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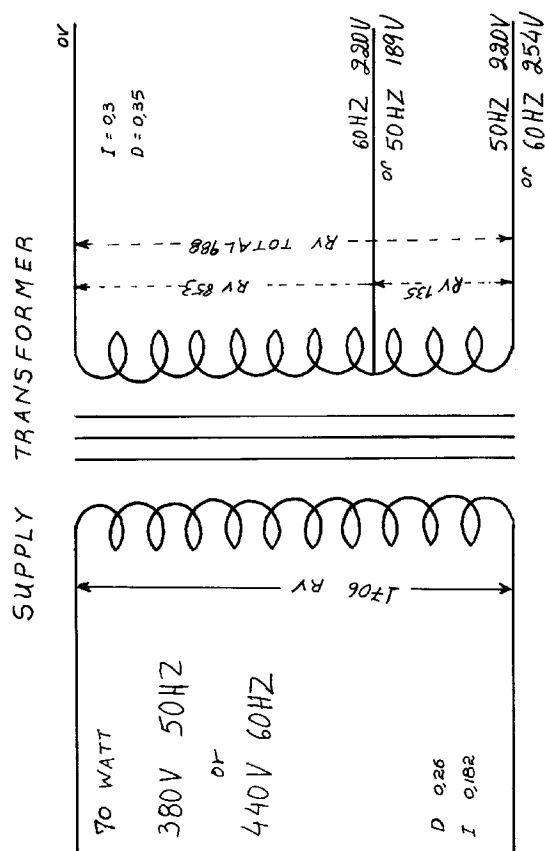
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(54) **Voltage supply transformer.**

(57) In this Transformer Supply, the Primary is supplied with 380V 50Hz or 440V 60Hz and to Secondary we receive inductively the desired voltage in spite of the difference of the frequency which exists at the Primary. The advantage of this invention is the industrial manufacture of such a type of a Transformer whose Primary to be supplied by 380V 50Hz or 440V 60Hz and at the Secondary of Transformer we receive the desired voltage irrespectively of the Primary of the Transformer being supplied by 50Hz or 60Hz. This invention is expected to have an enormous and wide application in the Industry and particularly in the Merchant Marine.



The invention I quote for Transformer whose Primary is supplied by 380V 50Hz or 440V 60Hz, and at the Secondary we receive the desired voltage in spite of the difference of frequency (Voltage) which exists at the Primary.

This kind of Transformer cannot be found in the market. The existing Transformers which can be found in the market, have one supply to the Primary 380V 50Hz or 440V 60Hz and to the Secondary of the Transformer we receive the desired voltage, corresponding to the frequency of the Primary.

The advantage of this invention is the industrial manufacture of such a type of a Transformer in which the Primary of the Transformer is supplied with 380V 50Hz or 440V 60Hz.

We supply at the same winding of the Primary Transformer 380V 50Hz or 440V 60Hz, and at the Secondary we receive the desired voltage we want, regardless of difference of the frequency and voltage of the Primary.

Primarily, and very importantly, it will have a wide application to the Merchant of Marine where the generators of the ships, as it is known, by producing a voltage 440V 60Hz or 380V 50Hz, due to the difference of frequency (50Hz or 60Hz) and voltage, it is very difficult to find in the market the suitable Transformer we need.

Fig.No.1 shows the view of the Transformer Supply. The above Transformer is 70 Watt. Primary 380V/390V 50Hz or 440V/455V 60Hz and Secondary 220 Volt.

RELATION OF VOLT REVOLUTION PER VOLT = R/V

We have cm² of Transformer 10, 24 cm². W1 = S²:1.44 = WATT. W1 = $\frac{S^2 10,24}{1,44} = 72$ Watt is our Transformer.

R/V = REVOLUTION PER VOLT

$R/V = \frac{46}{S^2} = \frac{46}{10,24} = 4,492$ R/V of 50Hz. We want PRIMARY 380V.

$380 \times 4,492 = 1706$ total revolution at 380V 50Hz. we want R/V at 60 Hz 440V.
 $4,492 \cdot 60 = 3.743$ R/V at 60Hz and $440 \times 3,743 = 1646$ revolution at 440V 60Hz.

We have at the Primary of Transformer 1706 revolution for 50Hz, and we want to the Primary 1646 for 60Hz. 60 revolution (=) we have at Primary which corresponds to $60 : 3.743 = 15$ Volt plus support to the Primary with 1706 revolution at 440V. That is 440V + 15V = 455 Volt resisting the Primary at 60Hz to be operational. Verifying the above calculation we have:

$$\text{Revolution at the primary} = \frac{1706}{3.743} = 455$$

Volt. Therefore, the Primary works for 440V - 455V 60Hz. Revolution at the Primary $\frac{1706}{4.492}$ working 380V - 390V at 50Hz.

