claimant:

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: Attorney Dr Markus B. Bölling, Mitscherlich Patent- und Rechtsanwälte PartmbB, Karlstraße 7, 80333 Munich, Germany

co-operating: Patent Attorney Christian Rupp, Patent Attorney Alexander Bach, Mitscherlich Patent- und Rechtsanwälte PartmbB, Karlstraße 7, 80333 Munich, Germany

Electronic address for service: markus.boelling@mitscherlich.de_

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

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PATENT: AT ISSUE

European Patent No. EP 2 778 423 B1

PANEL/CHAMBER:

PANEL JUDGES of the Düsseldorf local division:

The decision was handed down with the participation of presiding judge Thomas as the judge rapporteur, presiding judge Voß deputising for legally qualified judge Dr Thom, legally qualified judge Kupecz and technically qualified judge Heikkinen-Keinänen.

LANGUAGE OF THE PROCEEDINGS: German

SUBJECT MATTER: Action for infringement and action for annulment

ORAL NEGOTIATION: 27 March 2025

BRIEF DESCRIPTION OF THE FACTS:

1. The Claimant claims that the Defendant is liable for infringement of the German, French

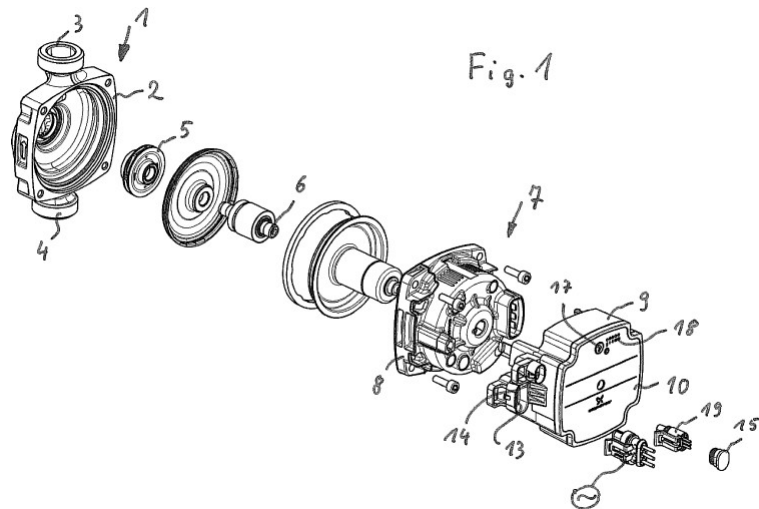
and the Italian part of the European patent EP 2 778 423 B1 (hereinafter: patent in suit).

2. The patent at issue was filed on 11 March 2013 in the German language of the proceedings. The mention of the grant of the patent was published on 28 February 2018. The patent in suit is in force in Germany, France and Italy. No preliminary objections were filed with the European Patent Office against the grant of the patent in suit.
3. The patent at issue bears the designation "centrifugal pump unit". Its claim 1 is as follows:

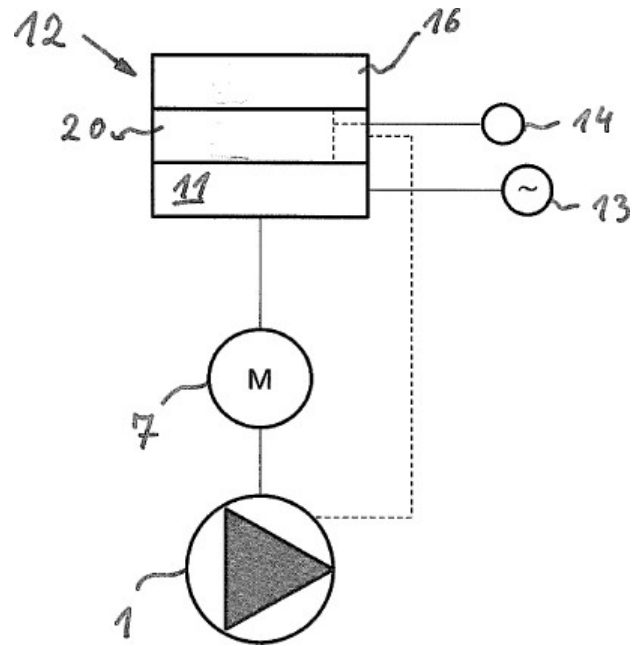
Protection claim 1:

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

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



6. Figure 2 is a block diagram of a unit according to Figure 1:



7. By its action, the Claimant challenges the defendant's offer and distribution of heating circulation pumps in Germany, France and Italy. These include the heating circulation pumps offered in Germany via 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, among others, which the defendant also offers and distributes under its product designations "GPA III" (hereinafter: "attacked design"):

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 Δp - v: BL-Modus (Stufe I, II, III)
- > HD - Konstanter Differenzdruck Δp - c: HD-Modus (Stufe I, II, III)
- > HS - Konstante Geschwindigkeit: HS-Modus (Geschwindigkeit I, II, III)



PRODUKTVARIANTEN:

Artikel-Nr.	Typ	Leistung [W]	[m ³ /h]	[m H ₂ O]	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 in German, French and Italian via its website www.shinhoodump.com to interested parties based in Germany, France and Italy, among other countries:



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-
Umwälzwasserpumpe
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.
shinoo 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](#)

APPLICATIONS BY THE PARTIES:

Lawsuit:

9. The Claimant claims that the Court should,
- I. declare that the defendant infringes EP 2 778 423 B1 if it produces heating circulating pump units with a centrifugal pump, with an electric motor driving the pump, with an electronic speed controller for the motor and with an internal electronic control, in which the control variable is the speed of the motor, wherein the speed controller and the control form part of the unit, a signal input for external control of the motor is provided and means are provided for switching over from the internal electronic control to an external speed control or for switching on an external speed control, in Germany, France or Italy, is , placed on the market/put on the market or used/used or imported or possessed for the aforementioned purposes, in the means for switching are electronic means which determine whether an external control is connected or not and switch over to the external control when a connected external control is detected;
 - II. order the defendant to refrain from manufacturing heating circulation pump units with a centrifugal pump, with an electric motor driving the pump, with an electronic speed controller for the motor and with an internal electronic control, in which the manipulated variable the speed of the motor, whereby the speed controller and the control form 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 to an external speed control or for switching on an external speed control,

in Germany, France or Italy, to offer/offer, place on the market/have placed on the market, use/allow to be used or import or possess for the aforementioned purposes, where the

Means for switching are electronic means that determine whether an external control is connected or not and switch to the external control when a connected external control is detected;

III. order the defendant to provide the claimant with information, in an orderly and comprehensible list, on the extent to which it has committed the acts referred to in point II. since 28 February 2018, stating

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 infringing products,

whereby the defendant must submit copies of the corresponding proof of purchase, namely invoices, or alternatively delivery notes, to prove the information in accordance with III. 1. to III. 3. above, whereby details requiring secrecy outside the data subject to disclosure may be blacked out;

IV. order the defendant to provide the claimant with an orderly and comprehensible statement of the extent to which it has committed the acts referred to in point II. since 28 February 2018, stating

1. of the individual deliveries, broken down by delivery quantities, delivery times, delivery prices and type designations as well as the names and addresses of the commercial customers,
2. of the individual offers, broken down by offer quantities, offer periods, offer prices and type designations as well as the names and addresses of the commercial offerees,
3. of the advertising operated, broken down by advertising media, their exposure level, distribution period and distribution area,
4. the prime costs broken down by the individual cost factors and the profit realised;

V. order the defendant to surrender to a bailiff to be appointed by the claimant for the purpose of destruction at its, the defendant's, expense the products referred to in II. above which are in its direct or indirect possession or ownership;

VI. order the defendant to cease and desist from marketing the products referred to in point II. above, which have been placed on the market since 28 February 2018, vis-à-vis the commercial customers, with reference to the pa-

condition of the goods and with the binding promise to reimburse any fees and to bear any necessary packaging and transport costs as well as customs and storage costs associated with the return and to repossess the products;

- VII. the defendant in the event of infringement of the convictions under II., III., IV, V. or VI. to pay the court a penalty payment of up to EUR 250,000 for each case of non-compliance;
- VIII. declare that the defendant is obliged to compensate the claimant for all damages in excess of the provisional damages pursuant to section IX. which it has suffered and will suffer as a result of the acts referred to in section II. committed since 28 February 2018;
- IX. order the defendant to pay the Claimant provisional damages in the amount of EUR 64,000;
- X. order the defendant to pay the costs of the proceedings and the plaintiff's other costs;
- XI. Should the court make the enforcement of this judgement dependent on the provision security by the Claimant, the Claimant requests that the following partial security be provided:

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

10. With regard to the wording of the "in particular if" applications, reference is made to the statement of claim.

11. The defendant claims,

- I. dismiss the action;
- II. order the Claimant to pay the costs.

Counterclaim:

12. The defendant claims,

- I. declare the European patent EP 2 778 423 B1 invalid in its entirety pursuant to Art. 65(2) UPCA in conjunction with Art. Art. 138(1) and Art. 139(2) EPC in its entirety;

- II. order the Claimant to pay the costs.
13. The Claimant claims that the Court should,
 - I. dismiss the action for annulment;
 - II. order the defendant to pay the costs of the action for annulment and the costs incurred by the Claimant in connection therewith.

Applications to amend the patent:

14. In the event that the Board considers the counterclaim for revocation to be well-founded, the Claimant conditionally requests, in the form of auxiliary requests, the maintenance of the patent at issue to the extent of the claim phrases formulated as auxiliary requests 1 to 6 in the corresponding order. With regard to the wording of the auxiliary requests in detail, reference is made to the application for amendment of the patent dated 22 July 2024.
15. The defendant has opposed the auxiliary requests.

FACTUAL AND LEGAL ISSUES:

Action for infringement:

16. In the defendant's view, the patent at issue explicitly provides the task and solution of combining all the pump types previously known in the cited prior art in a single unit so that it can then be used for all the aforementioned purposes.
17. The means provided in accordance with the requirements would have to be those that both a real switchover from the internal electronic control to an external speed control and an activation of the external speed control. In the latter case, the internal and external speed control would be combined with each other in terms of time and function. Subclaims 6 and 7 separately protect specific embodiments of this "switching on". According to the claim, the fundamentally separate functions of switching over and switching on would have to be combined in a means provided for this purpose.
18. In order to realise the technical teaching protected by the patent at issue, it is necessary that the electronic means (for) "determine" whether an external control is connected and then trigger the process of "switching", including a possible "switching on". This must be associated with 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. On the basis of such an understanding, the challenged embodiment does not make use of the technical teaching of the patent at issue from the defendant's point of view.
20. The defendant uses a state of the art for heating circulation pumps created by the Claimant itself and published well before the priority date. This state of the art corresponds to the "GRUNDFOS DATENHEFT UPM2, UPM GEO, UPM2K Umwälz- pumpen 50/60 Hz" (hereinafter: "UPM-Pumpe") from December 2012 (see Annex B&B 7). The signals, control principles, interfaces and PWM input signals and their example values as well as circuit drawings and graphs described therein correspond to the

embodiment is identical in all relevant respects. Accordingly, the "UPM pump" from the prior art also behaves identically to the challenged embodiment in all relevant functions (recognising and switching to the external signal).

