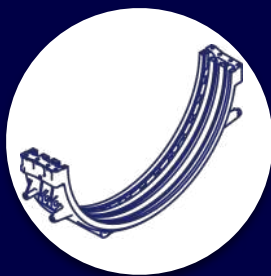
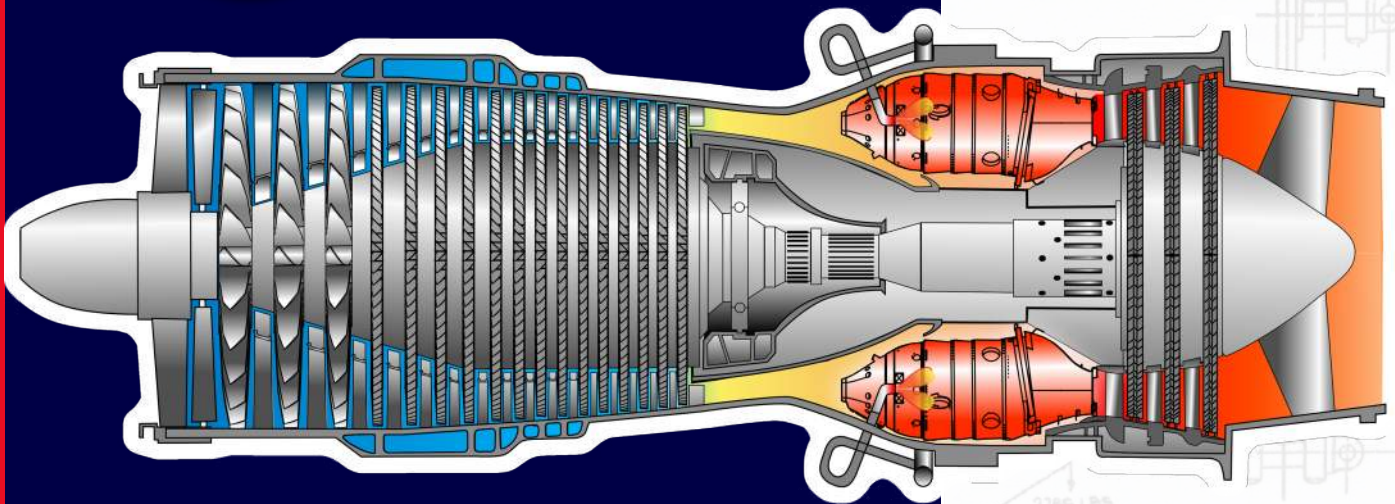
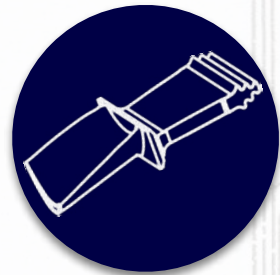
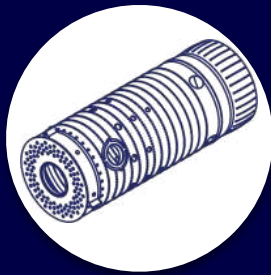
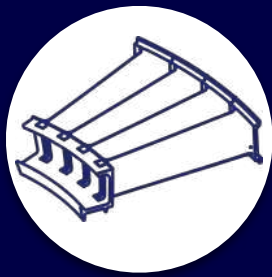


# MANUFACTURING CAPABILITIES

## *Special Parts*



LIFTING BEAM



# Special Parts Manufacturing Capabilities



Special Parts have been established by an international pool of passionate people with different backgrounds in the Energy Sector. The merging of their knowledge and experience in industrial turbine and parts manufacturing allows the company to offer a wide variety of components directly from the factories. Its know-how, gained in the work experiences in the energy production field, together with the experience of a team of highly motivated people allow the company to be a powerful asset for its customers around the world.

Special Parts is committed to excel in quality during all the engineering and manufacturing phases. Customers are entitled to check manufacturing drawings & specification, assist with the production of their parts and to receive a comprehensive technical report along with the parts. A vast range of capital and ancillary parts compatible with GE, Siemens, and RR Gas Turbines have already been developed by SP and are ready to be produced at customer's orders.

