

KERMETICO



**HVAF and HVOF ID Coating
Equipment**

Corrosion and Wear Resistant Coatings for Internal Surfaces



- Pipes & fittings
- Bends
- Pump housings
- Cylinder bores
- Complex parts, like hydro turbine Francis runners

Carbides and metal alloy coatings

Reliable ID Equipment

Gun	Min ID, mm (inch)	Max Depth, mm (feet)	Technology	Materials
AK-ID	80 (3.15)	1,500 (5)	HVAF	WCCoCr, Hastelloy-type
Convertible ID			HVAF & HVOF	
AK-IDR (Rotating)	100 (4)	600 (2)	HVAF	
Convertible IDR			HVAF & HVOF	
AK-5ID	200 (8)	No limit	HVAF	Metals, Alloys, Carbides
AK-5IDR				

Each Kermetico HVAF and HVOF system can operate several guns: ID, ID Rotating, as well as robot-mounted or hand-held outer diameter guns

Convertible HVOF/HVAF ID and HVAF AK4-ID



HVAF and HVOF/HVAF guns for spraying coatings onto internal diameters

- ✓ ID 80 mm (3.15") and larger, reach up to 1.5 m (5') deep bores
- ✓ Spray angle - 90°
- ✓ Elegant design, axial powder feed + air cooling
- ✓ 1-10 to 3-15 μm powder sizes
- ✓ Spraying WCCoCr and Hastelloy-type powders



Some results of spraying WC-10Co-4Cr onto different internal diameters

ID, mm	Particle Size, μm	Spray Rate, kg/h	DE, %	Hardness, HV0.3	Porosity, %
80 3.15"	1-10	0.8 - 1	20-30	600	3-5
100 4"	3-15	4	20-30	1100	<0.5
125+ 5"	3-15	5	20-35	1150+	<0.5

Kermetico HVAF and HVOF IDR

High velocity combustion equipment to apply coatings onto internal diameters of parts that cannot be rotated.

- ✓ IDR - a rotating gun to spray bores 100 mm (4") and larger up to 600 mm (2') deep
- ✓ Maximum spray rate – 5 kg/hour (11 lbs./hour)
- ✓ Spray angle - 90°
- ✓ 1-10 to 3-15 μm powder sizes
- ✓ Spraying WCCoCr and Hastelloy-type



Kermetico HVAF AK5-ID

Our compact spray gun to spray a variety of powders and surfaces

- ✓ Maximum spray rate - 15kg/h (33 lbs./hour)
- ✓ Designed for spraying thin walls, internal surfaces or small parts
- ✓ Fits internal diameters 200 mm (8") and larger
- ✓ 3-15 to 5-30 μm powder sizes
- ✓ Spray angle 90° to 45°
- ✓ Spraying WC-10Co-4Cr, CR₃C₂-NiCr, Hastelloy-type, super-stainless onto sleeves, flanges, valves, shafts, spindles, rods and tubes
- ✓ Can be made in Rotating and Specialized versions



AK5-ID Spraying 9.5" (241 mm)