21. The challenged embodiment is neither able to the respective operating environment. Nor does it allow the connection of external control signals. In the challenged embodiment, there are no electronic means that would allow the connection of an external speed control. A control logic that would allow the internal control signal to be switched on as required was neither proven nor actually present in the challenged embodiment. Switching to an external control system on demand 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 challenged embodiment and then controls the pump permanently, i.e. until the signal ceases to exist. As long as the challenged embodiment receives a stable PWM signal, the speed of its motor is determined exclusively by the value of this external signal. The challenged embodiment has no possibility to use the stable PWM signal only for a certain period of time or under certain conditions.
22. In addition, the challenged embodiment does not utilise any electronic means which, after determining whether an external control is connected and determining the circumstances of demand, switches over to this itself. A means that is capable of switching over an external control system as well as switching to internal control is not available there. In the contested embodiment, only the receipt PWM signal is "translated" into a language that can be read by the built-in microprocessor, which then "overwrites" the internal pump control in the sense of an override. Switching on is not possible. Instead, the input signals are converted by the interfaces into commands that the microprocessor can read. This microprocessor is also 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 overwrite the signal of the internal control with the translated receipt PWM signal. The pump is then controlled via "external elements and components" that are connected to the interfaces. How the microprocessor has to route the signals and what is switched on, off and on again is solely influenced by the software, which does not allow for patent-compliant decisions and switching on or off as required. Consequently, there is no additional decision-making logic in the challenged embodiment that goes beyond the mere switching through known from the prior art.
23. Finally, the defendant to pre-litigation settlement talks between the parties. There, the defendant had signalled its willingness to take a licence for purely economic reasons, among other things. The Claimant was also initially willing to a licence. At the time the action was served on the Unified Patent Court, the parties were in the middle of price negotiations.
24. The Claimant has countered this argument.
25. Insofar as the defendant to out-of-court licence negotiations, these did not take place. The Claimant had no overriding interest in licensing out the patent at issue to competitors. Rather, its aim was the exclusive use of the technical teaching patented in its favour. Against this background, the parties to the proceedings

The defendant had only exceptionally held out the prospect of granting a licence in the event of a quick resolution of the conflict and under detailed conditions (see Annex K 11). However, the corresponding letter was only received by the defendant's authorised representatives after service of the present infringement action.

26. Contrary to the defendant's view, the contested embodiment makes use of the technical teaching of the patent at issue.
27. From the state of the art
 - Heating circulation pumps that are (only) operated by means of an *internal electronic controller*,
 - Heating circulation pumps that are (only) operated via an *external control unit* to control the speed of the pump (typically in heating boilers) and
 - Heating circulation pumps that are (only) operated by means of an *internal electronic controller*, but whose setpoints can be changed by external specifications,

was known. On this basis, the invention is based on the task of designing a generic centrifugal pump unit in such a way that it can be used both in a heating system with operation of the internal electronic control and in a heating boiler with external control or (even) in combination.

28. Contrary to the defendant's view, the existence of means for switching from the internal electronic control to an external speed control as well as for switching to an external speed control is not a condition for the realisation of the protected technical teaching. Switching on and on-demand switching are one and the same and not independent alternatives. Accordingly, the existence of *both* means for switching from the internal electrical control to an external speed control and means for switching to an external speed control is not a condition for the realisation of the claimed technical teaching. Rather, a centrifugal pump unit which can be used *both* in a heating system with operation of the internal electronic control *and* in a heating boiler with external control is also covered. In the solution according to the invention, this is ensured in particular by the means for continuous switching.
29. On the basis of such an understanding, the defendant did not substantially deny the realisation of the technical teaching protected by patent claim 1.

Action for annulment:

30. In the defendant's view, the patent at issue must be declared invalid in its entirety, as the ground for invalidity of lack of practicability within the meaning of Art. 138 (1) (b) UPCA applies.
31. From the defendant's point of view, it is not clear to the skilled person from the patent in suit what is meant by the "electronic means" and how these are to be designed in order to achieve 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 a signal transmission via a pulse-width modulated signal by means of which the speed of the heating circulation pump can be controlled.

of the pump can be controlled. The fact that 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 in order to adjust the power of the motor is also known to the person skilled in the art. Since it is also clear to the skilled person that for these pump units known from the prior art, some means are required which can recognise and evaluate the applied signal in order to make it available to the speed controller, i.e. the frequency converter, he will try to find what he is looking for in the patent in suit with regard to the design of the electronic means. However, he will not be successful in this endeavour. This is because the "means for switching over or switching on" are only very roughly outlined in the patent at issue.

32. Therefore, feasibility is lacking for at least two reasons:
33. If the skilled person interprets the feature "means" according to patent claim 1 in such a way that the same means would be suitable for switching and switching on, the invention would not be practicable, because the means are used in the plural in patent claim 1. This is in contradiction to the fact that what could be described neutrally as a "hardware device" has to fulfil two purposes at the same time. If, on the other hand, the skilled person interprets the plural "the means" to really mean several devices, at least one for switching and one for engaging, there is also no practicable invention because the characterising feature does not refer to means which are intended exclusively for engaging an external speed control (but not for switching) and accordingly does not indicate any practicable teaching with which this purpose could be achieved. The skilled person is therefore faced with the problem of either designing the means as one component, but then not knowing whether the "means for switching" relate to the one component or whether several means are required. Alternatively, he could use several means for switching on or switching over, but would then not know anything about the design of the means for switching on.
34. In addition, the "means for switching" in claim 1 is also undefined. The skilled person would infer from paragraph [0012] of the description of the patent at issue and from Figure 2 thereof that a decision is to be made as to whether the switching is to take place continuously or on demand. The criteria for determining whether switching should take place could therefore not be purely digital (on or off), as the embodiment example with the switch contacts on the hardware connector for a cable of an external controller would suggest. In this embodiment example, a microswitch on the plug receptacle for the signal line would ensure that the switchover is carried out when the cable is plugged in, regardless of any other circumstances in the operating state of the pump. The person skilled in the art would therefore come to the conclusion that the electronic means for switching must therefore itself determine whether a controller is connected and switch over itself. This presupposes that, in a first step, the means is able to carry out a calculation process, at the end of which the question of whether an external control is connected or not is answered. In a further step, the electronic device must then "decide" on the basis of predetermined parameters whether or not to switch over to the external control system ("switching on"/"switching over"). Once again, a calculation process is involved. However, a simple plug or microswitch could not achieve this. In contrast, patent claim 1 is formulated in such a way that, if an external control is recognised, the system is automatically switched over. This, however, contradicts the meaning of the word "switching on", according to which it must be possible for a switchover to occur when an external control is detected.

The internal control is not switched off when an external control is detected, but is maintained. For this purpose, a pump-internal computing process would have to send signals and process them in parallel, while determining whether and how to switch to which signals. How the means for this could be designed is also not apparent to the skilled person based on the patent in suit.

35. Moreover, the patent in suit does not sufficiently disclose how the electronic means determine whether an external control is connected or not.
36. Furthermore, the teaching of the patent at issue protected by patent claim 1 is based in each case on DE 101 39 510 A1 (D 5), the GRUNDFOS DATENHEFT UPM2, UPM GEO, UPM2K Umwälzpumpen 50/60 Hz document "Grundfosliterature-4927111.pdf" including a screenshot of a website (D 6/D 6a), WO 2008/073413 A2 (D 15), WO 2008/073436A2 (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) are not new (Art. 24 para. 1 lit. c) UPCA in conjunction with Art. 138 para. 1 lit. c) EPC). Art. 138 para. 1 lit. a), Art. 54 EPC), whereby the citations D 15 to D 19 were only introduced into the proceedings with the Reply to the nullity counterclaim.
37. Finally, the defendant denies inventive step (Art. 24 para. 1 lit. c) UPCA in conjunction with Art. 138 para. 1 lit. a), 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 citation D 5. In addition, the defendant referred for the first time in the Reply to the revocation counterclaim with regard to patent claim 1 to a combination of citation D 5 with a manual "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 ecodesign requirements for external glandless circulators and glandless circulators integrated in products (D 20).
38. In addition, the defendant submitted a decision of the Chinese National Intellectual Property dated 6 January 2025 (hereinafter: Office, see Annexes B&B D 21) in a document dated 19 February 2025 as part of an application for admission of further pleadings (App_8530/2025), of which it submitted a German translation for the file in a document dated 10 February 2025 (App_11606/2025) as Annex B&B D 22.
39. With regard to the statements on the legal validity of the subclaims, which the defendant also considers to be lacking, reference is made to the counterclaim for annulment.
40. The Claimant defends the patent at issue as granted. In the alternative, it asserts a total of 7 auxiliary requests, the wording of which is referred to in the Reply of 22 July 2024.

Legal consequences:

41. In the defendant's view, the claims asserted by the Claimant for invoicing, recall and destruction are disproportionate.
42. Information on the names and addresses of the commercial customers as well as the individual offers, broken down by offer quantities, times, prices and type designations as well as the names and addresses of the offerees must be provided by the defendant at

The company does not have to take the principle of proportionality into account. The requested information is not necessary to quantify the damages.

43. A recall of heating circulation pumps, many of which are already installed in building heating systems, would also be disproportionate in a commercial context, taking into account both the associated effort and costs, unless this is already excluded in the private sector.
44. Furthermore, a recall was also disproportionate because the parties had been in licence negotiations before filing the action with the Unified Patent Court. The Claimant had misled the Defendant about its willingness to grant a licence, but was now nevertheless demanding a full recall with an action that was not necessary.
45. Apart from that, a recall would not be compatible with the principle of proportionality, even taking into account the interests of customers, in particular tradesmen and property owners.
46. Finally, the court could determine possible damages as a lump sum in appropriate cases such as the present one. The parties had negotiated a licence at the time the action was brought. The lump sum should therefore be based on the most likely agreed licence fee.
47. The Claimant has countered these statements.
48. In particular, the Claimant needs the information requested in the context of the provision of information and invoicing in order to determine the damages to which it is entitled and to verify the information to be provided by the Defendant. The Order of the requested accounting was also proportionate. The information to be provided was already available to the defendant due to its accounting retention obligations. The defendant could therefore transfer this information into an organised and comprehensible list without unreasonable effort. The competitive relationship between the parties also does not make the requested accounting unreasonable.
49. The requested recall is also unobjectionable from the point of view of proportionality. As a result of the defendant's actions, a large number of patent-infringing heating circulation pumps, of which the Claimant is not yet aware, are in the German, French and Italian distribution channels. These pumps blocked a possible demand for corresponding models manufactured by the Claimant. Therefore, the Claimant has an interest worthy of protection in eliminating this state of disruption created by the Defendant. A milder means of eliminating the state of disruption is not apparent. Nor could the defendant successfully invoke the interests of third parties. The fact that a recall order is opposed by the interests of third parties is inherent to it. This alone does not justify disproportionality. For this to be the case, the affected third-party interests would have to be of such importance that they significantly outweigh the patent proprietor's interest in enforcing the statutory recall claim. However, this was not the case here.
50. Nor was the requested destruction disproportionate. In this respect, there is already a lack of

Information from the defendant on how it intended to convert the products into a non-infringing form.

