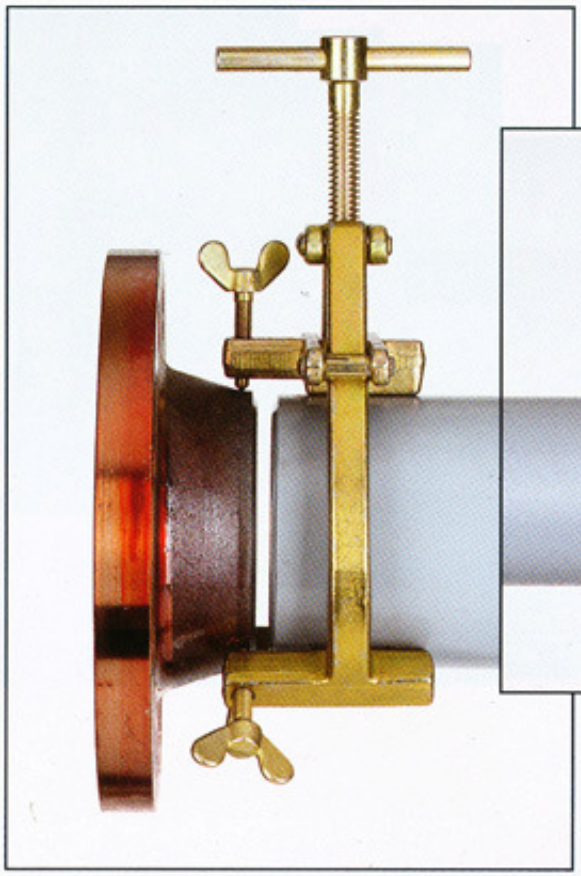
# Rohr-Schnellspanner
# Pipe Welding Clamp