## Turbine Blades and Vanes

Hot gas path blades and vanes are among the most expensive and difficult to produce spare parts of the turbine. Quality and delivery schedule along with cost, are the most important parameters to be taken in account during the Purchase process.

Special Parts' direct contact with Western European Foundries, Machining Shops and Coating Shops allow a direct supervision of all the stages of the manufacturing process and Quality Control. Parts are produced in Equiax. or DS starting from superalloy such as: Inconel 738/939, GTD111 Alloy 247, FSX 414, N 155.

<p><b>AVON HP Blade</b> Equip. AVON Part Number: Several PN are available</p> <p>Material: In 738LC Heat Treatment: Solution, Aging and HP Coating: CDM4 Infiltrate seal and Sermally 2 coating Parts per set: 83 Standard</p> <p><b>AVON HP Nozzle</b> Equip. AVON Number: Several PN are available</p> <p>Material: In 738LC Heat Treatment: Solution and Aging Coating: Sermally 2 coating Parts per set: 29 Double Article - 1 Triple Article</p> <p><b>AVON IP Blade</b> Equip. AVON Part Number: Several PN are available</p> <p>Material: Inconel 738LC Heat Treatment: Solution and Aging Coating: CDM4 Infiltrate seal and Sermally 2 coating Parts per set: 71 Standard</p> <p><b>AVON IP Nozzle</b> Equip. AVON Number: Several PN are available</p> <p>Material: Inconel 738LC Heat Treatment: Solution and Aging Coating: Sermally 2 coating Parts per set: 29 Double Article - 1 Triple Article</p> <p><b>AVON LP Blade</b> Equip. AVON Part Number: Several PN are available</p> <p>Material: Inconel 738LC Heat Treatment: Solution and Aging Coating: Sermally 2 coating Parts per set: 29 Double Article - 1 Triple Article</p> <p><b>AVON LP Nozzle</b> Equip. AVON Number: Several PN are available</p> <p>Material: Inconel 738LC Heat Treatment: Solution and Aging Coating: Sermally 2 coating Parts per set: 29 Double Article - 1 Triple Article</p>	<p><b>MS9001E Stg</b> (Substrate for PG21)</p> <p>SP Part number: 1 Material: H91025 Coating: Hard Top Parts per set: 45</p>	<p><b>V94.2 First Stage Blade</b> Part number: SP-V942-1-B-M</p> <p>Base Material: Enhanced Ni2 Material Condition: Solution + Heat Treatment Weight: Approx. 4kg Overall Dimension: Approx. 110mm Coating Applied: MCOAT + TiN Parts per Engine: 88 Standard</p>	<p><b>MS5002D Second</b> Part number: SP-MS502</p> <p>Base Material: In 738 Material Condition: Solution + Heat Treatment Weight: Approx. 4kg Coating Applied: HVOF Parts per Engine: 80</p>	<p><b>MS5002D Sic</b> Part number: SP-M</p> <p>Base Material: AlSi Material Condition: Solution + Heat Treatment Weight: Approx. 4kg Overall Dimension: Approx. 110mm Coating Applied: C Parts per Engine: 80</p>	<p><b>MS5002D First Stage Bucket</b> Part number: SP-MS502-1-B-K-K-S-D-E</p> <p>Base Material: GTD111 EQ (Directional Solidification) Material Condition: Solution + HP Weight: Approx. 4kg Overall Dimension: Approx. 98mm x 115mm x 65mm Coating Applied: GT-331TM INPLUS Coating (HVOF equivalent) Parts per Engine: 80</p>