51. Insofar as defendant is seeking liquidated damages, it is up to the plaintiff to decide with its submission whether the court should award damages under Article 63(3)(a) or (b) UPCA. In addition, in the present proceedings, the Claimant is initially only seeking a declaration of liability for damages the merits. The amount of damages is therefore only relevant in a subsequent compensation procedure.
52. The defendant has countered the Claimant's arguments. In particular, as an alternative to the recall, there is the possibility of sealing the signal inputs of the pumps so that the connection of an external speed control is made impossible. The defendant could also have its customers sign declarations of intent, subject to penalty, to guarantee that the pump would not be controlled externally.

LEGAL ASSESSMENT:

A. Admissibility of the action and the action for annulment

53. The infringement action is admissible. In particular, the international jurisdiction of the Düsseldorf local division pursuant to Art. 31 UPCA in conjunction with Art. 71b para. 2 in conjunction with Art. 71b para. 2 of Regulation (EU) No. 1215/2012 (hereinafter: Brussels Ia Regulation). Pursuant to Art. 32 para. 1 lit. a) UPC Agreement, the Unified Patent Court (UPC) also has exclusive jurisdiction for actions for actual or threatened infringement of European patents, unless - as in this case - an opt-out (Art. 83 para. 3 UPC Agreement) has been declared. Since the defendant not file a preliminary objection within the opposition period, both the jurisdiction of the UPC Agreement and the jurisdiction of the Düsseldorf local division are deemed to be recognised, R. 19 para. 7 RoP.
54. There are also no objections to the admissibility of the action for annulment. In particular, the UPC Agreement also has international jurisdiction. Pursuant to Art. 32(1)(e) UPCA, the UPC Agreement has exclusive jurisdiction for counterclaims for revocation of (European) patents. As there is currently no opt-out from the exclusive jurisdiction of the court in relation to the patent at issue in force, the international jurisdiction of the UPC - as the common court of the UPC Agreement member states - pursuant to Art. 31 UPCA in conjunction with Art. 24 para. 4, Art. 71 UPC Agreement is not excluded. Art. 24 para. 4, 71a para. 2 lit. a), 71b para. 1 Brussels Ia Regulation for the present revocation counterclaim.

B. Relevant specialist

55. In the Chamber's opinion, the relevant specialist is a mechatronics engineer with a technical college degree and several years of experience in the development of circulation pumps.

C. Scope of protection of the patent at issue

56. The patent at issue relates to a centrifugal pump unit in the form of a heating circulation unit.
57. As the skilled person will see from the introductory remarks in the patent in suit, centrifugal pump units typically consist of a centrifugal pump and a drive unit for this pump.

motor, an electronic speed controller (such as a frequency converter) for the motor and an internal electronic control system in which the manipulated variable is the speed of the motor, whereby the speed controller and control system form part of the unit and are typically ordered in a terminal box or electronics box next to the pump and motor housing. Control variables of such a control system are, for example, the differential pressure between the receipt and the output of the pump, the volumetric flow and variables derived therefrom (para. [0002]).

58. In the case of modern heating circulation pumps of the aforementioned type, it is state of the art, according the dispute document, that the internal electronic control not only provides a large number of selectable control curves, but that the unit also has an internal processor with corresponding software, which is able to independently adapt the setpoint values of the control system to the heating system based on the conditions in the heating system, in particular the pressure curves, the approaching temperature of the pumped medium, the flow rate and the like. This self-learning setpoint adjustment of the internal control has the advantage that the pump adapts almost ideally to the requirements of the heating system and can be operated with comparatively little energy (para. [0003]).
59. In addition, frequency converter-controlled heating circulation pump units, in which an external controller is provided to control the speed of the pump, are also part of the state of the art. This external control is typically part of the central control 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. Pumps of this type can be found in gas boilers, for example, which are found as compact heating appliances in flats or are also used in smaller houses (para. [0004]).
60. On this basis, according to the description of the patent at issue, different pump series have become established: On the one hand, self-learning heating circulation pumps, which are installed in heating systems on site, and on the other hand, externally controlled heating circulation pumps, which are typically installed in heating systems by the manufacturer. Examples of prior art pumps are disclosed, for example, EP 0 886 228 A2 and EP 0 735 273 A1. As the hydraulic requirements are often the same in both cases, the mechanical design of the centrifugal pump units is practically the same. However, the manufacturer must always produce two series with the same connection data for the pump housing. Also, 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 groups of two to eight pumps in parallel, it is state of the art (Grundfos pump type Magna UPE) to control these individual heating circulation pumps, each of which an internal electronic control, from the outside, whereby the internal control as such is not influenced, but only the setpoint specifications (para. [0006]).
62. Based on this, the invention according to the description of the patent in suit is based on the task (the technical problem) of designing a centrifugal pump unit of the same type in such a way that it can be used both in a heating system with operation of the internal electronic control system and in a heating system with external control or combined use.

can be found (para. [0007]).

63. To solve this problem, patent claim 1 of the patent at issue protects a heating circulation pump unit which is characterised by a combination of the following features:
1. Heating circulation pump unit
 - 1.1. with 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 with an internal electronic control (16),
 - 1.4.1. in which the control variable is the speed of the motor (7).
 2. The speed controller (11) and the control (16) form part of the unit.
 3. A signal input is provided for external control of the motor (7).
 4. Appropriations (20) are provided for
 - 4.1. for switching from the internal electronic control (16) to an external speed control or for switching on 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 switch to the external control when a connected external control is detected.
64. According to Art. 69 EPC in conjunction with the Protocol on its interpretation, the patent claim is not only 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 explanatory aids for the interpretation of the patent claim and not only be used to resolve any ambiguities in the patent claim. However, this does not mean that the patent claim merely serves as a guideline and that its subject matter also extends to what, after examination of the description and drawings, appears to be the patentee's request for protection (UPC_CoA_335/2023, Order of 26 February 2023 in conjunction with Order of 11 March 2023). Order of 11 March 2024, GRUR-RS 2024, 2829, second headnote and para. 73 - 77 - 10x Genomics v. NanoString; UPC_CFI_452/2023 (LD Düsseldorf), Order of 9 April 2024, p. 13, GRUR-RS 2024, 7207, para. 49 - Ortovox v. Mammut; see also UPC_CFI_7/2024 (LD Düsseldorf), decision of 3 July 2024 - Franz Kaldewei v. Bette; UPC_CFI_239/2024 (LD The Hague), decision of 22 November 2024 - Plant-e v. Arkyne (Bioo); UPC_CFI_50/2024 (LD Düsseldorf), decision of 10 April 2025 - Yellow Sphere v. Knaus Tabbert).
65. Having said this, a few features need to be explained.
66. The heating circulation pump unit protected by patent claim 1 is characterised by the fact that it has an internal electronic control (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 described in paragraphs [0003] and [0004], which are known from the prior art - can be controlled not only internally or externally, but either internally or externally as required.

67. In accordance with the invention, means (20) are also provided for switching from the internal electronic control to an external speed control or for switching on an external speed control (features 4. and 4.1.).
68. While a switchover generally understood to mean a (complete) change from the internal electronic control to an external speed control, the external speed control takes its place alongside the internal control when it is switched on.
69. The fact that the patent at issue is also based on such an understanding is already clear from the English version of the patent claim (which, however, 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 change 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 on).
70. In line with this, the patent in suit further explains in paragraph [0028] in the context of the explanation of the preferred embodiment:

"[...] the control and regulation electronics (12) are switched by means of an electronic switch (20) so that when a PWM signal is present at the input formed by the plug (14), a corresponding speed signal is generated for the motor (7) via the frequency converter (11) [...]. The control and regulation electronics (12) then switches to the external , the internal regulation can then be completely or partially switched off."

(underlining added)

If the internal control is switched off completely, this corresponds to switching over. If, on the other hand, the internal control is partially switched off, it remains active and the external control is merely switched on.

71. However, the skilled person attempting to the scope of protection of patent claim 1 must not lose sight of the fact that features 4. and 4.1. do not require that the means actually switch over or switch on. Rather, only means (20) *for switching* from the internal electronic control to an external speed control or *for switching on* an external speed control are provided. Feature 4.1. thus only contains purpose specifications. If a patent claim contains statements of purpose, these usually serve to improve understanding of the invention. As a rule, they have the indirect effect of defining the object protected by the patent in such a way that it must not only fulfil the spatial and physical features, but must also be designed to be usable for the purpose stated in the patent claim (UPC_CFI_463/2023 (LD Düsseldorf), Order of 30 April 2024, headnote 2 - 10x Genomics v. Curio Bioscience). In other words, indications of purpose define the subject matter protected by a patent in more detail in that it does not only cover the spatial-physical

features that are explicitly formulated in the patent claim. Rather, the means must also be designed in such a way that it can bring about the effect mentioned in the patent claim. When applied to feature 4.1, the means must therefore be designed in such a way that it can bring about switching or switching on. Feature 4.1. does not require suitability for switching over or switching on in a controlled manner.

72. The task formulated in paragraph [0007] of the patent in suit does not compel a different assessment, nor does the prior art recognised in the patent in suit.
73. As the skilled person will understand from paragraphs [0003], [0004] and [0006] of the patent in suit, a total of three types of heating circulation pump units were known in the prior art:
1. Heating circulation pumps with internal electronic control (par. [0003]);
 2. frequency inverter-controlled heating circulation units in which an external control is provided to control the speed of the pump (para. [0004]);
 3. Heating circulation pumps of larger design in which groups of two to eight pumps are installed in parallel, each of which has an internal electronic control that can (also) be controlled externally without influencing the internal control (Para. [0006]).

(underlining added)

While the first two variants mentioned are controlled either internally or externally, heating circulation pumps of the third group are characterised by the fact that the internal electronic control is supplemented by an external control without this leading to an impairment of the internal electronic control.

74. Based on this, 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 in both cases, the centrifugal pump units hardly differ in their mechanical design. Nevertheless, with the same connection data of the pump housing, two series must always be produced, which must then also be stocked accordingly.
75. If, against this background, the patent at issue describes it as the task of the invention to design a centrifugal pump unit according to the patent in such a way that it can be used both in a heating system with operation of the internal electronic control and in a heating boiler with external control or in combination (para. [0007], emphasis added), the person skilled in the art reads this with the knowledge previously imparted to him about the pump types known in the prior art. From this he realises that ultimately two constellations are addressed:
1. The heating circulation pump unit can be used both in heating systems with internal control operation and in a heating boiler with external control.

2. The heating circulation pump unit can be used in heating systems that are controlled both internally and externally ("or combined").

Only in the latter variant is the possibility of connection mandatory. In line with this, feature 4.1. only requires suitability for switching or connection, but not that the corresponding means must always be suitable for both switching and connection.

