

How to choose the right drive roller

An essential part of any semi-automatic power source, the drive rolls must be compatible with the wire feeder as well as the MIG/MAG welding wire being used. Their job is to feed the wire into the torch and therefore, introduce the wire into the welding process.

The following three factors should be taken into account when selecting a drive roll:

- Select the correct size drive roller for your wire feeder
- Select the correct groove type for the wire you're using
- Select the correct groove size for the wire you're using

Identifying your drive roller



A = Outside Diameter (OD)

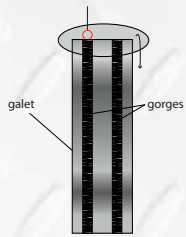
B = Inside Diameter (ID)

C = Width (W)

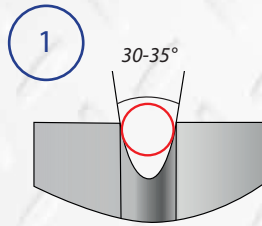
D = Groove Height (GH) This is the distance from the side of the roller to the centre of the closest groove.

E = Drive Type (DT) Most common is keyway. Other types include pins or slots. Some have square or D shaped drive shafts or grub screws.

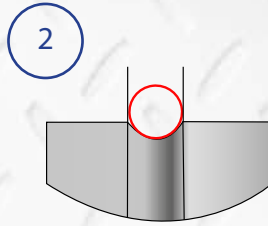
Types of grooves



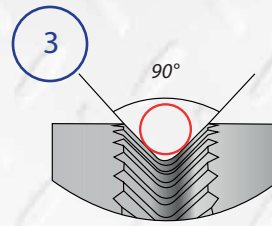
Two-dimensional view



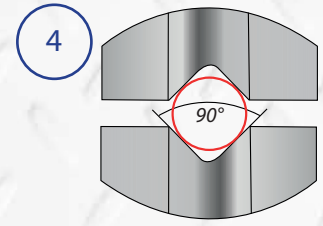
1
V-groove
steel / stainless steel



2
U-groove
aluminium



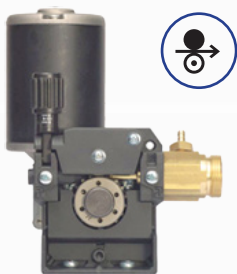
3
V-knurled groove
flux-cored wires



4
Twin V-groove
aluminium

Different types of wire feeders

A motorised wire-feed reel can have two or four drive rollers depending on how powerful it is. Its size is related to its usage and the type of reel being driven (a 15 kg reel will be harder to unwind and will require more driving power).



Motorised wire-feed reel with one motorised roller



Motorised wire-feed reel with two motorised rollers



Motorised wire-feed reel with four motorised rollers

There are two types of drive rolls that make up a motorised wire-feed reel:

a. The motorised drive rollers use a rotating motion to drive the wire into the machine. NB: the motorised drive rollers are located at the bottom of the motorised wire-feed reel (☞ icon). If you are using a model with four drive rollers, the other two will be located at the top (☞☞).

b. The purpose of pressure drive rollers is to hold the wire in the groove and guide it accurately towards the torch. NB: On a motorised wire-feed reel, the pressure drive rollers are located at the top (●● icon). The pressure rollers can also be motorised. (☞☞). When the four drive rollers used are the same, they are called twin-drive rollers.

NB: the more motorised drive rollers there are, the smoother and more evenly the spool is unwound.