FRICTION DRIVE APPARATUS FOR STRIP MATERIAL

ABSTRACT

A friction drive apparatus (10) for feeding strip material (12) in a longitudinal direction includes a first friction wheel (34) and a second friction wheel (36) rotated by a first motor drive (40) and a second motor drive (42), respectively. The friction drive apparatus (10) also includes a sensor (58) disposed behind the friction wheels (34,36) with respect to the motion of the strip material (12) to detect a lateral or skewing error and a motion processor (54) that drives the first and the second motor drives (40,42) independently at different speeds to correct the lateral or skewing error of the strip material (12). The friction drive apparatus (10) also detects a longitudinal error of the strip material (12) by tracking an actual position of the strip material (12) and comparing it to the commanded position to correct the error. If there is a discrepancy between the actual position and the commanded position of the strip material (12), the rotational speed of each friction wheel (34,36) is either decreased or increased to correct any longitudinal creep or slippage, respectively, of the strip material (12).

Fig. 1