On Triple Focusing Magnets, D. BERNARD, A.E. SPECKA, L.P.N.H.E. - Triple focusing (TF) magnets or magnet combinations, besides deflecting the beam, provide a stigmatic and achromatic image of a beam spot. The system of equations describing TF magnets has never been solved generally. Only some example solutions have been known for more than thirty years (e.g. a-magnets). Nowadays, single triple focusing magnets are of renewed interest for bunch compression. We present the first general treatment of triple focusing index-free magnets. The system of transcendental equations describing TF magnets is reduced to a second degree polynomial equation by the choice of suitable variables. Two sets of solutions are found, corresponding to magnets having either one or no intermediate focal point in the vertical direction. The optical properties of the obtained magnets are then examined. This work was triggered by the need of a stigmatic and achromatic injection of an electron beam in a gas for a Laser particle acceleration experiment.