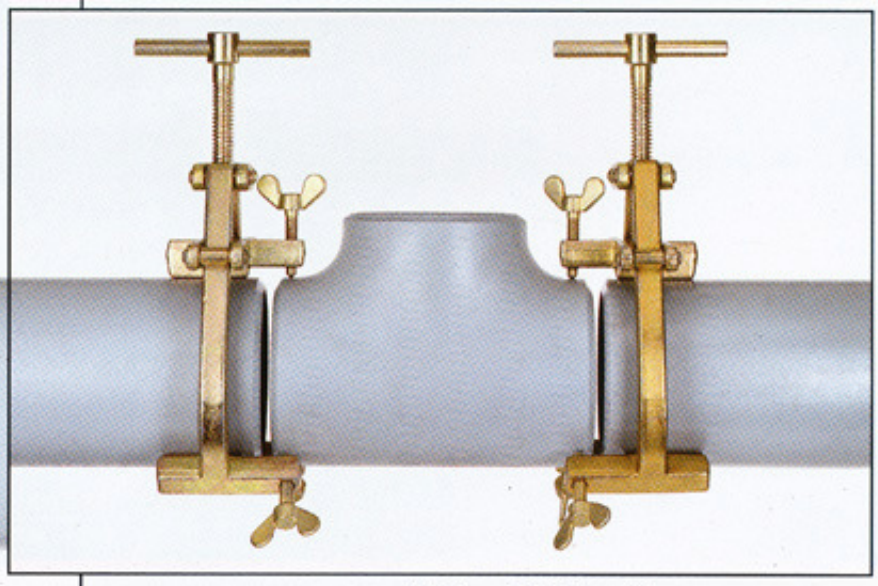
Made in Germany





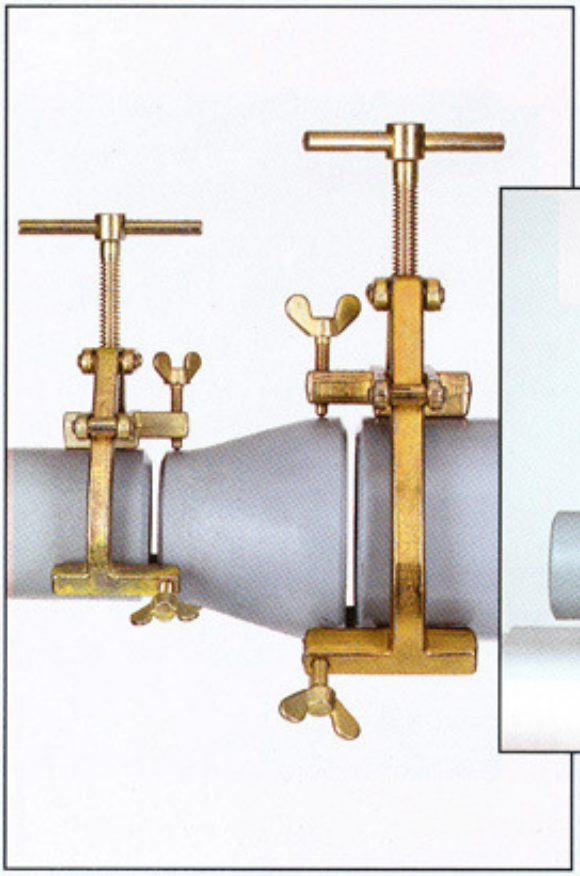
◄ Flansch – Rohr
Flange – Pipe

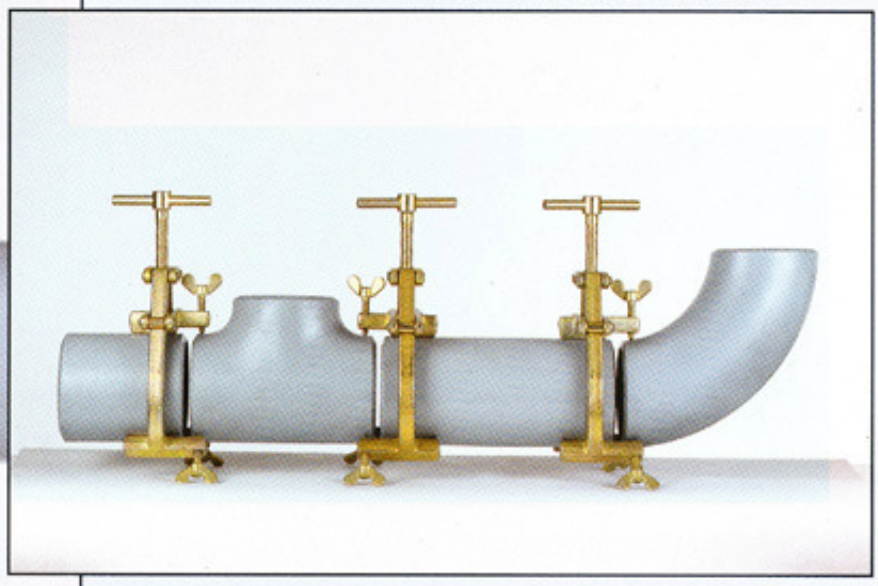




▲ Rohr – T-Stück – Rohr
Pipe – Tee – Pipe

Rohr – T-Stück – Rohr – Rohrbogen
▼ Pipe – Tee – Pipe – Tube Turn

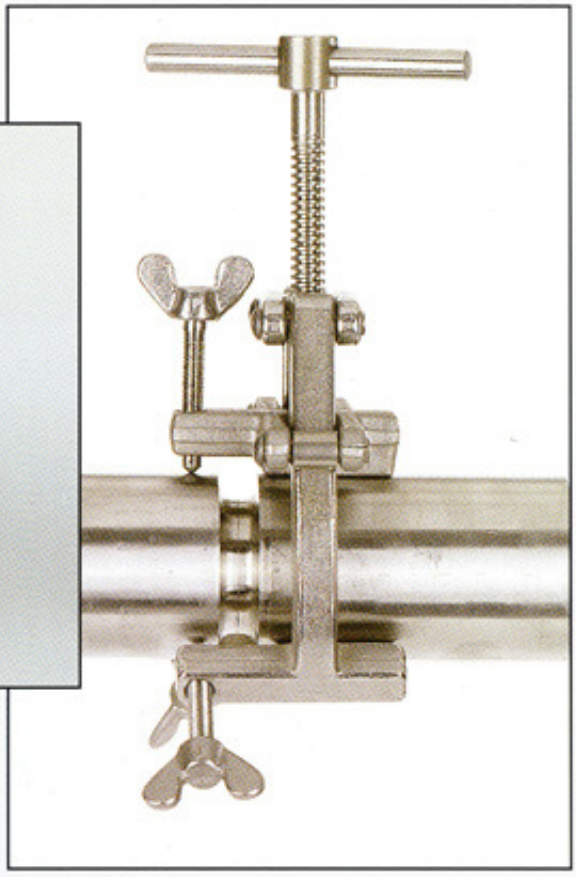


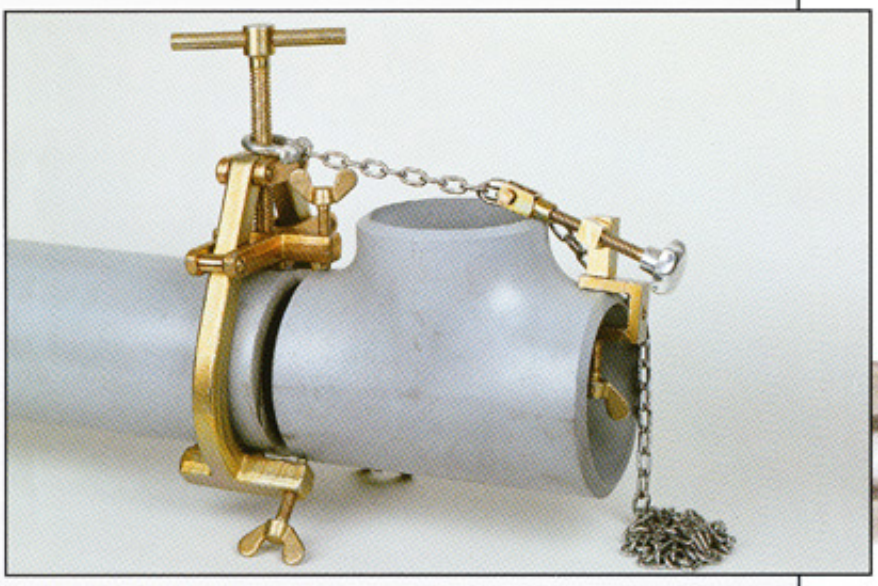


◄ Rohr – Reduzierung – Rohr
Pipe – Pipe Reducer – Pipe



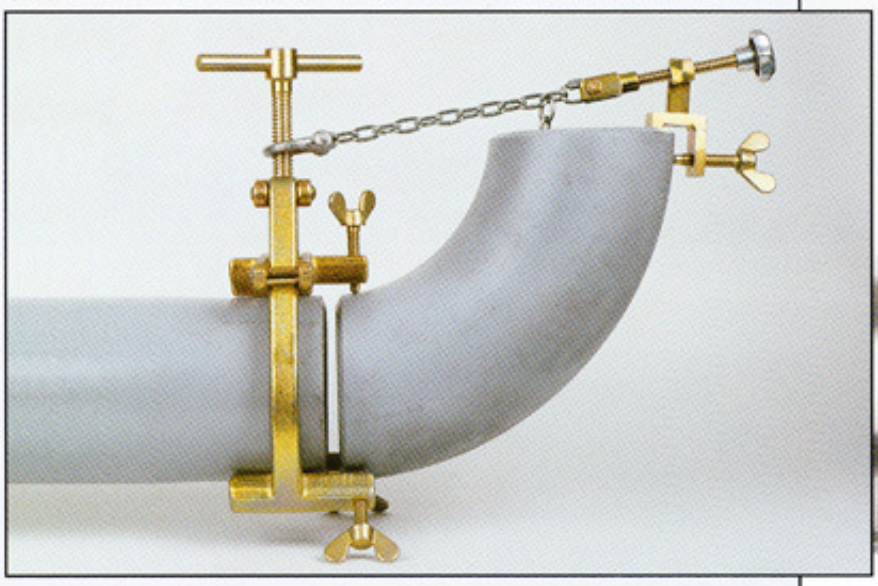
Rohr – Rohr ►
Pipe – Pipe

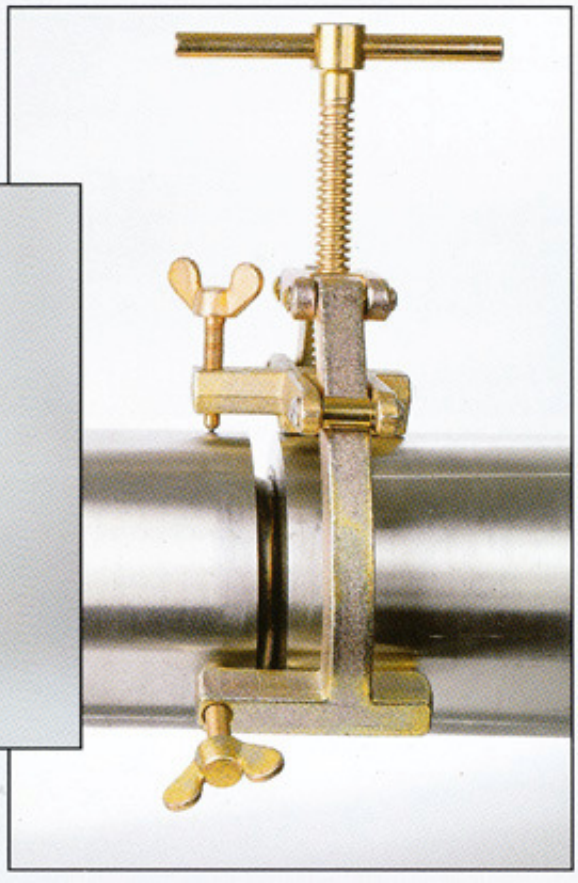




