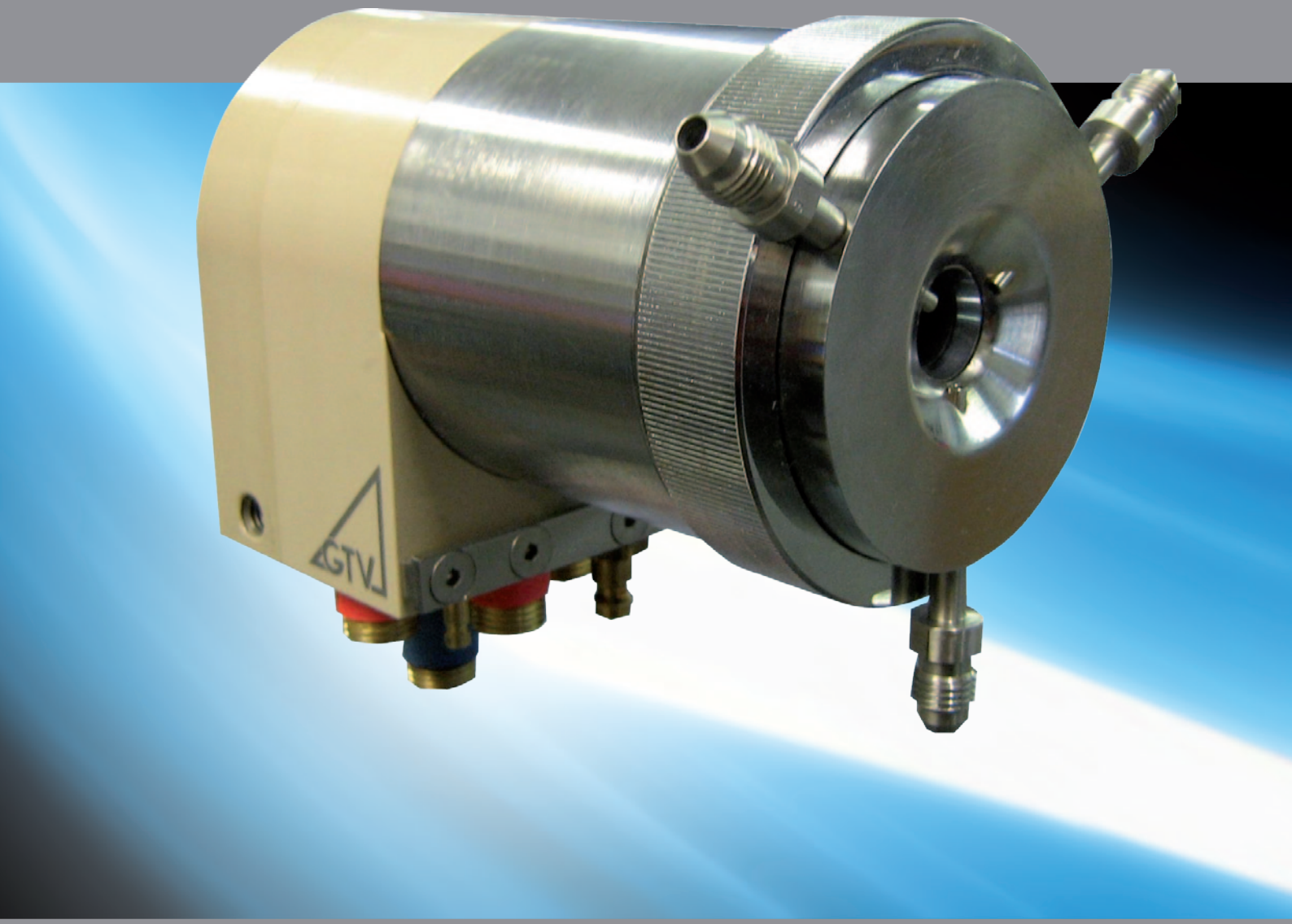
GTV DELTA PLASMA TORCH

Process optimization by
3 anode / 1 cathode technique



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GTV DELTA PLASMA TORCH

The novel GTV DELTA plasma torch combines the advantage out of the conventional 1 cathode and the newer 3 cathode technique.

