

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 97/23865 A1 (ENDOSONICS CORP [US]) 3 July 1997 (1997-07-03)	1,2,4-14	INV. B06B1/06 A61B8/12 A61B8/00
A	* pages 9,17-20; claims 17-25; figures 1-5A *	3	
X	----- WO 03/086196 A1 (HITACHI MEDICAL CORP [JP]; YAGI TOMOYUKI [JP]; ITO TAKASHI [JP]; IZUMI) 23 October 2003 (2003-10-23) * figures 1,2,10a,10b * & EP 1 498 071 A1 (HITACHI MEDICAL CORP [JP]) 19 January 2005 (2005-01-19) * paragraphs [0020], [0030]; figures 1,2,10a,10b *	1,8,10, 11,14	
A	----- US 4 354 502 A (COLLEY PETER S ET AL) 19 October 1982 (1982-10-19) * figures 4,8 *	3	
			TECHNICAL FIELDS SEARCHED (IPC)
			B06B A61B
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search		Date of completion of the search	Examiner
The Hague		3 July 2017	Bream, Philip
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present (supplementary) European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present (supplementary) European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- None of the further search fees have been paid within the fixed time limit. The present (supplementary) European search report has been drawn up for those parts of the European patent application which relate to the first mentioned in the claims, namely claims:

1-14

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-14

Provision of alternative grounding arrangements  
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2. claims: 15-17

Manufacture of a safe and reliable ultrasonic transducer  
assembly  
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3. claims: 18-26

Providing combined focusing and protection means for an  
ultrasonic transducer array assembly  
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 78 5930

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

03-07-2017

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9723865	A1	03-07-1997	CA 2211196 A1	03-07-1997
			EP 0811226 A1	10-12-1997
			JP H11501245 A	02-02-1999
			US 7226417 B1	05-06-2007
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WO 03086196	A1	23-10-2003	CN 1646065 A	27-07-2005
			EP 1498071 A1	19-01-2005
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US 4354502	A	19-10-1982	NONE	
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专利名称(译)	超声波换能器，超声波阵列和超声波内窥镜系统		
公开(公告)号	<a href="#">EP1808130A4</a>	公开(公告)日	2018-02-14
申请号	EP2005785930	申请日	2005-09-20
[标]申请(专利权)人(译)	奥林巴斯株式会社		
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IPC分类号	A61B8/12		
CPC分类号	B06B1/0633 A61B8/12 A61B8/445 Y10T29/49005		
优先权	2004277462 2004-09-24 JP 2004286910 2004-09-30 JP		
其他公开文献	EP1808130A1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

一种电子径向型超声波换能器，以圆柱形式排列多个超声波换能器元件，用于发送和接收超声波，并用于内部存储与各个超声波换能器元件相对应的电缆，用于发送用于驱动每个超声波换能器元件的驱动信号在电缆组引导的绝缘体表面上具有导电膜，并且还包包括由透镜部分构成的声透镜，所述透镜部分连接到地线并且具有凸起形状并且覆盖部分容易地覆盖可断裂部分或导体材料，其电连接到多个超声换能器。

DOCUMENTS CONSIDERED TO BE RELEVANT		Retrieved to date	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 97/23865 A1 (ENDOSONICS CORP [US]) 3 July 1997 (1997-07-03) 1 pages 9,17-20; claims 17-25; figures 1-5A	3	1.2.4-14 INV./06 B06B1/06 A61B8/12 A61B8/00
A	WO 03/086196 A1 (HITACHI MEDICAL CORP [JP]; YAGI TOMOYUKI [JP]; ITO TAKASHI [JP]; ICHIMIZU TOSIYUKI [JP]) 21 October 2003 (2003-10-23) 1 figure 1-2; illus 101 & EP 1 498 071 A1 (HITACHI MEDICAL CORP [JP]) 15 January 2005 (2005-01-15) 1 paragraphs [0020], [0030]; figures 1-2; illus 101b	3	1.8.10, 11.14
A	US 4 354 502 A (COLLETT PETER S ET AL) 19 October 1982 (1982-10-19) 1 figures 4, 6	3	

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

SEARCHER'S NAME: **The Hague** 3 July 2017  
CLASSIFICATION: **Bream, Philip**

CLASSIFICATION OF OTHER DOCUMENTS:  
 C1: substantially relevant if before above date of publication of the application  
 C2: substantially relevant if before above date of publication of the application  
 C3: substantially relevant if before above date of publication of the application  
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