▲ Rohr – T-Stück mit Haltevorrichtung
Pipe – Tee with Holding Device

Rohr – Rohrbogen mit Haltevorrichtung
▼ Pipe – Tube Turn with Holding Device



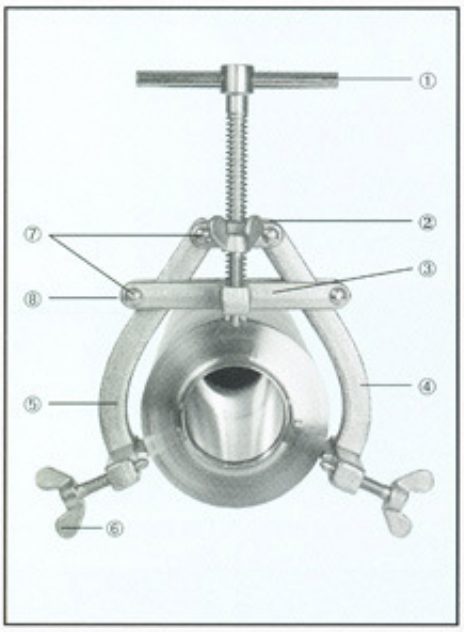


Rohr – Rohr ►
Pipe – Pipe

# JA®



- Ermöglicht eine rationellere Vorbereitung der Schweißarbeiten
- Einfache Handhabung
- Verbesserte Arbeitssicherheit
- Qualitätssicherung durch präzise Feineinstellung
- Wahlweise aus korrosionsgeschütztem Schmiedestahl oder geschmiedetem Edelstahl erhältlich
- Flügelschrauben mit Kugeln aus Edelstahl für alle Schnellspanner




