DIN FITTINGS
DIN 2353 METRIC BITE-TYPE FITTINGS AND ADAPTERS BY VOLZ
Based in Germany, Volz Group is a leading manufacturer of stainless and carbon steel DIN 2353 fittings. Brennan has entered into a strategic alliance with Volz to bring these high quality fittings to the North American marketplace. Volz’s German manufacturing standards, innovative plating technology and wide DIN and Metric product range are now available to you through Brennan.

For more information on DIN, Metric and other international fittings please contact a Brennan representative.
NO COMPROMISE ON QUALITY

We only use high quality stainless steel 1.4571 (316Ti) due to its exceptional temperature and corrosion resistance. We recommend 316Ti for environments with high salt levels, acidity, or near weld seams. The high service life of our tube and hose fittings also reduces your replacement and maintenance costs.

HIGH QUALITY MATERIAL FOR LONGER LIFE

• Exclusively V4A materials, 1.4571 (316Ti)
• Exceptional temperature and corrosion resistance
• Recommended for use with high salt levels or acids, or near weld seams
• 100% traceability to the smelting furnace
• Inspection certificate available upon request
QUALITY PRODUCTS IN CARBON STEEL

Our carbon steel tube fittings offer excellent corrosion protection. The zinc-nickel plating far exceeds US and international corrosion resistance standards, including VDMA 24576 class K5. Our zinc-nickel plated fittings showed no traces of white or red rust even after 1000 hours of exposure to salt spray testing.

SUPERIOR ZINC-NICKEL PLATING

- Exceptional rust resistance, over 1000 hours under salt spray testing
- High abrasion protection
- High temperature stability
- Good paintability
- Low contact corrosion with aluminum, even lower with stainless steel
- Clean, high quality appearance
IN THE TOUGHEST CONDITIONS
OUR ZINC-NICKEL SHINES
IN THE TOUGHEST CONDITIONS

Water, salt, acids, heat, impacts, vibrations, dirt, increasing amounts of corrosive substances in the air – these are the environmental conditions which fittings are exposed to. In shipbuilding, on drilling platforms, in wind turbines and hydropower plants, in railway technology, construction machines, machine tools, and mobile hydraulics, our products last.

OUR ZINC-NICKEL SHINES

The surface makes a difference. Our zinc-nickel plating provides corrosion protection that far exceeds US and international requirements, including class K5 VDMA standard 24576 for tube couplings. Our fittings withstand 1000 hours of salt spray tests without any trace of white or red rust. This exceptional service life significantly lowers replacement and maintenance costs. Plus, our plating offers not only premium corrosion protection but also a premium appearance.
THE SOLUTION

To arrive at our plating solution we extensively evaluated both acid and alkaline zinc-nickel coatings as well as alternative corrosion protection treatments, for example those that dispense with the nickel components and base their protection on zinc only. In the end, we selected a galvanic treatment with zinc-nickel in an acid environment, due to its outstanding performance characteristics.

IT’S IN THE DETAILS

First of all, an approx. 8 μm thick base coating made of zinc with nickel content of 12 to 15% and a very homogeneous distribution of ZnNi molecules is applied galvanically. Then an additional passivation with a coating thickness of approx. 500 nanometers is applied, followed by the final coat: a 2 μm thick seal. These coats make the difference: they protect the ZnNi surface and further enhance the corrosion resistance.

A conventional coating procedure, with an efficiency near 40%, gives rise to embrittlement in the carrier material. Our coating is applied with a significantly improved efficiency of 98%, minimizing hydrogen formation.
### Straight Reducers
- **RI**
  - Straight Reducer
  - BSPP/Female BSPP - Metallic Seal
- **RI WD**
  - Straight Reducer
  - BSPP/Female BSPP - Elastomer Seal
- **RI BSPP - NPT-f**
  - Straight Reducer
  - BSPP/Female NPT - Metallic Seal
- **GAIV R/M**
  - Straight Female Connector
  - Female BSPP or Female Metric Parallel/24° Flareless
- **GAIV NPT**
  - Straight Female Connector
  - Female NPT/24° Flareless

### Weld Connectors
- **GASV**
  - Straight Weld Coupling
  - 24° Flareless/Butt Weld
- **WASV**
  - Elbow Weld Coupling
  - 24° Flareless/Butt Weld
- **ASKV**
  - Straight Weld Coupling for tubes
  - 24° Flareless/Butt Weld
- **SKA**
  - Straight Weld Nipple for tubes
  - 24° Flareless/Butt Weld
- **SKAR**
  - Straight Reducing Weld Nipple for tubes
  - 24° Flareless/Butt Weld

### Straight Test Point Connectors
- **GMA 3**
  - Straight Test Point Connector
  - 24° Flareless/24° Flareless
- **VKA 3**
  - Test Point Swivel
- **EMA 3**
  - Test Point
  - BSPP or Metric Parallel
- **MAEV R 3**
  - Pressure Gauge Connector
  - Adjustable Standpipe/Female BSPP - Internal Metallic Seal
- **SMA 3**
  - Test Point High Pressure Hose Connector

### 37° Flare Tube Adapters (DIN)
- **BO SET**
  - 37° Flared Tube Adapter
- **B M**
  - Nut
- **B DH**
  - Sleeve
- **B KR**
  - Adaptor Ring
  - 37°/24° Flareless