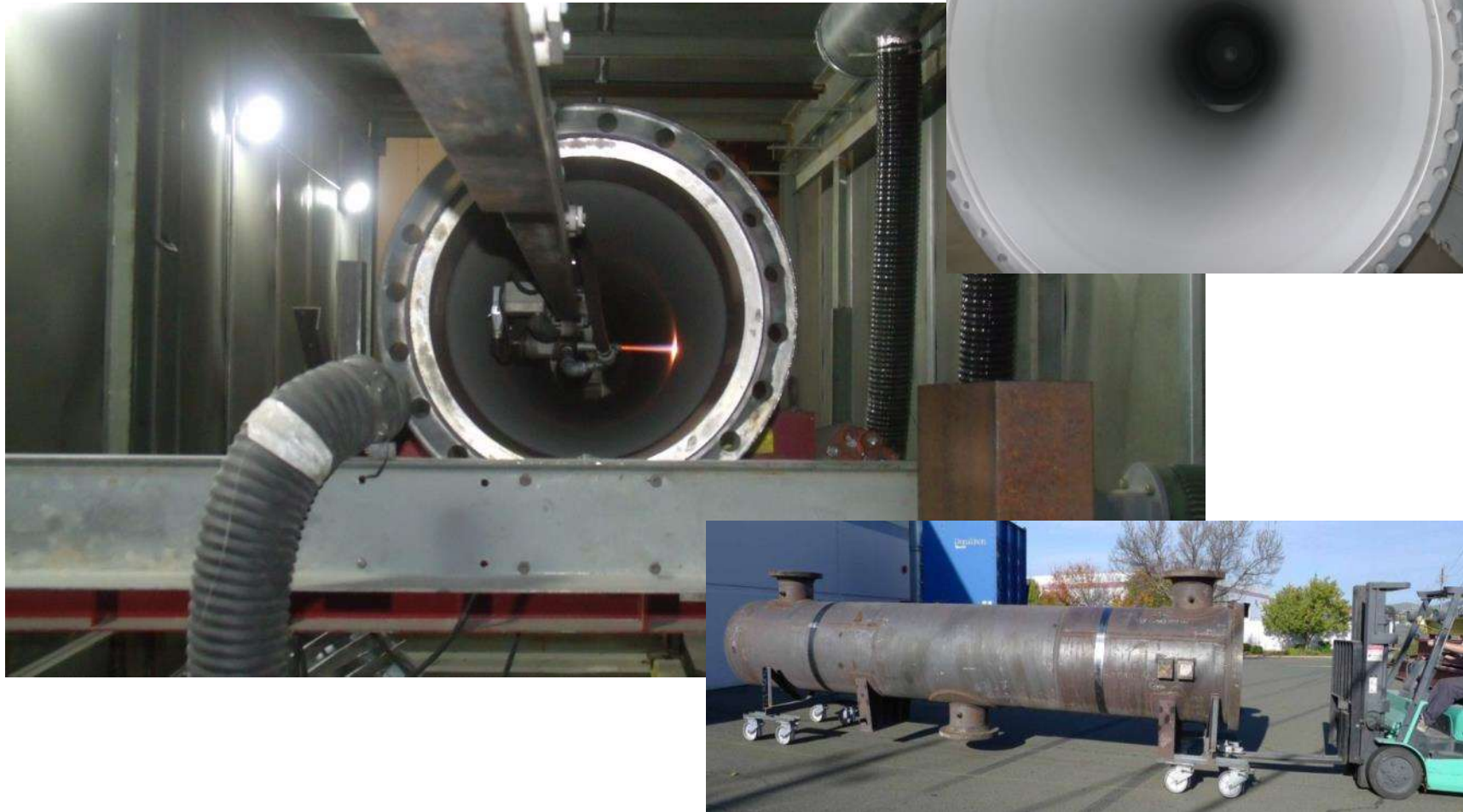
Refinery Processing Vessel: Automated Coating with the Rotating AK5-ID Gun



Diameter: 1.8 m
Length: 11.8 m



Refinery: Heat Exchanger Vessels



Double-Elbow, Spraying with the Rotating AK5 Gun



Coke Line Cyclone: Deposition of WC-10Co-4Cr Coating with the Rotating AK5-ID Gun



Coke Line Cyclone: Application of WC-10Co-4Cr Coating with the Rotating AK5-ID Gun



Elbows: Spraying the 6" (150 mm) ID with the AK-IDR gun



Spraying 88 mm (3.5") and 100 mm (4") ID with the AK-ID



Outer Diameter Guns



- You can use several outer diameter Kermetico guns with the same system
- C7, AK7 – High power guns for spraying metals, alloys, and carbides onto large parts with the best cost and quality; Spray rate – 33+ kg/hour
- C6, AK6 – a thermal spray gun to deposit tungsten carbide onto a spectrum of parts; maximum spray rate – 28 kg/hour
- AK-HH – a hand-held HVAF gun to spray manually on-site or onto complex surfaces; gun weight 2.5 kg; maximum spray rate – 15 kg/h

All the equipment is air cooled, operated by a mobile operator Tablet + digital PLC. More than 60 systems are at work worldwide.



Each of our developers has more than 30 years of coating experience. We have been designing and producing our equipment and technology in California, USA, since 2006.

More than 60 systems are at work worldwide, 20 of them are in Universities and National Labs; there are numerous academic papers published showing HVOF superiority over HVOF. We and our partners have sprayed thousands customer parts with no rejection.

Visit our job shop, meet the designers and watch the process:

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Our distributors:

- China: [Oriental Renpro](#)
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