① Handspindel
② H-Bügel
③ Spannbügel
④ Spannarm (rechts)
⑤ Spannarm (links)
⑥ Flügelschraube mit Kugel
⑦ Niet
⑧ Gleitrolle

① Housing Screw
② H-Clamp
③ Yoke
④ Arm (right)
⑤ Arm (left)
⑥ Wing bolt with ball bearing
⑦ Rivet
⑧ Roller



- Allows efficient preparation of welding
- Easy handling
- Optimized working security
- High quality by precise microadjustment
- All items are made of forged electro-plated steel or forged stainless steel
- Wing bolts with stainless steel ball bearing for every type of welding clamps

| Typ/Type | JA 1–3" | JA 2–5" | JA 4–7" | JA 5–9" | JA 10–14" |
|---|---|---|---|---|---|
| Spannbereich | 20–90 mm | 50–150 mm | 90–190 mm | 125–225 mm | 225–370 mm |
| Clamp capacity | 1–3" | 2–5" | 4–7" | 5–9" | 10–14" |
| Gewicht | 1,35 kg | 3,0 kg | 3,3 kg | 7,0 kg | 9,0 kg |
| Net weight | 2.98 lbs | 6.62 lbs | 7.28 lbs | 15.37 lbs | 19.87 lbs |

Bitte beachten Sie, daß wir unsere Produkte stetig verbessern. Wir behalten uns das Recht vor, Änderungen auch ohne vorherige Ankündigungen vorzunehmen. Wir haften nicht für Schäden, die durch unsachgemäße Anwendung unserer Produkte entstehen.

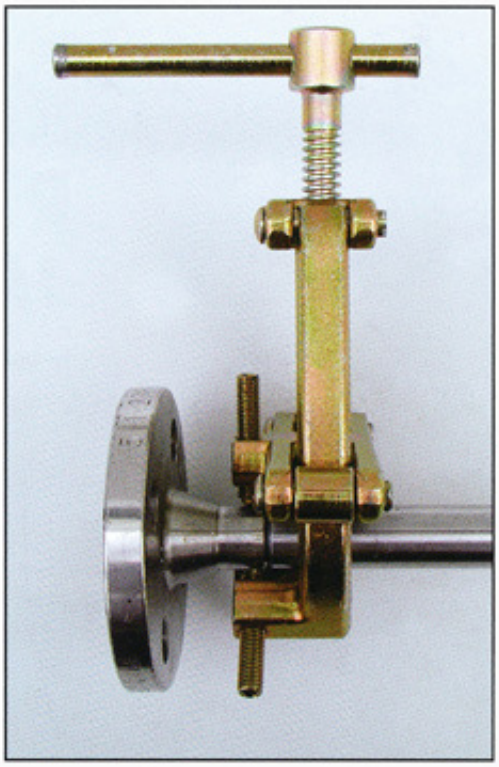
Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.

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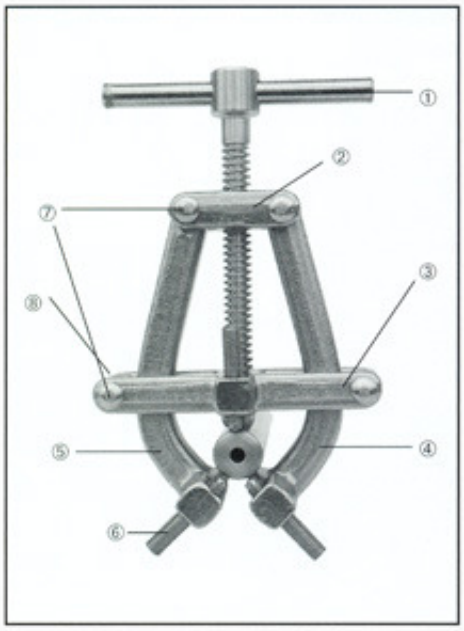
# Rohr-Schnellspanner
# Pipe Welding Clamp
# JA ½ – 3"

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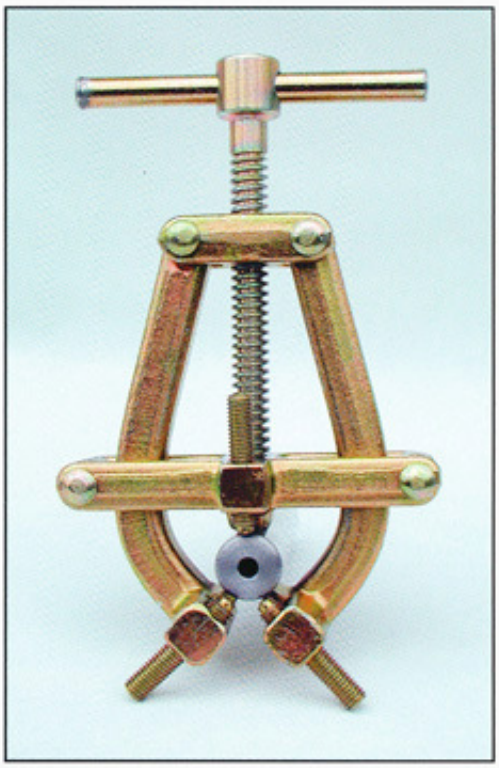