<p><b>TESTS AND CERTIFICATES</b> Material Chemical Analysis - Heat Treatment report - Coating Powder Chemical Analysis - Coating Thickness Report - Dimensional report - Visual Inspection Report</p> <p><b>OPTION</b> Cover Plates - Installation Kit</p> <p><b>WARRANTY</b> The equipment are warranted against defective material and/or deficiencies for a period of twelve (12) months after installation but not more than thirty (30) months after delivery.</p> <p><b>ORIGIN</b> Origin for raw materials: Europe Manufacturing: Italy</p>	<p><b>TESTS AND CERTIFICATES</b> Material Chemical Analysis - Heat Treatment report - Coating Powder Chemical Analysis - Coating Thickness Report - Dimensional report - Visual Inspection Report</p> <p><b>OPTION</b> Cover Plates - Installation Kit</p> <p><b>WARRANTY</b> The equipment are warranted against defective material and/or deficiencies for a period of twelve (12) months after installation but not more than thirty (30) months after delivery.</p> <p><b>ORIGIN</b> Origin for raw materials: Europe Manufacturing: Italy</p>	<p><b>TESTS AND CERTIFICATES</b> Material Chemical Analysis - Heat Treatment report - Coating Powder Chemical Analysis - Coating Thickness Report - Dimensional report - Visual Inspection Report</p> <p><b>OPTION</b> Cover Plates - Installation Kit</p> <p><b>WARRANTY</b> The equipment are warranted against defective material and/or deficiencies for a period of twelve (12) months after installation but not more than thirty (30) months after delivery.</p> <p><b>ORIGIN</b> Origin for raw materials: Europe Manufacturing: Italy</p>	<p><b>TESTS AND CERTIFICATES</b> Material Chemical Analysis - Heat Treatment report - Coating Powder Chemical Analysis - Coating Thickness Report - Dimensional report - Visual Inspection Report</p> <p><b>OPTION</b> Cover Plates - Installation Kit</p> <p><b>WARRANTY</b> The equipment are warranted against defective material and/or deficiencies for a period of twelve (12) months after installation but not more than thirty (30) months after delivery.</p> <p><b>ORIGIN</b> Origin for raw materials: Europe Manufacturing: Italy</p>	<p><b>TESTS AND CERTIFICATES</b> Material Chemical Analysis - Heat Treatment report - Coating Powder Chemical Analysis - Coating Thickness Report - Dimensional report - Visual Inspection Report</p> <p><b>OPTION</b> Cover Plates - Installation Kit</p> <p><b>WARRANTY</b> The equipment are warranted against defective material and/or deficiencies for a period of twelve (12) months after installation but not more than thirty (30) months after delivery.</p> <p><b>ORIGIN</b> Origin for raw materials: Europe Manufacturing: Italy</p>	<p><b>TESTS AND CERTIFICATES</b> Material Chemical Analysis - Heat Treatment report - Coating Powder Chemical Analysis - Coating Thickness Report - Dimensional report - Visual Inspection Report</p> <p><b>OPTION</b> Cover Plates - Installation Kit</p> <p><b>WARRANTY</b> The equipment are warranted against defective material and/or deficiencies for a period of twelve (12) months after installation but not more than thirty (30) months after delivery.</p> <p><b>ORIGIN</b> Origin for raw materials: Europe Manufacturing: Italy</p>



