

①②

**EUROPEAN PATENT APPLICATION**

②① Application number: **82303950.8**

⑤① Int. Cl.<sup>3</sup>: **F 04 C 2/10**

②② Date of filing: **27.07.82**

③① Priority: **15.08.81 GB 8124995**

⑦① Applicant: **CONCENTRIC PUMPS LIMITED,**  
**Unit 10 Gravelly Industrial Park Tyburn Road Erdington,**  
**Birmingham B24 8HW (GB)**

④③ Date of publication of application: **23.02.83**  
**Bulletin 83/8**

⑦② Inventor: **Child, Robin Edward, Apple Tree Cottage**  
**Hunscombe Lane, Wellesbourne Warwickshire CV35 9EX**  
**(GB)**

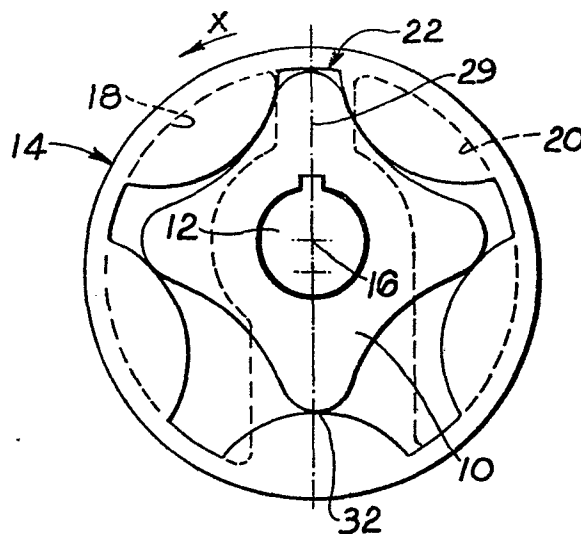
⑧④ Designated Contracting States: **AT BE CH DE FR GB IT**  
**LI LU NL SE**

⑧⑧ Date of deferred publication of search  
report: **09.03.83 Bulletin 83/10**

⑦④ Representative: **Collingwood, Anthony Robert et al,**  
**GEORGE FUERY & COMPANY Whitehall**  
**Chambers 23 Colmore Row, Birmingham B3 2BL (GB)**

⑤④ **N/N + 1 lobed rotary fluid pumps.**

⑤⑦ In an N,N+1 lobe type pump, dirt clearances are provided at the bases of the interlobe roots (22) of the annulus (14) and the shaping and dimensioning of the inner rotor and annulus are such that elsewhere there is a normal running clearance at the zones of drive contact between the two rotors. To prevent the creation of excessive clearances in the positions of full mesh especially at position D, the inner rotor (10) and annulus (14) are conjugate (as defined) such that at positions B and D normal running clearances are maintained.





European Patent  
Office

# EUROPEAN SEARCH REPORT

0072636

Application number

EP 82 30 3950

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. <sup>3</sup> )
X, Y	<p>---</p> <p>GB-A-2 047 349 (GILARDINI) *Page 1, lines 57 to 100; figure 1*</p>	1, 3	F 04 C 2/10
X	<p>---</p> <p>US-A-1 486 836 (HILL) *Page 1, lines 90 to 103; figure 2*</p>	1	
Y	<p>---</p> <p>GB-A-1 233 376 (COLE)  *Page 1, lines 70 to 85; page 2, line 22 to the end; page 3, left-hand column, figures 1,2,3; page 4, lines 110 to 120; figures 6,7*</p>	1, 3, 4, 6, 7	
Y	<p>---</p> <p>US-A-3 824 047 (McDERMOTT) *Columns 3,4; figures 4,5*</p>	4, 5, 7	TECHNICAL FIELDS SEARCHED (Int. Cl. <sup>3</sup> )
Y	<p>---</p> <p>GB-A- 958 779 (BRUNDAGE) *Page 3, last paragraph; page 4, left-hand column; figures 1,2; page 6, line 23 to the end; figure 4; page 7, lines 1 to 21*</p>	4, 7	F 04 C F 01 C
A	<p>---</p> <p>US-A-3 126 833 (HILL) *Column 5, four last paragraphs; column 6, figures 11-16*</p> <p>--- -/-</p>	1, 2	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23-11-1982	Examiner KAPOULAS T.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 &amp; : member of the same patent family, corresponding document</p>			



DOCUMENTS CONSIDERED TO BE RELEVANT			Page 2
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
A	DD-A- 106 219 (BABAK) *Page 3, left-hand column, line 17 to 21; figure 3*	1,2	
A	US-A-1 682 563 (HILL) *Page 3, lines 100-120; page 5, lines 66-127; figure 1*	1	
A	US-A-2 031 888 (HILL) *Page 2, left-hand column, lines 8-30; figure 1 and right-hand column, lines 1-26; figures VII, IX*	1	
A	US-A-3 273 502 (MARTZ)		
A	US-A-3 361 074 (ECKERLE)		
A	US-A-3 536 426 (ALBRECHT)		TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23-11-1982	Examiner KAPOULAS T.
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>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</p> <p>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 &amp; : member of the same patent family, corresponding document</p>			