- Ermöglicht eine rationellere Vorbereitung der Schweißarbeiten
- Einfache Handhabung
- Verbesserte Arbeitssicherheit
- Qualitätssicherung durch präzise Feineinstellung
- Wahlweise aus korrosionsgeschütztem Schmiedestahl oder geschmiedetem Edelstahl erhältlich
- Gewindestifte mit Kugeln aus Edelstahl für alle Schnellspanner




① Handspindel (Knebel verschiebbar)
② H-Bügel
③ Spannbügel
④ Spannarm (rechts)
⑤ Spannarm (links)
⑥ Gewindestift mit Kugel
⑦ Niet
⑧ Gleitrolle



① Housing Screw (Lever adjustable)
② H-Clamp
③ Yoke
④ Arm (right)
⑤ Arm (left)
⑥ Thread bolt with ball bearing
⑦ Rivet
⑧ Roller

- Allows efficient preparation of welding
- Easy handling
- Optimized working security
- High quality by precise microadjustment
- All items are made of forged electro-plated steel or forged stainless steel
- Thread bolts with stainless steel ball bearing for every type of welding clamps

| Typ/Type | JA ½ – 3" |
|---|---|
| Spannbereich | 12–90 mm |
| Clamp capacity | ½–3" |
| Gewicht | 1,16 kg |
| Net weight | 2.56 lbs |

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Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.

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## JA-Pipe-Welding-Clamps

| **Type** | *JA 1/2-3 "* | *JA 1-3 "* | *JA 2-5 "* | *JA 4-7 "* | *JA 5-9 "* | *JA 10-14 "* |
|---|---|---|---|---|---|---|
| **Chuck capacity** | 12-90 mm | 20-90 mm | 50-150 mm | 90-190 mm | 125-225 mm | 225-370 mm |
| **Net weight** | 1,16 kg | 1,35 kg | 3,0 kg | 3,3 kg | 7,0 kg | 9,0 kg |

| **Order-No.** | JA 1/2-3 C | JA 1-3 C | JA 2-5 C | JA 4-7 C | JA 5-9 C | JA 10-14 C |
|---|---|---|---|---|---|---|
| **Material Steel, galvanized** | | | | | | |

| **Order-No.** | | JA 1-3 E | JA 2-5 E | JA 4-7 E | JA 5-9 E | JA 10-14 E |
|---|---|---|---|---|---|---|
| **Material Stainless Steel** | **n/a** | | | | | |

## JA-Pipe-Holding-Device with 1 m chain

| **Order-No.** | | J01 0 00 40 | |
|---|---|---|---|
| **Material Steel, galvanized** | | | for each additional meter chain length |
| **Order-No.** | | J01 0 00 50 | |
| **Material Stainless Steel** | | | for each additional meter chain length |

# Spare parts for JA-Pipe-Welding-Clamps

| **Type** | *JA 1-3 "* | *JA 2-5 "* | *JA 4-7 "* | *JA 5-9 "* | *JA 10-14 "* |
|---|---|---|---|---|---|

(item no. 1) hand screw

| | TR 12 | TR 16 | TR 16 | TR 20 | TR 20 |
|---|---|---|---|---|---|
| **Order-No.** | J01 107 01 | J01 107 02 | J01 107 02 | J01 107 03 | J01 107 03 |
| **Material Steel, galvanized** | | | | | |

| **Order-No.** | J01 106 01 | J01 106 02 | J01 106 02 | J01 106 03 | J01 106 03 |
|---|---|---|---|---|---|
| **Material Stainless Steel** | | | | | |

adjusting collar for hand screw

| **Order-No.** | J01 207 01 | J01 207 02 | J01 207 02 | J01 207 03 | J01 207 03 |
|---|---|---|---|---|---|
| **Material Steel, galvanized** | | | | | |

| **Order-No.** | J01 206 01 | J01 206 02 | J01 206 02 | J01 206 03 | J01 206 03 |
|---|---|---|---|---|---|
| **Material Stainless Steel** | | | | | |

(item no. 6) wing bolts

| | M 8 x 50 | M 10 x 50 | M 10 x 50 | M 12 x 60 | M 12 x 60 |
|---|---|---|---|---|---|
| **Order-No.** | J01 107 04 | J01 107 05 | J01 107 05 | J01 107 06 | J01 107 06 |
| **Material Steel, galvanized** | | | | | |

| **Order-No.** | J01 106 04 | J01 106 05 | J01 106 05 | J01 106 06 | J01 106 06 |
|---|---|---|---|---|---|
| **Material Stainless Steel** | | | | | |

(item no. 7) rivets

| | 8 x 35 mm | 10 x 43,5 mm | 10 x 43,5 mm | 12 x 54 mm | 12 x 54 mm |
|---|---|---|---|---|---|
| **Order-No.** | J 01 2 07 42 | J 01 2 07 43 | J 01 2 07 43 | J 01 2 07 44 | J 01 2 07 44 |
| **Material Steel, galvanized** | | | | | |

| **Order-No.** | J 01 2 06 42 | J01 2 06 43 | J 01 2 06 43 | J 01 2 06 44 | J 01 2 06 44 |
|---|---|---|---|---|---|
| **Material Stainless Steel** | | | | | |