### Blanking Plugs
- **VSCH R/M**
  - Blanking Plug for ports
  - BSPP or Metric Parallel - Metallic Seal
- **VSCH R/M - WD**
  - Blanking Plug for ports
  - BSPP or Metric Parallel - Elastomer Seal
- **VSCH ODR**
  - Blanking Plug for ports
  - ISO 6149
- **VSTO OD**
  - Blanking Cap for cone
  - 24° Flareless
- **EVS V**
  - Blanking Plug for tube ends
  - 24° Flareless
- **VSCH 910**
  - Blanking Plug DIN 910

### Diagnostic Equipment
- **MAV R**
  - Pressure Gauge Connector
  - 24° Flareless/Female BSPP - Internal Metallic Seal
- **MAV NPT**
  - Pressure Gauge Connector
  - 24° Flareless/Female NPT
- **MAEV R**
  - Pressure Gauge Connector
  - Adjustable Standpipe/Female BSPP - Internal Metallic Seal
- **MAEV NPT**
  - Pressure Gauge Connector
  - Adjustable Standpipe/Female NPT
- **MAVD R**
  - Pressure Gauge Connector
  - Flareless Swivel/Female BSPP - Internal Metallic Seal

### Components
- **SDR / PDR**
  - Cutting Ring
- **PDRE**
  - Cutting Ring with PTFE soft seal
- **VKA**
  - Ferrule Ring
- **KD PTFE**
  - Retained Soft Seal Ring
- **KD V**
  - Retained Soft Seal Ring
- **DKRA**
  - Seal Edge Ring External
- **DKRI**
  - Internal metallic seal ring
- **UM (no coating)**
  - Nut DIN 3870
- **UM easy (wax coating)**
  - Nut - easy DIN 3870
- **UM Low friction (special coating)**
  - Nut - low friction DIN 3870
- **GM**
  - Lock Nut DIN 80705
- **VSH**
  - Reinforcing sleeve
- **ESH**
  - Tube Insert
- **ODR (FKM / NBR)**
  - O-Ring
- **WDR (FKM / NBR)**
  - Elastic Soft Seal Ring DIN 3869
- **VM S**
  - Pre-Assembly Jigs hardened
### Banjo and Swivel Couplings

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Connection Options</th>
<th>Seal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWHV R/M</td>
<td>High Pressure Banjo Elbow</td>
<td>24° Flareless/BSPP or Metric</td>
<td>Metallic Seal</td>
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<tr>
<td>EWHV R/M - WD</td>
<td>Double banjo coupling</td>
<td>24° Flareless/BSPP or Metric</td>
<td>Elastomer Seal</td>
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<tr>
<td>EWHV R/M - WD</td>
<td>Double banjo coupling</td>
<td>24° Flareless/BSPP or Metric</td>
<td>Elastomer Seal</td>
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<tr>
<td>DGWESV R/M - WD</td>
<td>Swivel Banjo Coupling</td>
<td>24° Flareless/BSPP or Metric</td>
<td>Elastomer Seal</td>
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<tr>
<td>DGWSV</td>
<td>Swivel Banjo Coupling</td>
<td>24° Flareless/24° Flareless</td>
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<tr>
<td>GEDVV R/M - WD</td>
<td>Swivel Male Stud Coupling</td>
<td>24° Flareless/BSPP or Metric</td>
<td>Elastomer Seal</td>
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<tr>
<td>GDVV</td>
<td>Swivel Male Stud Coupling</td>
<td>24° Flareless/24° Flareless</td>
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### Check Valves

- **RSV**
  - Check Valve Tube Connection
  - 24° Flareless/24° Flareless
- **RSVV R/M - WD**
  - Check Valve Tube Connection
  - 24° Flareless/BSPP or Metric
  - Parallel - Elastomer Seal
- **RSVZ R/M - WD**
  - Check Valve Tube Connection
  - 24° Flareless/BSPP or Metric
  - Parallel - Elastomer Seal
- **RSVI - R**
  - Check Valve BSPP Connection
  - Female BSPP/Female BSPP

### Alternating Valves

<table>
<thead>
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<th>Code</th>
<th>Description</th>
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<tr>
<td>TWV</td>
<td>Shuttle Valve Tube Connection</td>
<td>24° Flareless</td>
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<tr>
<td>GV AGJ</td>
<td>Adapter</td>
<td>24° Flareless/JIC</td>
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</tr>
<tr>
<td>GSV AGJ</td>
<td>Bulkhead Adapter</td>
<td>24° Flareless/JIC</td>
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### 24° Flareless – JIC Adapter

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<td>GV AGJ</td>
<td>Adapter</td>
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<td>GSV AGJ</td>
<td>Bulkhead Adapter</td>
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RELIABILITY

Our products perform. Brennan DIN fittings by Volz protect your hydraulic systems, reducing maintenance and preventing downtime.

CARBON STEEL OR STAINLESS STEEL

You have a choice: carbon steel or stainless steel. You get the best possible level of performance and safety in both types of material.

SUPERIOR CORROSION PROTECTION

The long service life of our products reduces the total cost of ownership because longer life means less maintenance. We achieve that by using high quality stainless steel (316Ti) and by making our steel products extremely corrosion resistant with our superior zinc-nickel coating. Our products are engineered for exceptional performance. Third party testing certificates are available upon request.

BRENNAN POWER

Not only are our fittings superior, but they are also backed by the power of Brennan’s network of 11 distribution centers in North America with an additional 6000 independent distributors. Combine that with excellent Brennan inventory and service levels and it is easier than ever to get the products you want, when you want them.