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 switch over to an external control when a connected external control is detected.
77. Apart from the specification that the means should be electronic (and therefore not just mechanical), the means are described exclusively in functional terms: They must (1) determine whether an external control is connected or not and (2) *switch* to an external control if it is connected. This is all that feature 4.2. requires. In particular, it does not contain any specifications as to how the connection of an external control unit is determined. This can therefore be done directly, for example by detecting the contact between the plug and the mating connector by means of a microswitch within the plug (see paragraph [0027]). However, a design in which the detection is carried out indirectly, for example by detecting the presence of an external control signal, is also covered by the scope of protection. In addition, claim 1 leaves the decision as to how the switching takes place to the discretion of the person skilled in the art.
78. In contrast, to the extent that the defendant requires the existence of a decision-making logic in the sense that the means must be able to make its own decisions with regard to the external signal and the assumption of control of the speed, such an understanding cannot be reconciled with the wording of patent claim 1. Accordingly, the means (20) determine whether an external controller is connected or not. If such an external control is connected, the means (20) switch over to the external control. Patent claim 1 does not grant the means its own scope for deciding the question of switching. If the condition - connection of an external control - is fulfilled, the consequence of the fulfilment of this condition is rather the switching over. There is also no indication in patent claim 1 that the means, as further argued by the defendant, in the case of determining the connection of an external control, decides between switching over and switching on the external control.
79. The description of the patent in suit does not compel a different assessment. This applies in particular also in consideration of para. [0012], where it states:

"According to the invention, the means for switching over the internal electronic control to an external speed control or for switching on an external speed control are designed in such a way that they determine whether an external control is connected or not and switch over to the external continuously or, if necessary, as required when a connected external control is detected."

(underlining added)
80. The "switching if necessary" mentioned there has no effect on the range of the

This is not reflected in the relevant patent claim. Insofar as paragraph [0012] then speaks of a suitable electronic circuit determining 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 insofar as the description of the patent in suit speaks directly afterwards of the determination of "hand shaking" or suitable "calibration cycles". Finally, the configuration described in para. Figure 2 is merely an explanation of a preferred embodiment example, without the scope of protection being limited to such a design. There are no indications that the patent at issue, as argued by the defendant, attempts to distinguish itself from the prior art described in paragraph [0004] of the description of the patent at issue by the existence of an internal decision-making and control logic.

81. Even if the defendant ultimately to the grant file to justify its deviating opinion, the question, which has not yet been conclusively answered by the Court of Appeal, as to whether and, if so, to what extent this may be taken into account in the interpretation of the patent at issue, does not require a decision in the present case. The extent to which paragraph [0013] may still be taken into account in the interpretation of the patent or whether it should have been adapted during the grant procedure is not decisive in the present case. Even if a simple switch on the pump unit is possibly no longer covered by the scope of protection of the patent at issue due to the restriction in the granting procedure to *electronic means* which are designed to determine whether an external control is connected or not and to *switch* the external control *when* an external control is *detected*, this does not force, on the basis of the above explanations, to include only such a design under the scope of protection which has a control and decision logic.

D. Counterclaim

82. The action for annulment is not successful on the merits.

I. Feasibility of the invention

83. There is no doubt that the invention according to claim 1 is so clearly and completely disclosed that it can be carried out by a person skilled in the art and thus fulfils the requirements of Art. 83 EPC.
84. In order to fulfil the requirements set out there, the subject matter of a patent must be sufficiently disclosed on the basis of the patent in its entirety, including the examples, taking into account the general knowledge of a person skilled in the art. Even if the invention must be disclosed in the patent specification, the general knowledge of the skilled person must also be taken into account when examining the sufficiency of the disclosure (UPC_CFI_355/2023 (LD Düsseldorf), decision of 28 January 2025, p. 36 - Fujifilm v. Kodak).
85. On this basis, the defendant's arguments do not significantly call into question the feasibility of the invention.
86. Insofar as the defendant out that the skilled person is faced with the problem of designing the "means for switching or for switching on" referred to in the claim as one component, but then does not know whether the means for switching relate to the one component or whether several components are required, or whether he sees several means for switching on in each case.

and switching, but then learn nothing from the patent specification in dispute with regard to an embodiment of means for switching, these considerations do not concern the feasibility, but at most the clarity of the claim. However, this is not a ground for invalidity within the meaning of Art. 138 EPC (cf: UPC_CFI_50/2024 (LD Düsseldorf), decision of 10 April 2025, para. 134 - Yellow Sphere v. Knaus Tabbert). The defendant's submission in this regard is therefore not suitable from the outset to significantly deny the legal validity of the patent at issue. Apart from that, the skilled person does not only know means for switching. On the contrary, a switch is also mentioned as an example of such a means in the description of the patent in suit (see para. [0013] and also sub-claims 3 and 4). The invention is therefore practicable.

87. Nothing else applies with regard to the technical design of the determination of the connection of an external speed control, which is further addressed by the defendant in connection with the embodiment. In this respect, the person skilled in the art learns from sub-claim 4 that the means for switching have a sensor or microswitch which is designed to detect a connection of the electrical connector of the signal input. In addition to this, the person skilled in the art will also find in paragraph [0027] the indication that the control electronics in the embodiment example shown in Figures 1 and 2 are designed such that they automatically detect whether the plug (14) is contacted by a mating plug (19). For this purpose, a microswitch is provided inside 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 by means of the electronic switch (20) so that a corresponding speed signal for the motor (7) is generated via the frequency converter (11) when a PWM signal is present at the receipt formed by the plug (14). Based on the understanding of the scope of protection described in detail above, there are no obvious reasons why the invention cannot be implemented.

II. Novelty

88. The prior art cited by the defendant does not anticipate the technical teaching of the patent at issue to the detriment of novelty.

1. Scale of the novelty test

89. An invention is considered new if it deviates from the prior art in at least one of the known features. Only that which is directly apparent to a person skilled in the relevant technical field from the publication or prior use is anticipated in the prior art (see UPC_CoA_382/2024 (Court of Appeal), Order of 14 February 2025, APL_39664/2024 - Abbott v. Sibio). Findings that a person skilled in the art only obtains on the basis of further considerations or the consultation of other documents or uses are not prior art (see UPC_CFI_50/2024 (LD Düsseldorf), decision v. 10.04.2025, para. 136 - Yellow Sphere v. Knaus Tabbert; UPC_CFI_7/2024 (LD Düsseldorf), decision of 03.07.2024 - Kaldewei v. Bette; UPC_CFI_239/2024 (LD The Hague), decision of 22.11.2024 - Plant-e v. Arkyne (Bio)).

2. Novelty test in individual cases

90. On this basis, the invention protected by patent claim 1 proves to be new compared 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)

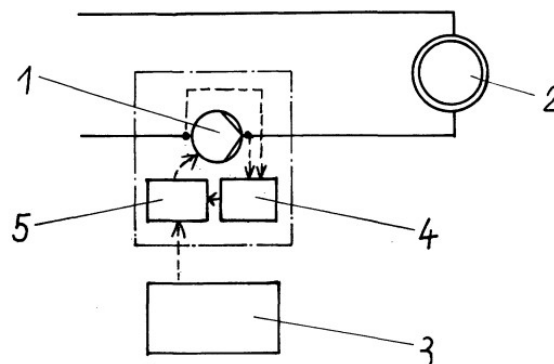
91. DE `510 A1 relates to a method for controlling the speed of a circulation pump in the heating circuit between a boiler and at least one heat-consuming heating circuit in a heating system with a control device. To carry out the method, a circulation pump with a measuring device for detecting the pressure difference and with an additional receipt for a signal for pulse width modulation is used (para. [0010]). As the skilled person will further understand from the citation, the method disclosed therein makes it possible to manipulate a conventional pump which operates by measuring the pressure difference in the connected line of the heating circuit. In this way, the modes of operation of a pressure differential-controlled pump and a pulse-width modulated pump are combined without having to forego the respective advantages. A preferably modular control circuit can be fitted both directly to the circulation pump and to the control unit. The two signals applied for pulse width modulation and pressure difference, both of which allow conclusions to be drawn about the desired flow rate, are permanently analysed by the control circuit (Ref. [0011]).
92. An embodiment of the invention disclosed in D 5 is in the following figures 1 and 3 of the citation. Figure 1 shows the reaction of a circulating pump after 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 shows the order 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 order shown above, the measuring device (4) for the detection of

of the pressure difference and the control circuit (5) for signal selection are integrated into the circulation pump (1). If the control device (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 difference. If, on the other hand, a signal for pulse width modulation is present at the control circuit (5), this is given priority or not according to the specified selection criteria.

95. Based on this, there is already no disclosure of a centrifugal pump (feature 1.1.). A circulation pump is disclosed. However, nothing is said about its type. Against this background, defendant referred at the oral hearing to the fact that the skilled person would have to take Regulation (EU) 622/2012 amending Regulation (EC) No 641/2009 with regard to ecodesign requirements for external glandless circulators and glandless circulators integrated in products (cf. D 20), according to which the term "circulation pump" refers to a centrifugal pump (Art. 2 No. 1 of this regulation), is forced to design the pump as a centrifugal pump, this is not convincing because the regulation defines the term "circulation pump" as a centrifugal pump for the purpose of the regulation. However, it is not clear from the regulation that a circulation pump must (always) be designed as a centrifugal pump. Even if the skilled person, which is assumed in favour of the defendant, reads D 5 with the knowledge of D 20, it is therefore in any case not directly and clearly apparent from such a combination that the circulation pump shown in D 5 is actually a centrifugal pump within the meaning of patent claim 1 of the patent at issue.
96. In addition, the citation does not disclose *an electronic* speed controller for the engine within the meaning of feature 1.3. Even if speed control is mentioned in paragraph [0018] and a speed controller is therefore likely to be indispensable, such a controller can also be designed as a hydraulic clutch, for example, and thus not electronically. Consequently, feature 1.3 is also not disclosed.
- b) "Grundfos data booklet UPM2, UPM GEO, UPM2K circulation pumps 50/60 Hz" (Appendix B&B D 6, hereinafter: data booklet)
97. The data booklet submitted as citation D 6 also does not disclose the technical teaching of the patent at issue, which is protected by patent claim 1 of the patent at issue, in a manner prejudicial to novelty.
98. Three series of circulation pumps are described in the data sheet. While the UPM2 pump is intended for installation in boilers or other heating applications with remote heat control of the pump speed, the UPM Geo and UPPM2K circulators are particularly suitable for cold water applications (see Appendix D 6, p. 3, left column). As the skilled person can also see from the data booklet, the UPCM2 model is a remotely controllable, speed-controlled, high-efficiency circulation pump with permanent magnet rotor and frequency converter, whereby the control takes place via a digital, pulse-width modulated low-voltage signal (Appendix D 6, p. 3, top right-hand column). The pumps in question are therefore basically controlled externally; there is no internal electronic control within the meaning of feature 1.4.
99. The function of the PWM input signal is described in more detail on page 9 of the data booklet 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.