(item no. 8) slide roller

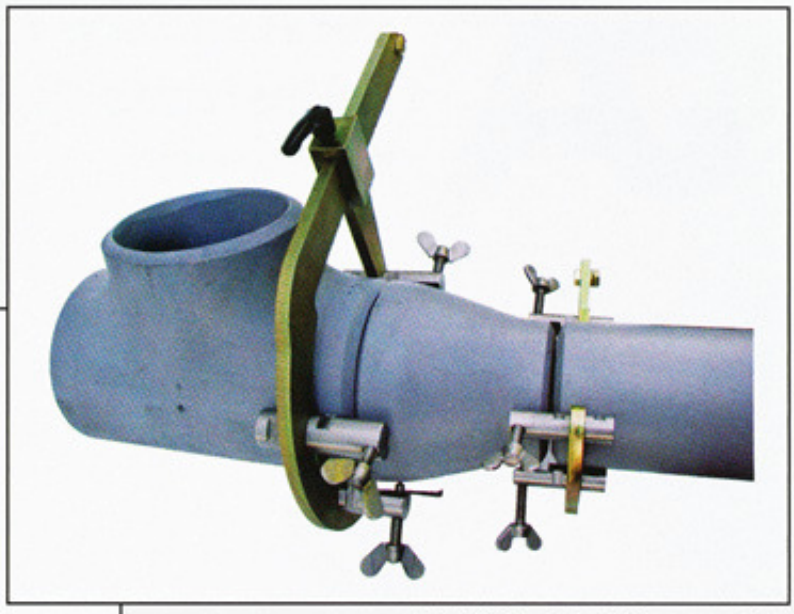
| | 8/12 x 14 mm | 10/12 x 14 mm | 10/12 x 14 mm | 12/16 x 25 mm | 12/16 x 25 mm |
|---|---|---|---|---|---|
| **Order-No.** | J 01 2 07 05 | J 01 2 07 06 | J 01 2 07 06 | J 01 2 07 07 | J 01 2 07 07 |
| **Material Steel, galvanized** | | | | | |

| **Order-No.** | J 01 2 06 05 | J 01 2 06 06 | J 01 2 06 06 | J 01 2 06 07 | J 01 2 06 07 |
|---|---|---|---|---|---|
| **Material Stainless Steel** | | | | | |

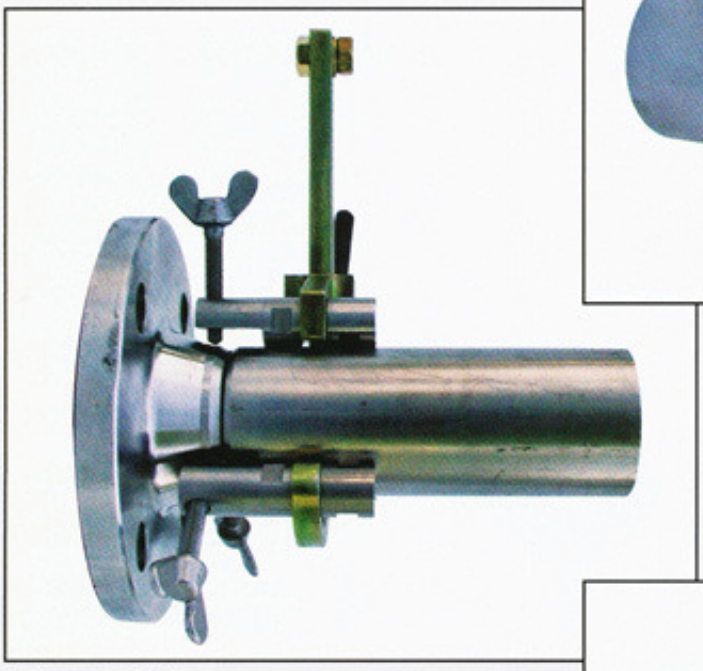
# Verstellbare Rohr-Zentrierzwinge
# Adjustable Pipe-Centering Clamp

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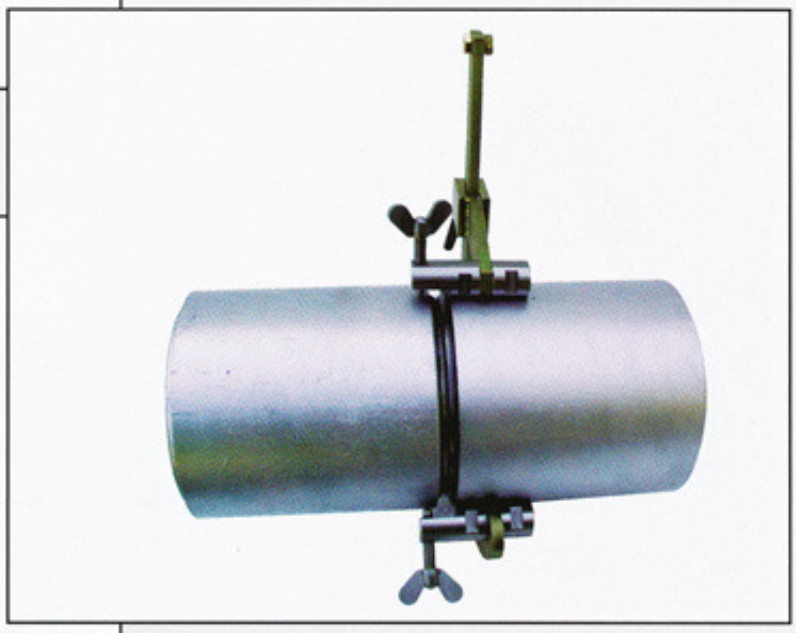




