ID-NOVA™ PLATFORM · HVOF TORCH

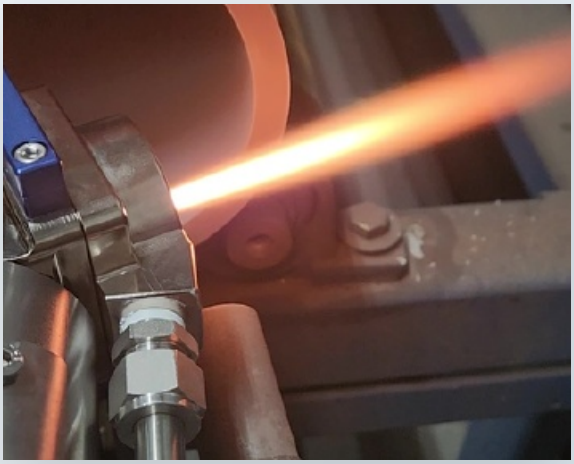
ID-Nova **MK7**

HVOF Torch

High-performance coating torch for internal diameters of 4.5″ (114.3 mm) and up.

VALIDATED

NRC Canada validated and field-proven.



90 kW	**4.5″**	**>70** %	**>1000**	**<1** %
Rated power	Min. internal diameter (114.3 mm)	DE achieved (WC-CoCr) typical ~65%	HV300 hardness (WC-CoCr)	WC-CoCr coating porosity

OVERVIEW

The ID-Nova MK7 is a high-power HVOF torch engineered for internal diameters of 4.5″ (114.3 mm) and up, and for outside-diameter (OD) applications with the Super-Nova™ extended nozzle. With axial powder injection and Warm Spray capability, the MK7 delivers dense, low-porosity tungsten carbide coatings with hardness typically 1100–1200 HV300. Proven in the field and validated by NRC Canada.

TECHNICAL SPECIFICATIONS

Rated power	**90 kW**
Gases & powder feed	**Hydrogen (other fuel gases possible); axial feed**
Min. ID (standard elbow)	**4.5″ (114.3 mm)**
Surface finish	**Typical Ra ~2 µm (<1 µm achieved); compressive stress profile**
Warm Spray	**Capable with non-reacting gases (N_2, Ar, CO_2)**

KEY FEATURES

- Coats internal diameters ≥ 4.5″ (114.3 mm)
- Axial powder feed for high deposition efficiency
- Adaptable for Warm Spray with inert or nitrogen gas additions
- Super-Nova™ nozzle for OD spraying
- Compatible with H_2/O_2 controllers, including the ID-Nova H2V

COATINGS · TYPICAL RESULTS

MATERIAL	HARDNESS	POROSITY	OTHER
WC-CoCr	1100–1200 HV300 typ.	<1%	~65% DE typical, >70% achieved · >70 MPa bond strength
Cr_3C_2-25NiCr	907±59 HV300	<1.0%	89±7 MPa bond strength
Ti-6Al-4V (Warm Spray)	490±31 HV100	0.53%	~2 mm thick

Also: WC-10Co4Cr, MCrAlYs, aluminum, stainless steel, Ni and Ti alloys, hard-facing alloys. Composition and properties can be tailored to customer needs.

APPLICATIONS

01 **Aerospace MRO** — Combustion liners, nozzle rings and duct sections.

02 **Power generation** — Turbine housings, vane interiors and internal wear surfaces.

03 **Oil & gas** — Fluid-handling tools and downhole components ≥ 4.5″ ID.

04 **Industrial & OEM** — Hydraulic cylinders, pumps, pipe systems and bore coatings.

05 **Hard chrome replacement** — High-DE WC-CoCr coatings for internal surfaces.

06 **Plastic barrels** — Internal bore coatings for plastic processing barrels.

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