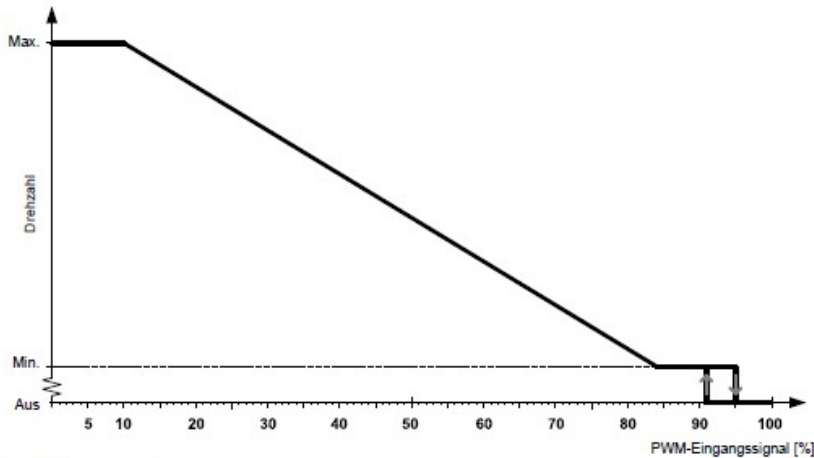


Abb. 6 PWM-Eingangsprofil

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 in the figure above, the pump is controlled via the PWM signal when its percentage is between 10 % and 84 %. In this interval, the pump speed decreases linearly from the maximum to the minimum. If the percentage falls below 10 %, for example due to a cable break, the pump continues to run at maximum speed in order to transfer the heat from the primary heat exchanger. If, on the other hand, 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 has a hysteresis to prevent the pump from repeatedly switching on and off when the input signal fluctuates around the switching point. If the PWM signal is between 96 % and 100 %, the pump is ready for operation.
101. Based on this, there is no internal control, i.e. no comparison of actual and setpoint values in the sense of feature 1.4. The pump is controlled solely via the (external) PWM signal. If, in exceptional cases, there is no such signal or if it is too weak, the pump runs automatically at maximum speed (see Annex D 6, p. 19, bottom left-hand column); even then, there is no internal control. Insofar as the defendant points out against this background that the pump is controlled internally by a small frequency converter that is operated with DC voltage (see Annex D 6, p. 17, bottom right column), such a frequency converter itself does not operate without control or regulation for feedback. In other words, such a frequency converter runs the pump at a certain speed when it receives corresponding instructions. Against this background, the person skilled in the art is aware that the frequency inverter, according to its technical function, is only the speed controller for the pump. It can only control the pump depending on the speed set at the PWM input.

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

102. Since there is no internal electronic control, the data booklet does not disclose any means for switching within the meaning of feature group 4.

c) Further state of the art

103. Insofar as the defendant additionally bases its novelty attack in its Reply to the action for annulment on WO 2008/073413 A2 (Annex B&B D 15), WO 2008/0734336A2 (Annex B&B D 16), the "Grundfos Instructions - 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 is an extension of the action within the meaning of R. 263 RoP (see also: UPC_CFI_390/2023 (LD Munich, Panel 1), decision of 13 September 2024, p. 42 - Koninklijke Philips N.V. v. Edrich).
104. According to this provision, a party can apply to the court at any time during the proceedings for the admission of an amendment or extension of the claim, including a (nullity) counterclaim. The application must state the reasons why the amendment or addition was not already included in the original document. Subject to paragraph 3, admission shall be refused if the party requesting the amendment cannot convince the court, taking into account all the circumstances, 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 its conduct of the proceedings. Both conditions must be fulfilled independently of each other. The burden of proof that both the requirements of R. 263 para. 1 RoP and the grounds for exclusion pursuant to R. 263 para. 2 RoP are not met lies with the applicant. The applicant must therefore explain why the amendment was not included in the original documents. The court must also be able to decide on the exclusion criteria contained in R. 263 (2) RoP on the basis of the applicant's explanation (UPC_CFI_114/2024 (LD Munich, Panel 1), Order of 25 September 2024, p. 13 f. - Heraeus v. Vibrantz; UPC_CFI_483/2024 (LD Munich, Panel 2), Order of 28 February 2025 - Esko-Graphics v. XSYS).
105. Even if it can be assumed in the defendant's favour, even without an express application, that the introduction of the further citations implies application for admission of the associated extension of the action for annulment, the defendant has not submitted anything that could justify the admission of this extension of the action for annulment despite the delay in accordance with R. 263 (2) RoP. The defendant does not provide any reasons why the documents in question could not already be introduced into the proceedings with the action for annulment. Nor can it be established that the admission of the citations into the proceedings for the first time with the Reply does not unreasonably hinder the Claimant in its conduct of the proceedings.
106. In this context, it should be noted that the proceedings before the UPC Agreement are "front-loaded". Therefore, the grounds for nullity must already be in the nullity counterclaim. The documents on which the defendant relies to substantiate the action for annulment must also be submitted with the action for annulment. That this is the case is already from R. 25 para. 1 lit. b), c) and d) RoP. Accordingly, the counterclaim must

contain one or more grounds for nullity, the facts presented and, if available, the evidence presented. Taking into account the sequence of documents provided for in the Rules of Procedure and the associated strict time limits, this is the only way to ensure that the plaintiff is not unduly disadvantaged in the conduct of the proceedings. If the grounds for nullity are found in the nullity counterclaim, the plaintiff can respond to this submission within a period of 2 months (R. 29 lit. a) RoP) and, if necessary, react with a motion to amend in accordance with R. 30 para. 1 RoP. In contrast they only have one month to respond to the counterclaim for annulment (R. 29 lit. c) RoP). At this point in time, he can also only submit amendments under the additional requirements of R. 30 para. 2 RoP.

107. Based on this, it would have up to the defendant not only to show the reasons that initially prevented it from introducing the further citations into the proceedings at an early stage. Rather, it would also have been up to the defendant to explain why their consideration would not unreasonably hinder the Claimant in its conduct of the proceedings. The defendant did not sufficiently fulfil any of these requirements, and in particular it is not apparent that the defendant's supplementary submissions prompted by the claimant's submission following the action for annulment. Therefore, the further rebuttals are not admissible (comparable: UPC_CFI_263/2023 (CD Paris), Order of 29 July 2024 - Bitzer v. Carrier; UPC_CFI_390/2023 (LD Munich, Panel 1), Order of 13 September 2024 - Koninklijke Philips N.V. v. Edrich; UPC_CFI_430/2023 (Nordic-Baltic Regional Division), Preliminary Order of 7 October 2024 - Abbott v. Dexcom).

III. Lack of inventive step

1. Scale

108. According to Art. 56 EPC, an invention is considered to be an inventive step if it is not obvious to a person skilled in the art from the prior art.
109. According to the Munich Central Division (UPC_CFI_1/2023 (CD Munich), decision of 16 July 2024 - Sanofi v. Amgen), which the Düsseldorf local division has already 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 - Orthovox v. Mammut; UPC_CFI_50/2024 (LD Düsseldorf), decision of 8 March 2025, para. 166 - 173), the examination of inventive step always requires an assessment on a case-by-case basis, taking into account all relevant facts and circumstances. An objective approach must be adopted. The subjective ideas of the applicant or inventor are irrelevant. Only what the claimed invention actually contributes to the state of the art is relevant.
110. The inventive step is to be assessed from the point of view of a person skilled in the art on the basis of 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 accessible prior art at the relevant time. The decisive factor is whether the claimed subject-matter is derived from the prior art in such a way that the skilled person would have found it on the basis of his knowledge and skills, e.g. by obvious modifications of what is already known.

111. In order to assess whether or not a claimed invention was obvious to a person skilled in the art, it is first necessary to determine a starting point in the prior art. Reasons must be given as to why the skilled person 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 patent at issue, was seeking to develop a product or process similar to that disclosed in the prior art, i.e. having a similar basic problem to the claimed invention (cf. UPC_CoA_335/2024, 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 was faced with the task at the priority date of the patent in suit, [...] D 6 was of interest"). There may be several realistic starting points, and it is not necessary to determine the "most promising" starting point.
112. If the claimed subject-matter is compared with the prior art after interpretation, the question arises as to whether it would have been obvious for the skilled person to arrive at the claimed solution on the basis of a realistic disclosure of the prior art in view of the underlying problem. If it was not obvious to arrive at this solution, the claimed subject-matter fulfils the requirements of Article 56 EPC.
113. Generally, a claimed solution is obvious if, based on the prior art, the skilled person 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 implement it as the next step ("next step", see UPC_CoA_335/2024, Order of 26 February 2024, p. 35, second paragraph - NanoString v. 10x Genomics) in the development of the prior art. On the other hand, it may be relevant whether the skilled person 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 in comparison with the prior art may be an indication of inventive step. A feature arbitrarily selected from several possibilities cannot generally contribute to inventive step.
115. A retrospective view must be avoided. The question of inventive step should not be answered by looking retrospectively for (combined) prior art disclosures from which this solution could be derived when the patented subject-matter or the patented solution is known.

b) The present case

116. Measured against this, the defendant's argument is not suitable for calling the inventive step into question.

aa) D 6 with D 5

117. This applies first of all to the combination of caveat D 6 with caveat D 5 raised by the defendant.
118. It already seems questionable whether D 6 is a realistic starting point the assessment of inventive step.

119. The solution disclosed in D 6 differs from patent claim 1 in that, unlike the solution according to the patent in suit, it lacks an internal electronic control as part of an assembly and, based on this, also a means for switching from such an internal electronic control to an external speed control (feature 1.4. and feature group 4.). Even though both D 6 and the patent in suit to a heating circulation pump assembly, the two solutions differ in their basic design and construction: The pump disclosed in D 6 is solely designed for external control. The problem underlying the patent at issue of designing a centrifugal pump unit of the same type in such a way that it can be used both in a heating system with operation of the internal electronic control and in a heating system with external control or a combination of the two therefore does not arise from the outset.
120. Apart from this, the skilled person has 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 normally controls the pump. If the PWM input signal falls below 10 %, the pump runs at maximum speed. In contrast, the D 5 teaches 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 in addition to the internal control signal, the control circuit can select the maximum or minimum value for controlling the pump.
122. Based on this, the control of the D 6 and the D 5 as such are not compatible. A person skilled in the art would therefore not transfer the control circuit of the D 5 to the internal control of the D 6.
- bb) EP 0 866 228 A2 (D 1) with D 5**
123. Insofar as the defendant further attempts 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 skilled person should have to combine the solution disclosed therein with the control disclosed in D 5.
124. EP '228 discloses a pump unit for heating systems, which is preset to a throttle or control curve, preferably at the factory (sp. 1, lines 49 - 54). By presetting the throttle or control curve at the factory in this way, the pump unit can be operated in the same way as a pump unit without control electronics or with a permanently set control curve (p. 2, lines 8 - 12). So that a person skilled in the art can also use the unit for applications that require speed control, the unit also has an adjustment device that can be used to adapt the unit to the requirements of the heating system (p. 2, lines 22 - 28). If the setting device is designed to be wired, the unit may, for example, a plug receptacle in the terminal box, as is known, for example, for holding diagnostic plugs (ref. 2, lines 29 - 37). As the person skilled in the art understands from point 3, lines 3 - 8 of the citation the adjustment device is "intended exclusively for adjustments to be carried out by the skilled person".
125. Even if this means that the D 1 is a realistic starting point for

the assessment of the inventive step, it is not apparent what reason the person skilled in the art should have to combine the solution disclosed in D 1, which is characterised by an internal control that can only be adjusted with the aid of a device that can be connected via a cable, with the external control 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 only be adapted to the individual requirements of the respective heating system by the skilled person using an external adjustment device (see ref. 1, line 56 - ref. 2, line 8). The corresponding adjustment device is expressly described in such a way that it is intended exclusively for adjustments to be carried out by the skilled person (cf. col. 3, lines 3 - 8). The adjustment option provided in D 1 is therefore not an external speed control within the meaning of the patent at issue, which is why no means for switching between an internal and an external control are required (feature 3. and feature group 4.).
127. Since the D 1 solves the underlying task of creating a pump unit that fulfils the requirements of a pump unit supported by modern electronics on the one hand and can nevertheless be used as a standard device without lengthy settings on the other, via a preset throttle or control curve that can only be changed via a separate setting device, the design of the internal control forms the core of the solution disclosed in the D 1. Due 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 (sp. 2, lines 8 -12). The necessary flexibility in the application is achieved via the external adjustment option (provided for the skilled person) (item 3, lines 3 - 8).
128. This combination of a standardised internal control and its external adjustment option, which forms the core of the solution disclosed in D 1, would be broken by the provision of an external control and the switching means that would then be required. Therefore, based on D 1, the skilled person has no reason to combine the solution provided there with an external control and switching means.

