

# When **deep drilling** of cylindrical parts becomes tailor made



#### Image captions:

- 1.** I.M.S.A.'s MFT750/2TCR deep drilling machine drills diameters from 6 to 24 mm for a maximum depth of 750 mm.
- 2.** The equipment of this drilling machine includes a treadmill-type automatic workpiece loader.
- 3.** The second twin-spindle drilling machine (model MFT1500/2TCR) recently delivered by I.M.S.A. is destined for a French company in Haute-Savoie, specialized in the machining of parts for precision mechanics.
- 4.** On the MFT1500/2TCR model, the manageable length is up to 1,500 mm, while the machinable outside diameter is up to 51 mm.

I.M.S.A. has recently delivered two models of twin-spindle gun drilling machines for cylindrical parts to be drilled along their axis to two customers in the machining sector (an Italian and a French company): these are the MFT750/2TCR and MFT1500/2TCR models.

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Unlike gun drillings performed on general purpose machines, a specific deep drilling machine uses gun drillings under optimized conditions in order to reduce vibration, guide the tool, optimize coolant management and

machining effort management. Among the machines recently delivered by I.M.S.A. - a company based in Barzago (Italy) specialized in the production of deep drilling machines - and intended for the mechanical processing sector, we

highlight two twin-spindle drilling machines for cylindrical parts to be drilled along their axis. In the following paragraphs, we will go into the details of the machines, illustrating the most significant performance features of each one.



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**Quickly drill large batches of identical parts**

For an existing customer in Brescia, I.M.S.A. developed the deep drilling machine MFT750/2TCR (the first number in the name indicates the maximum drilling depth that can be reached).

This is a 2-headed model, which puts the parts in counter-rotation to the cutting motion of the gun drills.

It drills holes with diameters from 6 to 24 mm for a maximum depth of 750 mm.

In this case, the two deep drilling heads are mounted on a single carriage in order to meet the needs of the customer who often has to quickly drill large batches of identical parts.

The machine is equipped with an automatic workpiece loader of the treadmill type, which can be easily disconnected and removed from the machine for cleaning operations or when the need arises to drill single pieces.

As can often be seen in this type of machine, the piece is placed in counter-rotation with respect to the cutting motion of the gun drills so as to improve both axiality and straightness. The parameters of feed resistance and spindle torque are constantly monitored and used in the

electronic control against drill breakage. In the customer's workshop, the MFT750/2TCR deep drilling machine joins another I.M.S.A. machine that has already been in operation for 10 years.

**A depth of 160 times the diameter**

The second twin-spindle drilling machine recently delivered by I.M.S.A. is destined for a French company in Haute-Savoie, specialized in the machining of parts for precision mechanics. The company needed to introduce a deep-hole drilling machine in order to

offer its customers a wider range of machining operations.

With the MFT1500/2TCR, it has succeeded in meeting these requirements, with the ability to drill cylindrical workpieces of up to 1,500 mm, especially those made up of batches of identical parts.

In this case too, the machine has two drilling heads mounted on a single carriage, and the pieces are counter-rotated to optimize the axiality and straightness of the hole. It is possible to drill holes from 6 to 24 mm in diameter, reaching a depth

of 160 times the diameter, up to a maximum of 1,500 mm.

Since the MFT1500/2TCR drilling machine often has to handle batches of identical workpieces, I.M.S.A. has equipped the machine with an automatic workpiece loader. The manageable length is up to 1,500 mm, while the machinable outer diameter is up to 51 mm.

As for the previous model, also in this second deep drilling machine the CNC provides specific I.M.S.A. functions to control the machining efforts.

