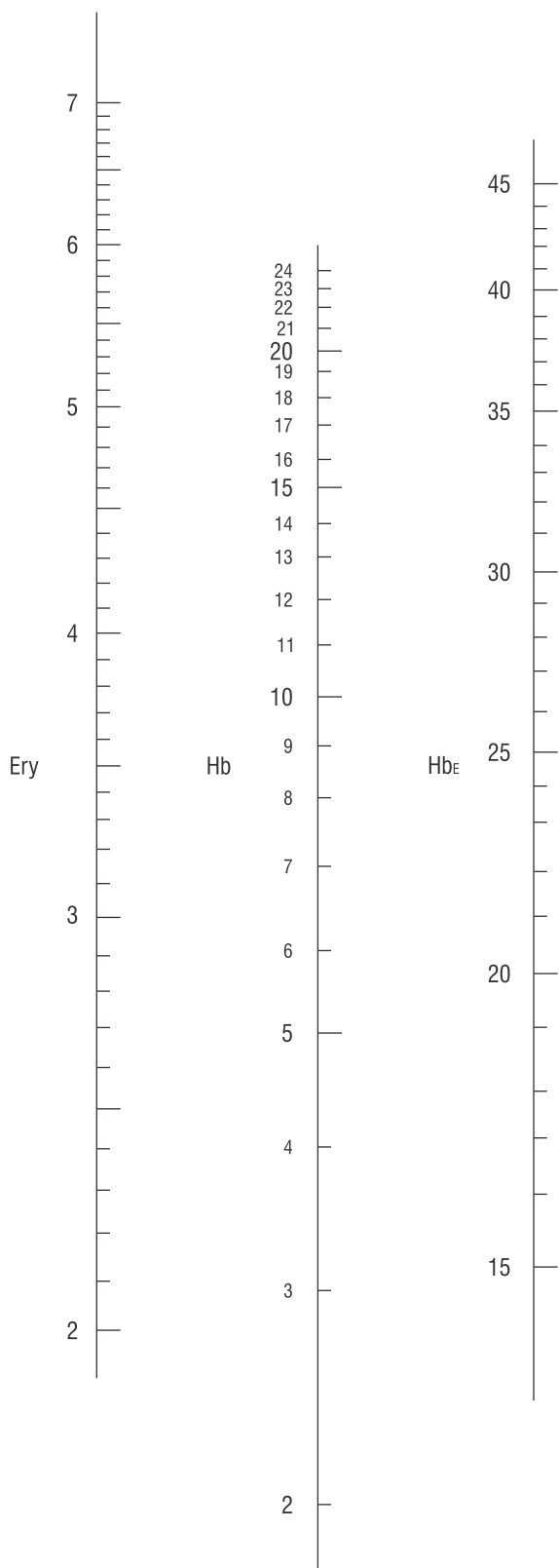
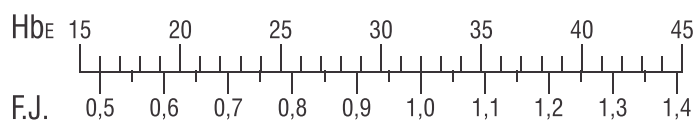


## Nomogramm



Farbe-Index (100HE = 16 g/dl)



## Haemometer

with Permanent Coloured Glass

Comparison Standards



# Operating Instructions

## Directions for use

1. Fill the graduated measuring tube up to the bottom-graduation line (mark2) with n/10 Hydrochloric Acid.
2. Clean thoroughly finger tip or lobe of the ear with ether or alcohol and take a drop of blood with a blood lancet.
3. Suck 20µl blood into the capillary pipette precisely up to the mark, wipe the pipette point and blow the blood into the measuring tube. You will achieve a good mixture of the liquid by repeated suction and blowing. The mixture will be darkbrown and clear after about one minute.
4. Add water by means of the water pipette and mix with the glass stirrer until the colour of the solution matches the colour of the test rods.
5. Read the result by diffused day-light exactly three minutes after adding the blood to the Hydrochloric Acid.

## Precision

The Hemometer is equipped with two non-fading glass colour standards. A special manufacturing process guarantees a constant, very precise film thickness of colour standards, and so a perfect measuring precision, being within the frame of the instructive method of daily application

## Absolute Measuring System by graduation with gram reading

Our instruments indicate the quantity in grams of hemoglobine cotained in 100 mk of blood. That graduation in grams - an absolute measuring system - has preference, compared to the relative measuring system (hemometer units or percents), the more those relative hemoglobine values are interpreted differently not only in different countries, but also in Germany, too. Prof. Dr. med. Ludwig Heilmeyer and Dr. med. Helmut Kilchling of Freiburg, in their treatise (German medical weekly magazine 76 of1951, edition no. 35 page 1074) are dealing with that fact in detail. The following table is to facilitate the comparison between the absolute hemoglobine concentration and the hitherto-used values. It, besides the absolute hemoglobine values indicates the respective relative values on the basis of 14.8 g/dl=100HE, 16 g/dl=100HE and 17 g/dl=100HE.

The normal Hemoglobin value varies between 14g/dl and 18g/dl and depends largely on age, sex and surrounding conditions.

## Table to compare absolute with relative values

Absolute Hb-Concentration	Relative Hemoglobin Values		
	100HE 14,8g/dl	100HE 16,0g/dl	100HE 17,0g/dl
g/dl	HE	HE	HE
4,0	27	25	24
4,5	30	28	26
5,0	34	31	29
5,5	37	34	32
6,0	41	38	35
6,5	44	41	38
7,0	48	44	41
7,5	51	47	44
8,0	54	50	47
8,5	57	53	50
9,0	61	56	53
9,5	64	59	56
10,0	68	63	59
10,5	71	66	62
11,0	75	69	65
11,5	78	72	68
12,0	81	75	71
12,5	84	78	
13,0	88	81	
13,5	91	84	
14,0	95	88	
14,5	98	91	
15,0	102	94	
15,5	105	97	
16,0	108	100	
16,5	111	103	
17,0	115	106	
17,5	118	109	
18,0	122	113	
18,5	125	116	
19,0	129	119	
19,5	132	122	
20,0	135	125	
20,5	138	128	

## Hemoglobin Contents and Number of Erythrocytes

If the Hb content is indicated in g/dl then the old conception of a colour index originating from the reletive Hb values must be abandoned. Those values are replaced by the term Hb<sub>E</sub> which clearly indicates the relation between Hb content and the number of erythrocytes.

$$Hb_E = \frac{\text{Hb content in 100 ml blood}}{\text{Erythrocytes in 100 ml blood}}$$

According to Burker, Hb<sub>E</sub> indicates the average Hb content of the individual erythrocyte. The determination of Hb<sub>E</sub> is extremely simplified by the nomogramme given aside: The found values of hemoglobin and erythrocytes are connected with each other by means of a ruler or a strip of paper and the Hb<sub>E</sub> value is read from the third vertical in prolongation of this connecting line. The former colour-index 1.0 is equivalent to a Hb<sub>E</sub> value of 32x10<sup>-12</sup> g. The normal range of Hb<sub>E</sub> is between 28 and 32x10<sup>-12</sup> g.