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

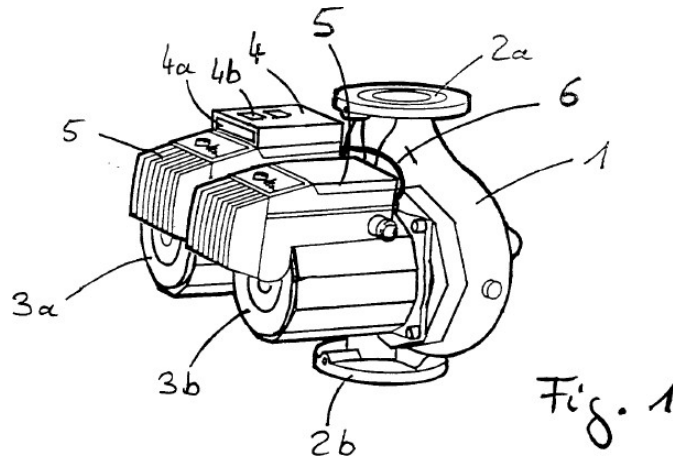
129. Also on the basis of EP 2 151 578 (Annex B&B D 8, hereinafter: EP `578 or D 8) in combination with D 5, there is no lack of inventive step.
130. D 8 discloses a circulation pump unit which has an electric drive motor and a control device for controlling the drive motor. The control device has a communication interface which is designed for connection to at least one external sensor and/or at least one further unit to be controlled by the control device (Sp. 1, lines 47 - 58). The control device is designed so 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 (p. 2, lines 7 - 11). 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 named systems. In addition, sensors can be connected via the communication interface, which supply the control unit with system parameters in order to control the pump depending on these parameters.

control.

131. Whether the circulation pump unit disclosed in D 8, which is designed for large systems with numerous circulation pumps and with a central control unit, represents a realistic starting point for the assessment of inventive step all appears questionable, but does not require a final decision. Even if this should be the case, D 8 lacks in any case the disclosure of electronic means within the meaning of feature group 4. which determine whether an external control is connected or not and which switch over to an external control when an external control is detected (feature group 4.). Such an electronic means, which fulfils the requirements mentioned in feature 4.2. in the form of switching as soon as the connection of an external control has been determined, is also not disclosed in D 5, as explained.
 132. Insofar as the defendant out against this background that a slave pump always requires coordination between an internal control system and an external control system, this may be true. However, this does not necessarily mean that the external control must given priority if the relevant electronic means detects the connection of an external control (emphasis added). Rather, according to the solution described in D 8, the main master pump is connected to at least one secondary (slave) pump via a communication interface for data transmission, with the secondary pump having a control device is designed to control the secondary pump as a function of data received from the main pump (see D 8, paragraph [0021]). The control is therefore still performed - depending data received from the main pump - by the control of the secondary pump. The main pump and slave pump are therefore permanently to each other. A complete switchover to an external controller in the event that the connection of such a controller is determined by an electronic means within the meaning of feature group 4. does not take place and is also not necessary.
 133. Based on the disclosure content of D 8, the skilled person also had no reason to further develop the solution disclosed therein in the direction of an exclusive relationship between internal and external control. In particular, such a reason does not arise in view of the example embodiment shown in Figures 1 and 2 and described in paragraph [0027] ff. It is true that in the system shown there, the main pump (12) takes over control of the overall system, i.e. it controls the other pumps (44), (46) and (48) as well as the valves (see par. [0036] f.). However, the secondary pump (46) controlled by the main pump controls the heating of the water in the water storage tank and the removal of the water from the water storage tank (par. [0039]). Even if the secondary pump (46) is controlled by the main pump and thus externally, it therefore apparently additionally has an internal control system in order to process the control signals received from the main pump. Switching from an internal control to an external control does not take place.
- dd) EP 0 735 273 A1 (D 2) with D 5
134. Finally, the technical teaching protected by the patent at issue is also 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 an electric motor. Furthermore

a higher-level control and/or regulation system is provided, with the aid of which the speeds of the two electric motors can be adjusted or regulated independently of each other as required between the motor standstill and the rated speed (see D 2, section [0001]).

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



137. Figure 1 shows a double pump with a housing (1), which has a pump intake side (2b) and a pump outlet side (2a). Two pump impellers (not shown), which each driven by the electric motors (3a, 3b), are ordered in the housing (1). Controls (5) are attached to the motor housings as modules by means of screw connections. The higher-level control module (4) is on the control module (5), which is connected to the control module of the second electric motor (3b) by means of a transmission cable (6) and controls it via the cable (6).

138. On this basis, the citation in any event fails to disclose an electronic means within the meaning of feature group 4 which determines whether an external control is connected and which switches to such an external control when a connected external control is detected.

139. Based on D 2, the skilled person also has no reason to provide such a means. The solution disclosed there is characterised by the fact that the respective control (5) of the individual pumps adjusts the motor speed of the associated electric motor in accordance with the reference variable specified by the higher-level control and/or control system (4) (see sub-claim 2). The superordinate control and/or regulation and the respective regulation therefore work together permanently. Switching is not required. That this is the case is made clear by the explanation of the block diagram shown in Figure 3 of D 2, where it says in col. 5, lines 40 - 45:

"Each controller 5 is connected to the higher-level control unit 4 via an additional communication interface. The controllers 5 exchange data with the higher-level control system via the communication interface."

140. Such data exchange requires that the higher-level control or regulation system (4) communicates with the controls (5). This will prevent the person skilled in the art from providing a means of switching between the two controls.

ee) D 5 with D 7 or D 20

141. Since defendant invoked a combination of D 5 with D 7 or with D 20 for the first time in the Reply to the action for revocation in the context of the discussion of inventive step, this is also a new appeal and therefore an extension of the action, the admission of which can only be considered under the conditions laid down in R. 263 RoP.
142. However, these do not exist. Neither has the defendant been able to show viable reasons why the further attack on the inventive step now introduced into the proceedings was not already contained in the revocation counterclaim. Nor can it be assumed against the background of the strict time limit regime of the UPC Agreement that the Claimant would not be unreasonably impaired in its conduct of the proceedings by the admission.
143. Insofar as the defendant attempts to justify the discussion of a combination of the D 5 with the D 7 or the D 20, which can be found for the first time in the Reply to the nullity counterclaim, by claiming that the plaintiff had denied the disclosure of a centrifugal pump and an electric motor in the D 5 (see Reply to the nullity counterclaim, p. 26), this argument cannot help it to succeed because it has already admitted in the nullity counterclaim itself that neither the design of the circulation pump nor the electric motor can be inferred from the D 5. 26), this argument cannot help it to succeed because it has already conceded in the nullity counterclaim itself that neither the design of the circulation pump as a centrifugal pump nor the drive of the pump via an electric motor is explicitly disclosed in D 5 (see nullity counterclaim, p. 25 above). On this basis, the defendant's own submissions already provided grounds to discuss the (alleged) lack of inventive step in the revocation counterclaim, at least in the alternative, on the basis of D 5. Nevertheless, in its revocation counterclaim, the defendant decided to discuss the 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 not been able to show comprehensible reasons which would nevertheless justify allowing the discussion of D 5, which was included for the first time in the Reply to the nullity counterclaim, as a starting point, which is why the associated extension of the nullity counterclaim was not to be allowed.
144. If one wanted to see this differently, the defendant has in any case not explained what reason the skilled person should have to combine D 5 with the aforementioned documents. If the defendant - as here - only attacks the inventive step in the further course of the nullity proceedings by referring to a further combination of documents and if the associated extension of the nullity counterclaim is exceptionally admissible, the defendant has a high burden of substantiation in this respect. The defendant's submission does not fulfil these high requirements. Insofar as the defendant assumes in its Reply to the counterclaim for invalidity (see p. 31, second full paragraph) that the skilled person, based on D 5, is faced with the task of concretising the pump known from D 5 in such a way that it is optimised for use as a circulation pump in heating systems, this consideration appears not only retrospective, but also contrived and not prompted by the D 5 citation. In contrast, the mere reference to the fact that D 7 refers to a "circulating pump" according to its title is just as insufficient to justify a cause as the further reference that both documents each disclose a plurality of patent features in themselves.

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

145. Insofar as the defendant has submitted a decision of the Chinese National Intellectual Property Office dated 6 January 2025 (see Annex B & B 22), by which a Chinese parallel patent was destroyed for lack of inventive step, outside the opportunities open to it to comment, the Office justifies its decision by combining D 5 with 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 submissions in this regard and the associated extension of the action were not admissible. Against this background, the Chamber also disregarded the decision of the Office pursuant to R. 9 (2) RoP.

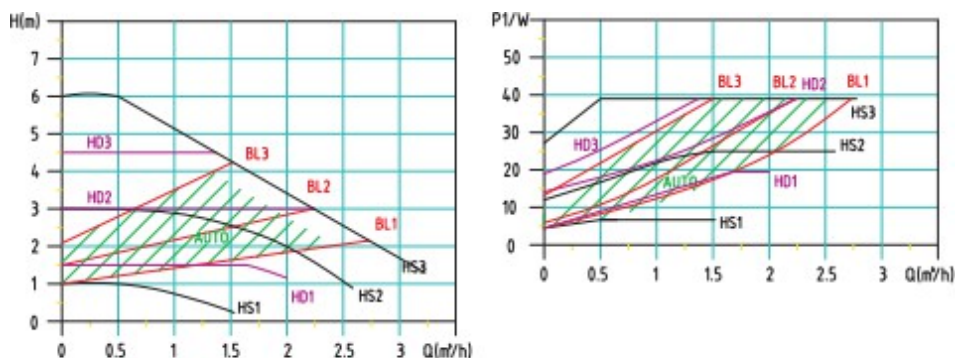
E. Injury

I. Feature realisation

146. Rightly, the realisation of feature groups 1 to 3 is not disputed between the parties, so that no further explanation is required in this respect. In addition, the challenged embodiment makes use of the other features of the patent at issue. Based on the understanding worked out in detail above, the contested embodiment has means (20) which fulfil the requirements of feature group 4.