One single stable arc enables the combination of triple radial powder injection applying feed rates of 300 g/min. At the same time high deposition efficiency reduces process time down to 40 %.

The main component group of the DELTA gun exists of a cascade, a nozzle and a three-part anode segment. The low wear, contact cooled electrode is mounted to the rear gun body.

The main components can be changed easily and fast which saves on one hand cost intensive set-up times. On the other hand the DELTA gun can be retrofitted easily to various nozzle diameters (7 mm, 8 mm and 9 mm) tailored and optimized for special application.

The GTV DELTA Gun is presently the only multi electrode plasma torch which can be operated using argon/hydrogen gas mixtures.

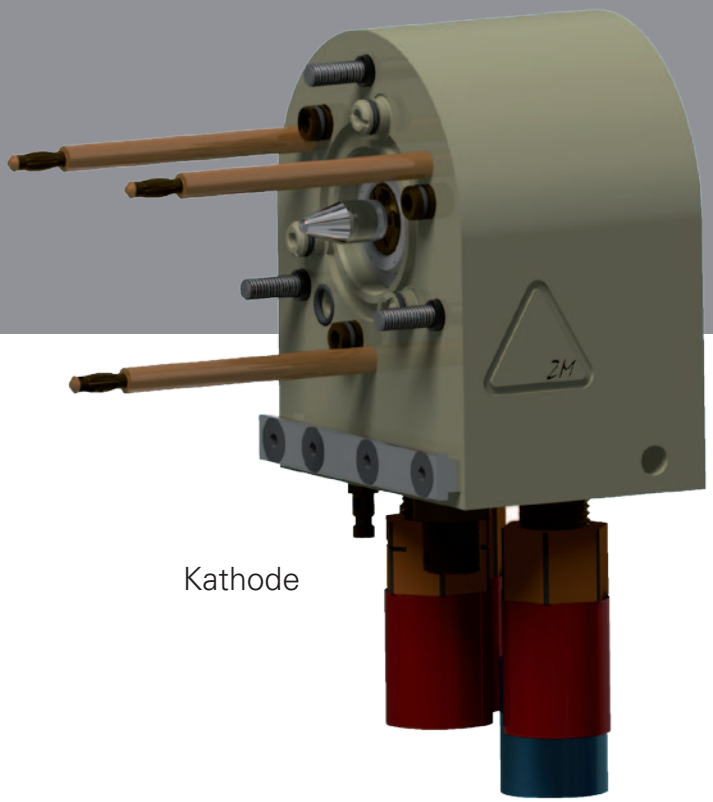
Characteristics of the DELTA gun in comparison to existing APS torches

F4/F6
Only one single arc enables any nozzle diameter, voltage fluctuation up to +/- 20 V

3 cathode torch
Three cascaded, axial stabilized arcs, fluctuation up to +/- 3V only. Constant plasma energy for radial injected powder particles. But three arcs require a limited minimum nozzle diameter if using conventional plasma gas flows between 50 and 100 SLPM.

GTV DELTA gun
One single cascaded, stabilized arc, voltage fluctuation up to +/- 3 V only. Constant plasma energy for radial injected powder particles. The single arc is distributed regularly onto three starting points on the three separate anode segments. Thus, the positions for the three powder injections are constant all time. One single arc enables any nozzle diameter.

Cascade/Nozzle/Anode



Kathode

The GTV Delta-Gun was developed in co-operation with
Zierhut Messtechnik GmbH Munich as well with Prof. Landes, Dr. Dzulko and Dr. Zierhut.

Ever since the company was established in 1982, the name GTV has stood for top quality and a high level of delivery reliability for all types of thermal spray products.

GTV provides its customers with many years of experience in all aspects of the high-technology field of thermal spray technology, enabling them to make use of the effective and efficient GTV system solutions in order to gain a substantial competitive advantage in the market.

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