CALCULATION AT THE SECONDARY:

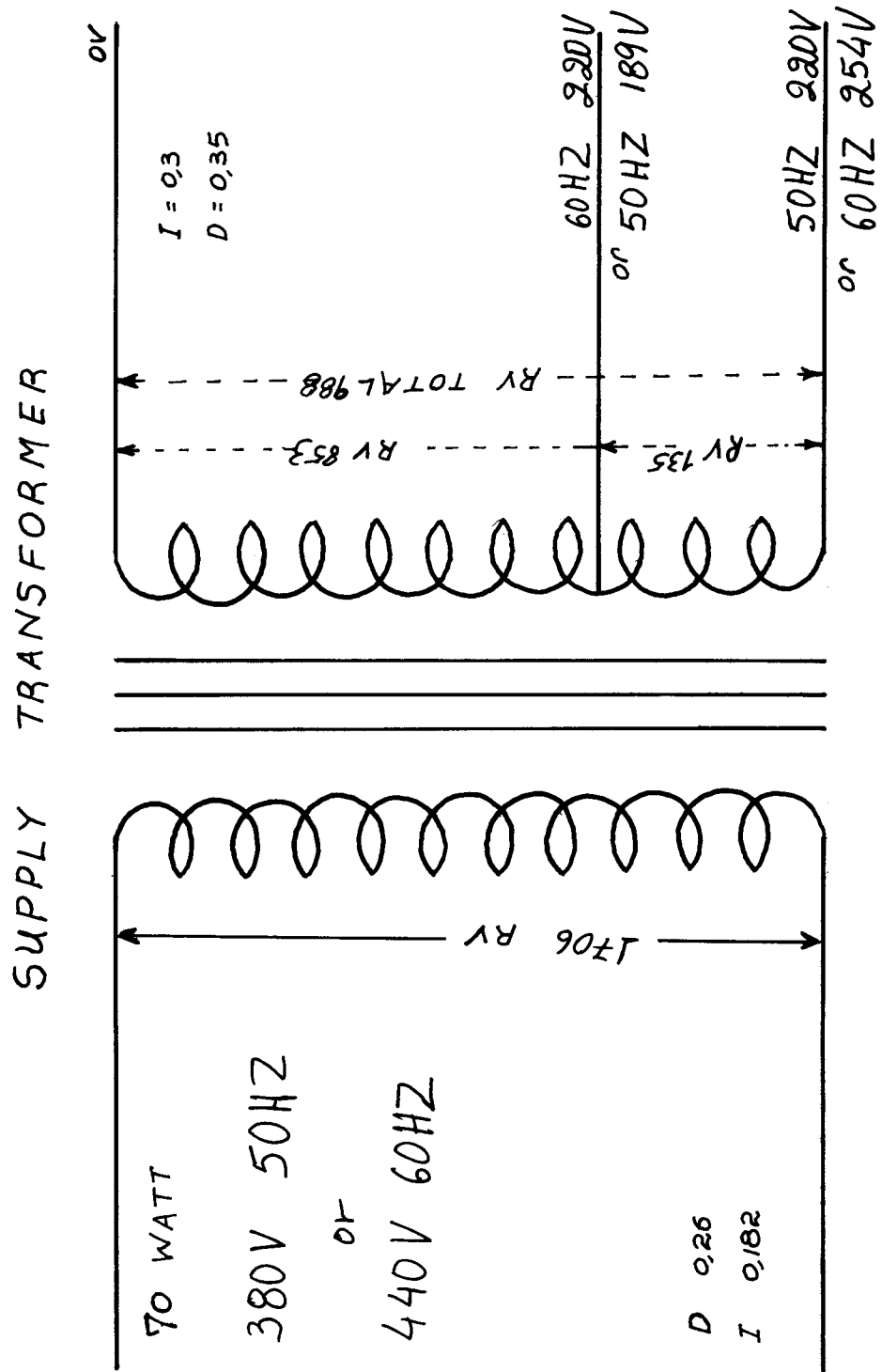
$$R/V \text{ 50Hz } 4.492 \times 220V = 988$$

R/V 60Hz $3.877 \times 220V = 853$ total revolution one way out. Total revolution at the Secondary is 988 for 220V 50Hz, 852 revolution for 60Hz + 136 revolution at 50Hz = Total 988 revolution as the coil at the Secondary.

Remark: In the market there exist Transformers under name Plate ex. 220V/100V, 50Hz or 60Hz. These types of Transformers are completely irrelevant to our Transformer because the RATIO of revolution is calculated for 50Hz 220V/100V and therefore it is perfectly working at 60Hz as well.

Claims

1. The Transformer Supply consists of one cord and two coils and it is characterized by its Primary being supplied by 380V 50Hz or 440V 60Hz, and to the Secondary we receive by induction the desired voltage in spite of the difference of the frequency and voltage which exists at the Primary.
2. At the same Transformer Supply, as hereinabove described at No.1, which could be either monophase, or twophase, or threephase Transformer, we receive the desired voltage by same calculations.





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EUROPEAN SEARCH REPORT

Application Number

EP 92 60 0004

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.5)
X	US-A-4 673 850 (MAUDLIN) * column 2, line 36 - line 47 * * column 2, line 60 - line 68; figure * ---	1	H01F29/02
A	FR-A-2 437 106 (HIRSCHFELD) * page 5, line 13 - line 23; figure 2 * -----	1,2	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			H01F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25 JANUARY 1993	Examiner MARTI ALMEDA R.
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			

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