1. Functionality of the contested embodiments

147. The defendant has not denied that the contested embodiment has an internal control system realised by three electronic components. 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 setting the motor speed. In addition, the attacked embodiment has an H-bridge (i.e. an electronic circuit) which supplies voltage to the electric motor. This is controlled by the aforementioned output signals of 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 in different stages/speeds. The control curves implemented by the internal pump control vary depending on the selected operating mode:

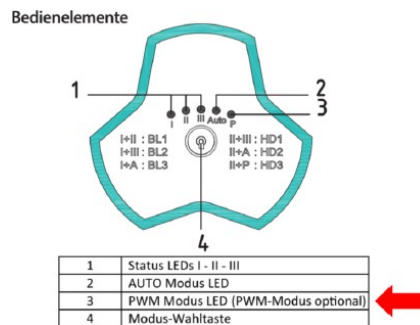


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148. In the factory-set AUTO mode, the internal control automatically adjusts the pump output to the actual heat requirement of the heating system in short control intervals within the control range shaded green in the figure above. Depending on the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

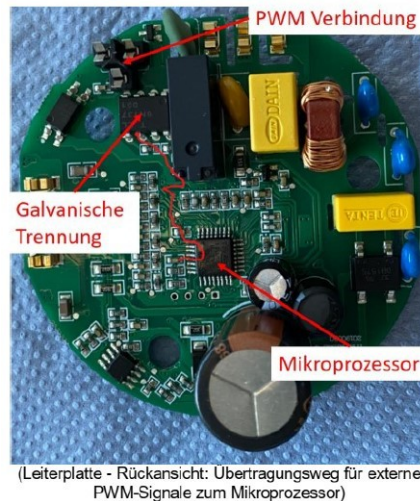


150. External control signals in the form of pulse-width modulation signals can be fed to the pump's internal microprocessor via the control signal line.



2. Features 4. and 4.1.

151. Having said this, the contested embodiment has means for switching from the internal electronic control (16) to an external speed control or for connecting an external control (features 4. and 4.1.). As the Board has already explained 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 bring about a switchover or an activation. This is the case with the contested embodiment.
152. The pump's internal microprocessor is connected to the connection for the external controller via galvanic isolation:



153. It recognises when PWM signals are applied by the external control unit via the connection on the housing side. The electric motor is then no controlled according to the preset operating mode of the internal controller, but according to the PWM signals specified by the external controller. The duty cycle of the PWM signals determines the desired speed of the electric motor. There is therefore a switchover from the internal to the external speed control.
154. The fact that the motor speed in the challenged embodiment is determined either by the internal pump control or by the external speed control, so that there is no possibility of combining both controls (cf. in this respect: Appendix B&B 9a/9b and B&B 11a/11b), does not prevent the realisation of the protected technical teaching as explained. Patent claim 1 does not necessarily require the possibility of switching on the external speed control as long as 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. Based on the above understanding, it is already clear from the affidavits submitted by the defendants as Annexes B&B 9a/9b and B&B 11a/11b that the attacked embodiment also has electronic means within the meaning of feature group 4.2.
156. Accordingly, the attacked embodiment comprises a microprocessor (MCU), a PWM input for the receipt of external PWM signals and an optocoupler isolation device. The PWM receipt is used to connect to an external controller 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 passes it on to the motor via the H-bridge (Appendices B&B 9a/9b, Section 5).
157. As soon as a stable PWM signal is present, the attacked embodiment switches to this signal. In the form of the microprocessor, it therefore has electronic means for switching from internal control to external speed control. The fact that, due to its design, the attacked embodiment is forced to use the stable PWM

signal, as soon as it is available, for controlling the speed and accordingly cannot decide in any way (cf. Annexes B&B 11a/11b, No. 3), does not lead out of the scope of protection of the patent at issue. Patent claim 1 does not require the granting of a decision-making possibility. On the contrary, it even excludes such a possibility.

158. The microprocessor arranged in the housing of the attacked embodiment thus represents an electronic component and thus a means which recognises the connection of the external PWM speed control and then switches over to it.

II. Supposed identity with the design shown in the B&B 7 complex

159. The objection raised by the defendant that the signals described in the prior art ("GRUNDFOS DATEN- HEFT UPM2, UPM GEO, UPM2K Umwälzpumpen 50/60 Hz" from December 2012, cf. Appendix B&B 7) described signals, control principles, interfaces and PWM input signals and their example values as well as circuit drawings and graphs were identical the attacked embodiment in all relevant respects, irrespective of the question of whether such an objection can have any significance at all in the context of the infringement discussion in the case of a literal patent infringement (against this: UPC_CFI_452/2023 (LD Düsseldorf), Order of 9 April 2024, p. 16 - Ortovox v. Mammut), is not successful because the circulation pump shown there, unlike the attacked embodiment, cannot be operated both by means of an internal control system and via an external control system. Instead, the pump is designed exclusively for external control (see Appendix B&B 7, p. 3). If there is no cable suitable for transmitting PWM control signals, the pump shown in the prior art operates in maximum mode and not on the basis of internal electronic control (see feature 1.4.).

III. Acts of infringement by the defendant

160. By offering and distributing the accused embodiment within the scope of the patent at issue, the defendant has indisputably also committed acts of infringement within the meaning of Art. 25

(a) UPCA. The offering and placing on the market also establishes a reproducible presumption that the defendant also uses the attacked embodiment or introduces or possesses it for the purposes of offering, placing on the market or use (UPC_CFI_7/2024 (Düsseldorf local division), decision of 3 July 2024).

- Kaldewei v. Bette; UPC_CFI_363/2023 (Düsseldorf local division, decision of 10 October 2024 - Seoul Viosys v. expert e-Commerce; UPC_CFI_50/3035 (LD Düsseldorf), decision of 10 April 2025, para. 199 - Yellow Sphere v. Knaus Tabbert).

F. Legal consequences

161. Now that the patent at issue has been proven to be legally valid and infringed, the following applies with regard to the legal consequences:

I. Omission

162. Taking into account the circumstances of the case, the Claimant has a right to prohibit the continuation of the infringement pursuant to Art. 25 lit. a) UPCA in conjunction with Art. 63 para. 1 UPCA. Art. 63 para. 1 UPCA.

II. Provision of information and accounting

163. The Claimant also has a right to information pursuant to Art. 25 lit. a) UPCA in conjunction with Art. 67 UPCA. Art. 67 UPCA.

There are no objections with regard to the type and manner of information requested. Insofar as the Claimant requests information on the names and addresses of the industrial customers, it is requesting information on the distribution channels of the infringing products within the meaning of Article 67(1)(1) UPCA.

164. In addition, the Claimant may, pursuant to Art. 68 para. 3 lit. a), b) UPCA in conjunction with R. 191 p. Alt. R. 191 S. 1 Alt. 2 RoP, the plaintiff may request such information as it reasonably requires for the purpose of its legal action and which also enables it to verify the validity of the information provided and to obtain evidence for its calculation of damages (UPC_CFI_7/2023 (LD Düsseldorf), decision v. 03.07.2024, p. 29 - Kaldewei v. Bette; UPC_CFI_16/2024 (LD Düsseldorf), decision of 14.01.2025, p. 36 - Ortovox v. Mammut; UPC_CFI_210/2023 (LD Mannheim), decision of 22.11.2024, para. 179 - Panasonic v. Oppo). This also includes information on individual offers, broken down by offer quantities, times, prices and type designations as well as the names and addresses of the offer recipients.
165. Since the Claimant's application is aimed at submitting corresponding proof of purchase, namely invoices, or alternatively delivery notes, the Defendant's further objection that the Claimant (allegedly) requests the submission of invoices and delivery notes is in vain.

III. Recall

166. The order for recall from the distribution channels in respect of the directly infringing products is based on Article 64(2)(b) UPCA. The wording of the application is also not objectionable from the point of view of certainty.
167. Such a recall order also meets with no objections from the point of view of proportionality (Art. 64 para. 4 RoP).
168. The fact that the challenged embodiment is possibly, as claimed by the defendant, partly deeply installed in building heating systems does not preclude the Order of an obligation to recall from the distribution channels, if only because the recall is only a recall declaration and thus a mere letter to the commercial customers is owed. The Claimant is not demanding removal from the distribution channels. The alternative measures mentioned by the defendant and in particular the possibility of sealing are therefore not in connection with the recall. Irrespective of this, 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 the heating system of a building, it would therefore have to be recalled even if - like the defendant - an action were to be taken that goes beyond the declaration of recall.
169. The interests of homeowners and tradesmen further addressed by the defendant also do not preclude an obligation to recall. Pumps are installed in buildings of private homeowners are not subject to the recall obligation from the outset. If, on the other hand, the pumps are owned by commercial end users and have been installed in their buildings, the above statements apply accordingly.
170. Finally, to the extent that the defendant relies on the fact that the parties had agreed on the

The defendant argues that the claimant was in licence negotiations, whereby the defendant was willing to pay reasonable licence fees under economic conditions, but deceived by the claimant about its willingness to grant a licence, this does not preclude the ordering of a recall because no licence was granted. Pursuant to Art. 25 UPCA, a patent grants the proprietor the right to prohibit third parties from carrying out the acts of use referred to in letters a) to c) of the standard without his consent. The exclusive right to use the patent at issue is therefore assigned to the Claimant, which can in principle decide for itself whether and, if so, under what conditions it licences the patent and thus grants third parties a right of use. As long as the Claimant has not licensed the patent at issue in favour of the Defendant and thus granted the Defendant a right of use, the Defendant no right to use the patent at issue. If it nevertheless introduces the challenged embodiment into the distribution channels in a patent-infringing manner, it cannot successfully to any resulting recall obligation that it relied on a later grant of a licence.

IV. Destruction

171. The Order of destruction finds its basis in Art. 64 para. 2 lit. e), 64 para. 4 UPCA.
172. Since the destruction is intended to reliably prevent the products from entering or re-entering the market (UPC_CFI_16/2024 (LD Düsseldorf), decision of 14 January 2025, p. 37 - Or- tovox v. Mammut; Tilmann/von Falck/Tilmann, Unitary Patent, Unified Patent Court, Art. 64 UPCA, para. 33), the sealing or sealing of the signal inputs of the pump addressed by the defendant as a possible alternative measure and an obligation of the defendant to have its customers sign a cease-and-desist declaration subject to penalty are only relevant alternatives if they ensure that the signal inputs of the pump are sealed. sealing of the signal inputs of the pump and an obligation of the defendant to have its customers sign a cease-and-desist declaration subject to penalty are only relevant alternatives if they ensure that the pumps at issue cannot put back into a patent-infringing state when such a solution is used and then placed on the market (UPC_CFI_16/2024 (LD Düsseldorf), decision of 14 January 2025, p. 37 - Ortovox v. Mammut).
173. The mere obligation of the defendant to obtain declarations to cease and desist with a criminal defence is not sufficient for this purpose if only because such an obligation would be difficult for the Claimant to monitor. It therefore does not do justice to the Claimant's interest in destruction from the outset.
174. The defendant has also not been able to sufficiently demonstrate that sealing or sealing the receipts fulfils these requirements. In addition it cannot be established that this is a milder measure than destruction, even taking into account the costs involved. Finally, the defendant has also not succeeded in demonstrating that, based on the scope of protection explained in detail above, a design provided with a seal no longer falls within the scope of protection of the patent at issue.