## Combustion Chambers

Single hot gas section components such as Liners/Flame-Tubes, Transitions/Discharge Nozzles or complete combustion chambers are available. All combustion parts are manufactured with state of the art welding technologies from metal sheets. Materials include, among others, Inconel, Nimonic, Hastelloy X, Stellite. The coating is applied with state of the art processes such as HVOF and Plasma Spray, to ensure surface resistance and insulation. Consumable parts as ceramic tiles, tile holders and accessories are available as well.

<p><b>MS6001B Transition Piece</b> Equip. GE Part Number: Several codes are available Matsuky Part number: ME-FRAB-TP-X-X-X-E Material: Nimonic 263 Heat Treatment: Solution and Aging Coating: TBC-Hard Coating (Depends on MS) Parts per set: 10 Standard</p>	<p><b>V94.2 Vers.5 Flame Tube Assem</b> Part number: SPV942-FTPK-X-X-X-E Base Material: Flame Tube Plate Material: 100M3-NiCr23 Insert Ring Material: Q2-21XNCG3Cu12M Flame Tube Material: 100M3 Material Condition: Heat Treated Weight Approx: 2450kg Overall Dimensions: De320x2385 Coating Applied: 1: Wear Coating on burner mating surface - Co 2: Coating Internal Side - NiCrAlY/2 - HVOF 3: Wear Coating on plate mating surface - HVOF 4: Wear Coating Outside - TBC-414 - HVOF Parts per Engine: 2 Flame Tubes Assembled</p>	<p><b>MS6001B Transition Piece</b> Equip. GE Part Number: Several codes are available SP Part number: ME-FRAB-TP-X-X-X-E Material: Nimonic 263 Heat Treatment: Solution and Aging Coating: TBC-Hard Coating - Chroma Carbon Committed with: Flaring Saws Wear Guards M Blocks Parts per set: 10 Standard</p>	<p><b>RR AVON Flame Tubes</b> Equip. P/N: A03902A SP P/N: SP5902A Material: Nimonic 75 and Alloy C263 Weight: 18kg Heat Treatment: Aging Coating: TBC and Hard Face Coating Parts per set: 1 of 8</p>
<p><b>MS6001B Cap &amp; Liner</b> Equip. GE Number: Several codes are available Matsuky Part number: ME-FRAB-LN-X-X-X-E Material: Hastelloy X/HS 188/238, Inconel 75 Weight: 33kg Heat Treatment: Solution/Plasma and Age Coating: TBC-Hard Coating (Depends on MS) Parts per set: 10 Standard</p>	<p><b>MS6001B Cap &amp; Liner</b> Equip. GE Number: Several codes are available SP Part number: ME-FRAB-LN-X-X-X-E Material: Hastelloy X, Inconel 750 Weight: 19kg Heat Treatment: Solution and Aging Coating: TBC-Hard Coating (Depends on MS) Parts per set: 10 Standard</p>	<p><b>MS6001B Cap &amp; Liner</b> Equip. GE Number: Several codes are available SP Part number: ME-FRAB-LN-X-X-X-E Material: Hastelloy X, Inconel 750 Weight: 19kg Heat Treatment: Solution and Aging Coating: TBC-Hard Coating (Depends on MS) Parts per set: 10 Standard</p>	<p><b>RR AVON Flame Tubes</b> Equip. P/N: A03902A SP P/N: SP5902A Material: Nimonic 75 and Alloy C263 Weight: 18kg Heat Treatment: Aging Coating: TBC and Hard Face Coating Parts per set: 1 of 8</p>

## Compressor Blades

Our expertise allows us to quickly manufacture complex shapes for all stages of Compressor Blades and Vanes with excellent quality and competitive cost. We provide blades and vanes using Forged and Machined, or Milled from bar depending on the complexity and suitability of the manufacturing process.

<p><b>RR AVON OGV Stator C</b> Part number: SP92022 Base Material: AISI 410 Material Condition: Hardening Weight: Approx. 318 grams ea. Coating Applied: CERAL3450 Parts per Engine: 4</p>	<p><b>RR AVON Stage 2 Rotor</b> Part number: SP A057940 Base Material: Aluminum 2016 Material Condition: Solution and Weight: Approx. 102 grams ea. Coating Applied: Teflon Green Parts per Engine: 53</p>	<p><b>RR AVON Stage 7 Stator</b> Part number: SP98030 Base Material: 1.4913 / X19CM Material Condition: Hardening Weight: Approx. 49 grams ea. Coating Applied: CERAL3450 Parts per Engine: 99</p>	<p><b>RR AVON Stage 10 Stator</b> Part number: SP99794 Base Material: 1.4913 / X19CM Material Condition: Hardening Weight: Approx. 216 grams ea. Coating Applied: CERAL3450 Parts per Engine: 4</p>	<p><b>RR AVON Stage 1 Stator</b> Part number: SP99755A Base Material: A0218 - A0274 Material Condition: Hardening Weight: Approx. 1.6 Kg ea. Coating Applied: Alumox 1300 Green Teflon Parts per Engine: 1</p>	<p><b>RR AVON Stage 0 Rotor Compressor</b> Part number: SP99748A Base Material: Aluminum Material Condition: Solution and Precipitation Weight: Approx. 450 g Coating Applied: Alumox 1300 Green Teflon Parts per Engine: 25</p>
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## Ancillary Parts

Special Parts together with its Manufacturing Partners allow us to support all your requirements thanks to the extensive range of our products and services. For a broad selection of turbines, Special Parts can analyse the spare parts list and identify the best manufacturing source for each kind of component.



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