

Case	Application of Delta's VFD-VE Series AC Motor Drive in Tension Control				
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Applicable to	VFD-VE series AC Motor Drive				

In many industries, such as paper making, packing, printing, dyeing and finishing, cable, fiber and rubber, they all need accurate tension control for the processing and manufacture of materials. With the stable tension, it is able to enhance product quality. From the development trend, the tension control system is an important factor to control the product quality and production efficiency in many application fields and is becoming significant.

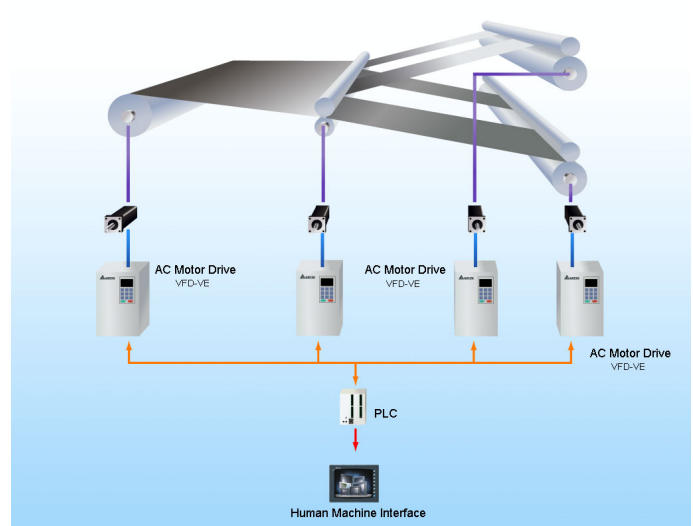
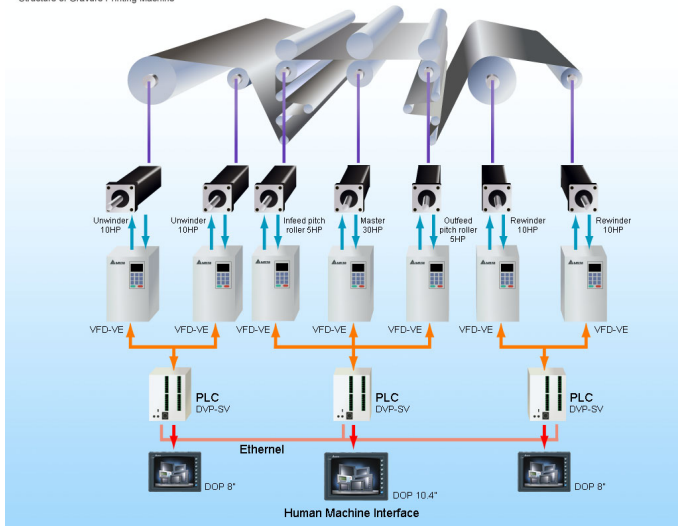
See below for the examples that Delta's VFD-VE series is applied in the tension control.



Application of Delta's VFD-VE in Slitting Machine

VFD-VE

Structure of Gravure Printing Machine



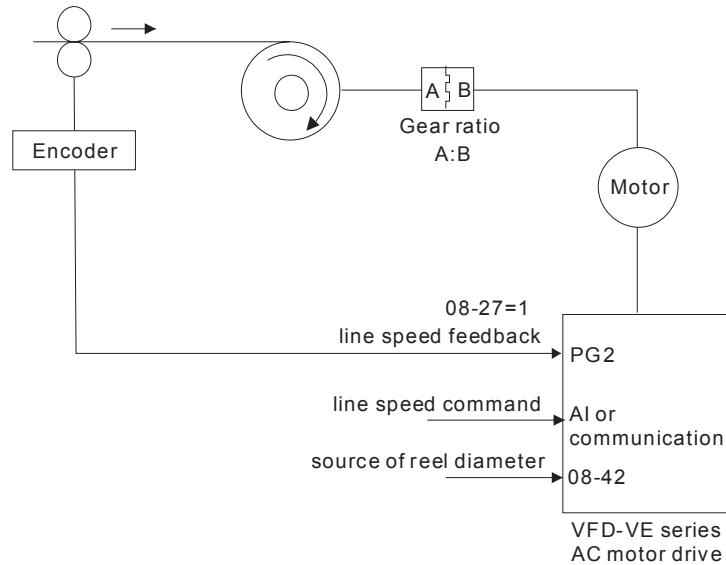
1. Line Speed Closed-loop, Speed Mode

Firstly, it is the winder that most used in the printing industry. In the unwinder, it adopts the magnetic particle to control the unwinder. In terms of rewinder, Delta uses VFD-VE series AC motor drive for the control of line speed closed-loop in speed mode. With the change of the reel diameter of the rewinder, it controls the master frequency of the AC motor drive. In this way, the winder is able to rewind with the constant line speed. Thus, it can achieve this

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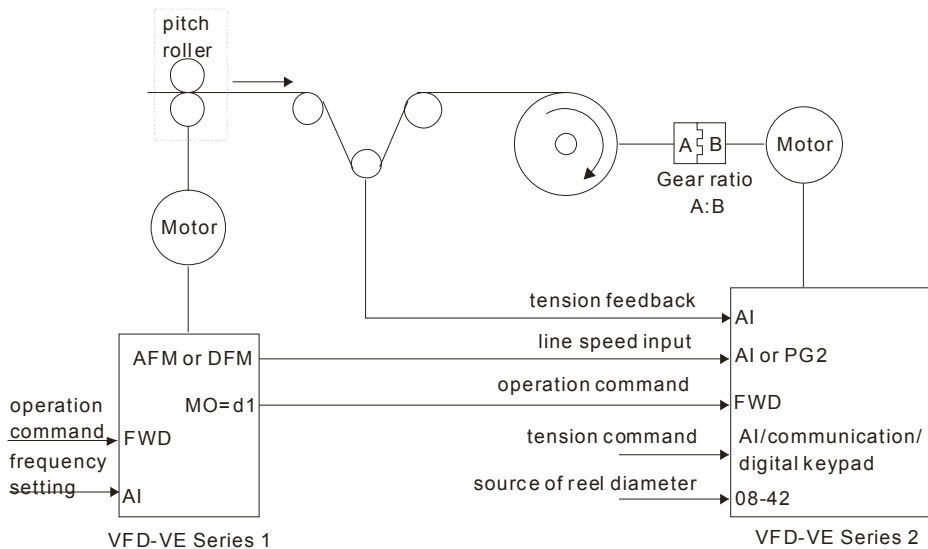
QUALITY
RELIABILITY
EXCELLENT

application by using the tension control function which is built in VFD-VE series. See below for the structure.



2. Tension Closed-loop, Speed Mode

The fiber drawing machine of the plastic industry is another common application. It adopts the analog signal from the feedback of the tension dancer or tension sensor as PID control to control the unwinder's frequency of the AC motor drive. Delta's VFD-VE series AC motor drive is able to control the tension closed-loop in speed mode for the constant tension application. Furthermore, VFD-VE series built-in smart start function of tension control is able to prevent over-tight/broken material. In addition, VFD-VE series built-in broken belt detection function can inform customers immediately when it occurs. See below for the structure.



More information on Delta's VFD-VE series AC motor drive, visit our website at

http://www.delta.com.tw/product/em/drive/ac_motor/ac_motor_product.asp?pid=1&cid=1&itid=9