V. Determination of liability for damages

175. The award of damages on the merits is possible on the basis of Art. 68 (1) UPCA. With due care, the defendant should have recognised that it was infringing the patent at issue through its actions.

176. Insofar as the defendant objects with regard to the claim damages that at most a lump sum should be set as compensation, this question does not need to be decided at present. The decision on the amount of damages is reserved for the amount proceedings that may follow the infringement proceedings. In the infringement proceedings, on the other hand, the Claimant is only seeking a declaration of liability for damages on the merits.

VI. Provisional damages

177. Pursuant to R. 119 RoP, the court may award provisional damages to the successful party under conditions it determines, which should at least the provisional costs of the damages and compensation proceedings on the part of the successful party.

178. The defendant did not significantly oppose the amount of EUR 64,000.00 for the preliminary damages quantified by the claimant, which is why this could be awarded to the claimant.

VII. Threat of penalty payment

179. The threat of a penalty payment for failure to comply (Art. 63 para. 2 UPCA) does not raise any objections. This also applies from the point of view of proportionality. The threat for the measures of disclosure, information, recall, removal and destruction are based on Art. 82(1) and (4) UPCA, R. 354(3) RoP (UPC_CFI_7/2023 (LD Düsseldorf), decision of 3 July 2024, p. 31, F. 5. - Kaldewei v. Bette; UPC_CFI_16/2024 (LD Düsseldorf), decision of 14 January 2025, p. 39 - Ortovox v. Mammut; UPC_CFI_50/2024 (LD Düsseldorf; UPC_CFI_50/2024 (LD Düsseldorf), decision of 10 April 2025, para. 276 f. - Yellow Sphere v. Knaus Tabbert).

180. The threat of a penalty payment of up EUR 250,000 gives the Board the necessary flexibility to take into account the circumstances of the individual case, including the behaviour of the infringer, in the event of an infringement and, on this basis, to be able to impose an appropriate penalty payment in accordance with Art. 82 para. 4 sentence 2 UPCA in conjunction with R. 354.4 RP. R. 354.4 RoP to be able to set an appropriate penalty payment.

VIII. Basic cost decision

181. Pursuant to Art. 69 para. 2 UPCA in conjunction with R. 118 para. R. 118 para. 5 RoP, R. 265 para. 2 lit. c) RoP, a basic decision on costs had to be made.

182. Since the Claimant has prevailed in its action for infringement in its entirety, it is justified to order the Defendant to pay the costs of the proceedings in this respect.

183. The action for annulment unsuccessful. The defendant must therefore also bear its costs.

IX. Reimbursement cap

184. The setting of the upper limit for reimbursable agency costs is based on the Management Committee's decision on the upper limits for reimbursable costs of 24 April 2023 (D - AC/10/24042023_E).

X. No security deposit

185. Pursuant to Art. 82 para. 2 UPCA, R. 118 para. 8 sentence 2 RoP, the court may make any Order or measure subject to the provision of security, which it must determine.
186. As the wording of the aforementioned standard already makes clear, the Board a discretionary power when ordering the provision of security, whereby the Claimant's interest in the effective enforcement of its property right must be weighed against the interest in the effective enforcement of possible claims for damages in the event that the judgement is subsequently set aside.
187. A case-by-case assessment is therefore always required. The factors to be taken into account when deciding whether to order the provision of security include the financial situation of the plaintiff, which may give rise to the justified and real concern that a possible claim for damages cannot be enforced and/or enforced at all or only with disproportionate effort if the decision of the court of first instance is reversed or amended. Whether and to what extent such factors exist is to be determined on the basis of the facts and arguments presented by the parties, no differently than in the case of an application for the provision of security pursuant to R. 158 RoP. If the Chamber makes an order or measure dependent on the provision of security, this serves to protect the position and potential rights of the defendant. This protection must weighed against the burden placed on the plaintiff by the order to provide security. Against this background, it is up to the defendant to present facts and arguments as to why it appears appropriate in the specific case to make the Order or measure subject a security deposit to be determined by the court in accordance with R. 118 para. 8 RoP. If the defendant has complied with this, it is up to the plaintiff to substantiate these facts and reasons, especially as he usually has knowledge and evidence of his financial situation. It is also the plaintiff's task to explain, if necessary, why, despite the reasons put forward by the defendant, his interest in enforcing his property right without providing security outweighs the defendant's interest (see UPC_CFI_50/2024 (LD Düsseldorf), decision v. 10.04.2025, para. 282 - 285 - Yellow Sphere v. Knaus Tabbert; UPC_CFI_16/2024 (LD Düsseldorf), decision of 14.01.2025 - Ortovox v. Mammut; UPC_CFI_363/2024 (LD Düsseldorf), decision of 10.10.2024 - Seoul Viosys v. expert).
188. On the basis of these principles, the defendant has not put forward any reasons to make enforcement in the present case dependent on the provision of security. The Chamber has therefore refrained from ordering such an enforcement security.

DECISION:

- A. It is established that the defendant infringes EP 2 778 423 B1 if it produces heating circulation pump units with a centrifugal pump, with an electric motor driving the pump, with an electronic speed controller for the motor and with an internal electronic control system, in which the control variable is the speed of the motor, wherein the speed controller and the control form part of the unit, a signal receipt is provided for external control of the motor and means are provided for switching from the internal electronic control to an external speed control or for switching on an external speed control, in Germany, France or Italy, is , placed on the market/put into circulation or used/used or imported or possessed for the aforementioned purposes, in which the means for switching are electronic means which determine whether an external control is connected or not and switch over to the external control when a connected external control is detected.
- B. The defendant is ordered to pay the costs,
- I. to refrain from producing heating circulation pump units with a centrifugal pump, with an electric motor driving the pump, with an electronic speed controller for the motor and with an internal electronic control, in which the manipulated variable is the speed of the motor, the speed controller and the control forming part of the unit, a signal input for external control of the motor being provided and means being provided for switching from the internal electronic control to an external speed control or for connecting an external speed control,
- in Germany, France or Italy, to put on the market/to put on the market, to use/to have used or to import or possess for the aforementioned purposes, in which the means for switching are electronic means which determine whether an external control is connected or not and switch over to the external control when a connected external control is detected;
- II. to provide the Claimant with information, in orderly and comprehensible manner, on the extent to which it has committed the acts referred to in point B. I. since 28 February 2018, stating
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 infringing products,
- whereby the defendant, in order to prove the information in accordance with the above Section B. II. 1.

- to B. III. 3. the corresponding proof of purchase, namely invoices, alternatively delivery notes, in copy, whereby details requiring confidentiality outside the data subject to disclosure may be blacked out;
- III. to provide the Claimant with an orderly and comprehensible statement of the extent to which it has committed the acts referred to in Section II. since 28 February 2018, stating
1. of the individual deliveries, broken down by delivery quantities, delivery times, delivery prices and type designations as well as the names and addresses of the commercial customers,
 2. of the individual offers, broken down by offer quantities, offer periods, offer prices and type designations as well as the names and addresses of the commercial offerees,
 3. of the advertising operated, broken down by advertising media, their exposure level, distribution period and distribution area,
 4. the prime costs broken down by the individual cost factors and the profit realised;
- IV. to surrender to a bailiff to be appointed by the Claimant for the purpose of destruction at its, the Defendant's, expense the products in its direct or indirect possession or in its ownership referred to in Clause II;
- V. order the defendant to recall the products referred to in section B. I. 1. that have been placed on the market since 28 February 2018, with reference to the patent-infringing condition of the item established by the court (UPC Agreement judgment of 8 May 2025) and with the binding commitment, to reimburse any fees and to bear any necessary packaging and transport costs as well as customs and storage costs associated with the return and to take back the products;
- VI. to pay the Claimant provisional damages in the amount of EUR 64,000;
- VII. in the event of non-compliance with the Orders pursuant to Sections B. I., B. II., B. III., B. IV. and B. V. a penalty payment of up to EUR 250,000 for each case of non-compliance.
- C. It is established that the defendant is obliged to compensate the claimant for all damage that it has suffered and will suffer as a result of the acts referred to in section II. that have commenced since 28 February 2018.
- D. The action for annulment is dismissed.
- E. The defendant shall bear the costs of the action and the action for annulment.
- F. The value in dispute of the action and the action for annulment is set at 1,000,000.00

EUR was set.

- G. The upper limit of the reimbursable representation costs for the action and for the action for annulment is set at a total of EUR 200,000.
- H. The Orders to letters B. I. to B. VII. are enforceable only after the Claimant has notified the Court of the part of the Orders it intends to enforce and, if necessary, has submitted a certified translation of the Orders into the official language of the Contracting Member State in which enforcement is to take place and after the Defendant has been served with the notification and the (respective) certified translation, if any.

DETAILS:



Main file reference ACT_2097/2024 and CC_32579/2024

UPC number: UPC_CFI_11/2024

Type of proceedings: Action for infringement and action for annulment

Düsseldorf on 8 May 2025 NAMES
AND SIGNATURES

Presiding judge Thomas	Ronny Thomas Digital signed from Ronny Thomas Date: 2025.05.05 17:00:17 +02'00'
Presiding Judge Voß	Ulrike VOSS Digitally signed by Ulrike Voß Date: 2025.05.05 17:19:52 +02'00'
Legally qualified judge Kupecz	András Ferenc Kupecz Digitally signed by András Ferenc Kupecz Date: 2025.05.05 17:28:11 +02'00'

<p>Technically qualified judge Heikkinen- Keinänen</p>	<p>(Merja) (Annikki) Heikkinen- None</p>  <p><small>Allekirjoittaja Merja Annikki Heikkinen-Keinänen DN: cn=Merja Annikki Heikkinen-Keinänen, o=CFI, email=merja.keinanen@signal.com, sig=00000000000000000000000000000000 Päivämäärä: 2025.05.06 12:13:25 +0300'</small></p>
<p>For the Deputy-Registrar Boudra-Seddiki</p>	<p>Rachida Boudra- Seddiki</p>  <p>Digitally signed by Rachida Boudra- Seddiki Date: 2025.05.06 16:04:13 +02'00'</p>

APPEAL INFORMATION:

An appeal against this decision may be lodged with the Court of Appeal by any party whose applications have been wholly or partially unsuccessful within two months of service of the decision (Art. 73 para. 1 UPCA, R. 220 para. 1 lit. a), 224 para. 1 lit. a) RoP).

Information on enforcement (Art. 82 UPC Agreement, Art. 37 para. 2 EPGs, R. 118 para. 8, 158 para. 2, 354, 355 para. 4 RoP):

A certified copy of the enforceable decision is issued by the Deputy-Registrar on application by the enforcing party, R. 69 RegR.

This decision was announced in open court on 8 May 2025. Presiding judge Thomas

Ronny Thomas



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signed by
Ronny
Thomas
Date: 2025.05.08
09:30:43 +02'00'