▲ T-Stück – Reduzierung – Rohr
Tee – Pipe Reducer – Pipe



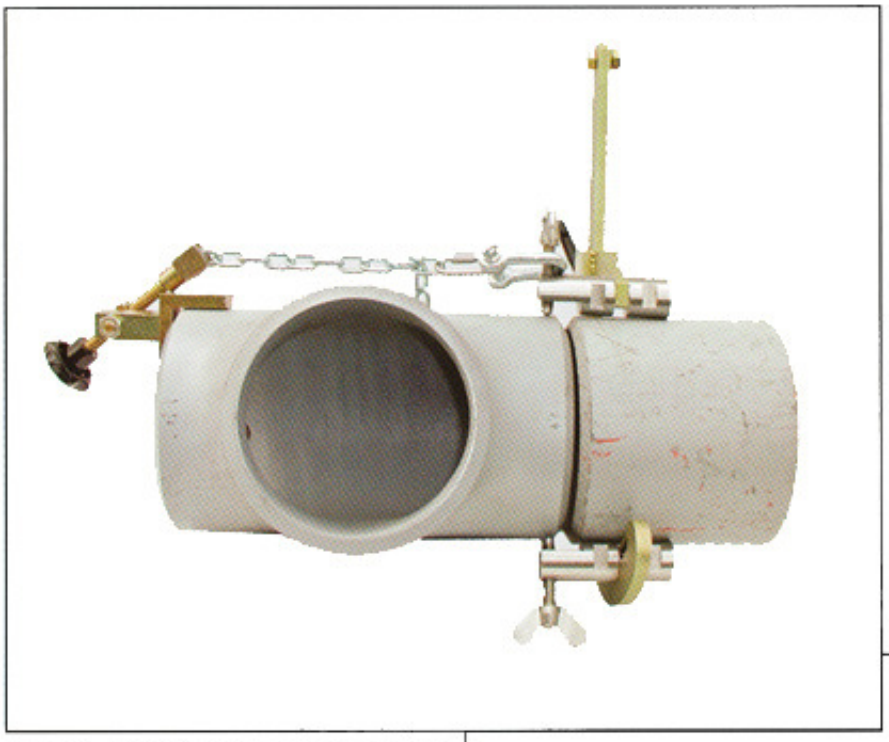
▲ Flansch – Rohr
Flange – Pipe



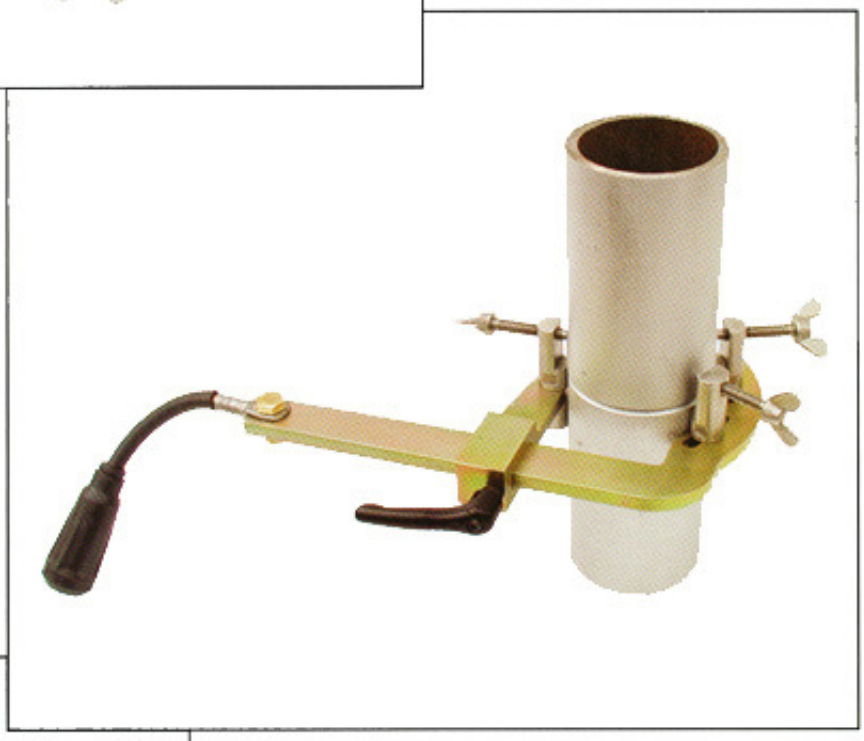
▲ Rohr – Rohr
Pipe – Pipe



◀ Rohr – Reduzierung – Rohr
Pipe – Pipe Reducer – Pipe



▲ Rohr – T-Stück mit Haltevorrichtung
Pipe – Tee with Holding Device

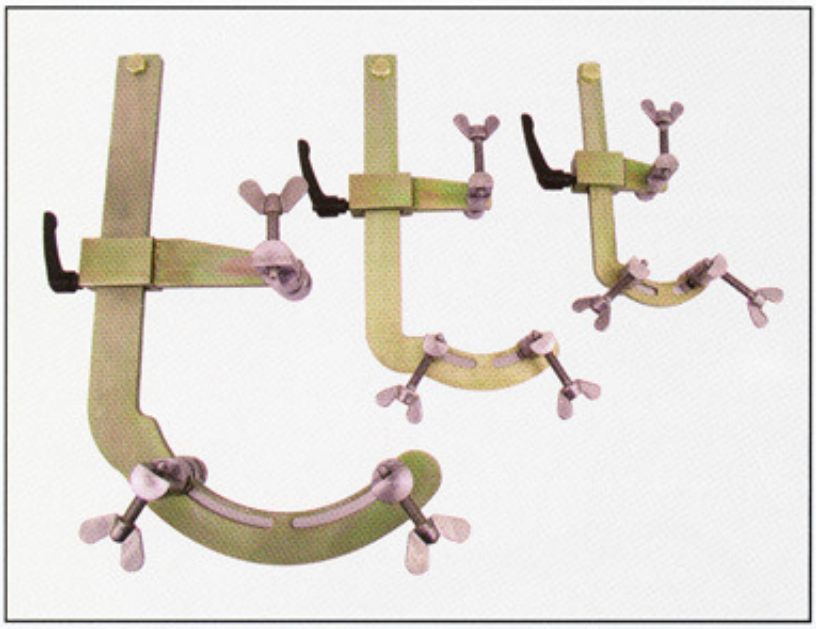


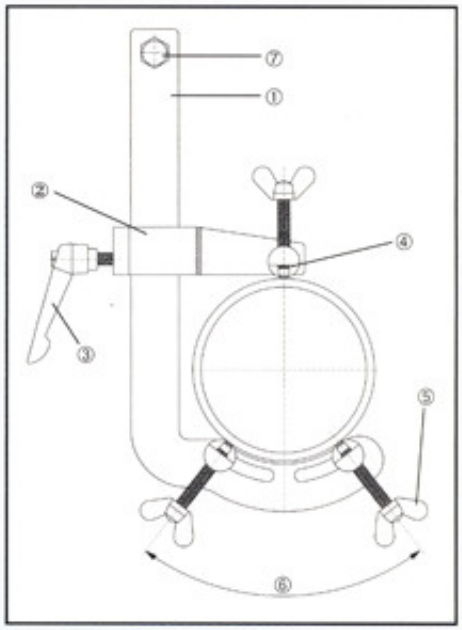
▲ Rohr – Rohr, mit Masse-Anschluss
Pipe – Pipe, Earth Clamp



- Für alle Werkstoffe
- Ermöglicht eine rationellere Vorbereitung der Schweißarbeiten
- Einfache Handhabung
- Verbesserte Arbeitssicherheit
- Qualitätssicherung durch präzise Feineinstellung

① Spannbügel
② Schnellspannarm, verschiebbar
③ Handhebel Feststeller
④ VA Spannkloben (2-teilig), 3 Stück
⑤ VA Flügelschraube mit Kugel
⑥ Stellbereich
⑦ Schraube für Masseanschluss






- For all materials
- Allows efficient preparation of welding
- Easy handling
- Optimized working security
- High quality by precise microadjustment

① Tension Clamp
② Quick tension arm, adjustable
