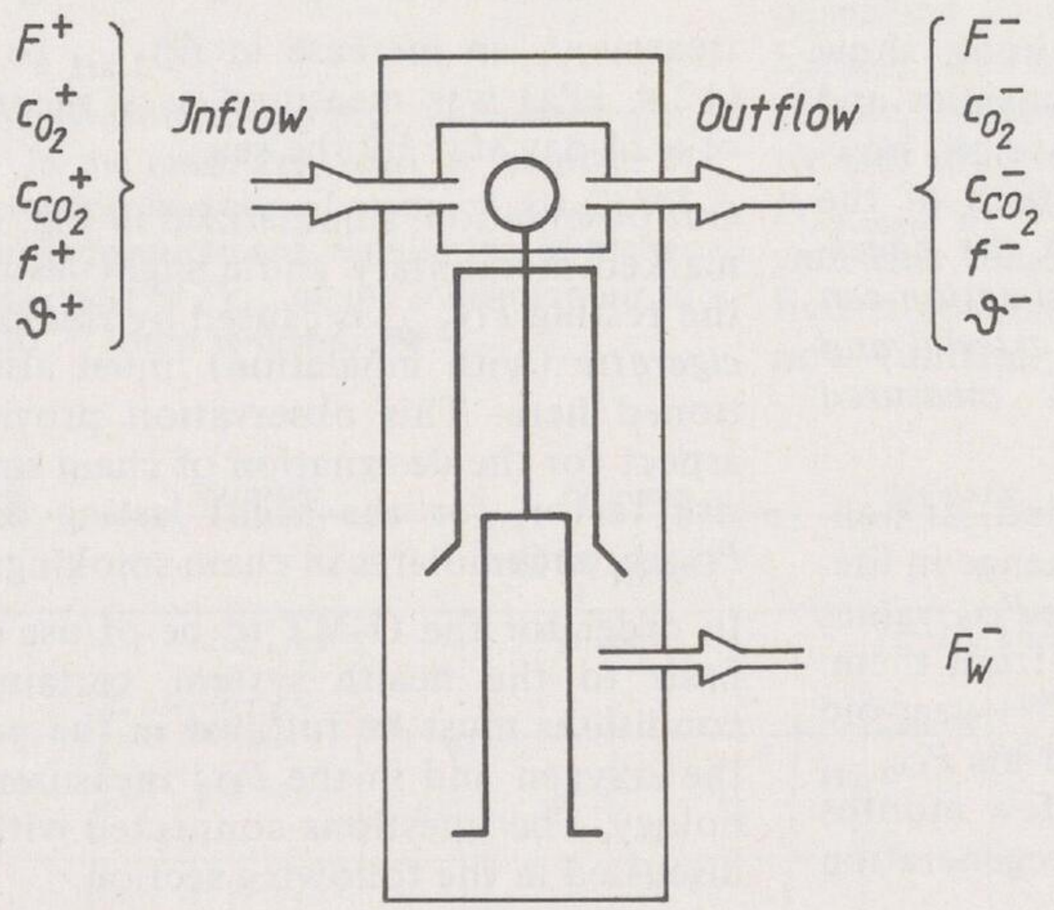
3. Technical foundations

3.1 Technology of the application of air mixtures with increased P_{O_2}

3.1.1 Theoretical aspects

In order to keep the expense and, in particular, the O_2 requirement for the implementation of the O_2MT as low as possible, the problem in the O_2 application must be solved in such a way as to allow only a slight O_2 loss. In addition to this, the technical solution must not cause more



	Inflow		Outflow		Normal air (phys.)	
	Symbol	Level	Symbol	Level	Symbol	Level
Total volume flow	F^+	7-10 l min^{-1}	F^-	$=F^+$	—	—
O_2-concentration	$c_{O_2}^+$	40%	$c_{O_2}^-$	~35%	$c_{O_2}^*$	21%
CO_2-concentration	$c_{CO_2}^+$	≤ 1%	$c_{CO_2}^-$	~ 5%	$c_{CO_2}^*$	→ 0
rel. air humidity	f^+	$\sim f^*$ (or ~80%)[1]	f^-	~95%	f^*	40 - 60%
Temperature	ϑ^+	$\sim \vartheta^*$ (or ~37%)[1]	ϑ^-	~37%	ϑ^*	18 - 22°C
Heat flow	—	—	F_W^-	~1,4 kcal/min	—	—

Fig. **160** The significant factors to be considered in the administering of O_2 enriched air

[1] Without warming and moistening of inhalation air in the nose-throat area (e.g. when a nose tube is used). Figures - for the 36 h O_2 multistep therapy processes GK 4-I to GK 4-IV