③ Hand lever fastener
④ SS face chuck (in 2 parts), 3 pieces
⑤ SS wing bolt with ball bearing
⑥ Regulating range
⑦ Screw for earth clamp

| Typ/Type | JA ½–2½" | JA 1–4" | JA 4–8" |
|---|---|---|---|
| Spannbereich | 20–70 mm | 30–115 mm | 100–220 mm |
| Clamp capacity | ½–2" | 1–4" | 4–8" |
| Gewicht | 1,35 kg | 2,1 kg | 4,0 kg |
| Net weight | 2,98 lbs | 4,64 lbs | 8,83 lbs |

Bitte beachten Sie, dass wir unsere Produkte stetig verbessern. Wir behalten uns das Recht vor, Änderungen auch ohne vorherige Ankündigungen vorzunehmen. Wir haften nicht für Schäden, die durch unsachgemäße Anwendung unserer Produkte entstehen.

Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.

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Catalog
08.12.2011
Prices on request

# Adjustable Pipe-Centering Clamp

| **Type** | *JA ½ - 2½"* | *JA 1-4"* | *JA 4-8"* |
|---|---|---|---|
| **Chuck capacity** | 20-70 mm | 30-115 mm | 100-220 mm |
| **Net weight** | 1,35 kg | 2,10 kg | 4,00 kg |

| **Order-No.** | J 01 0 18 02 | J 01 0 18 03 | J 01 0 18 04 |
|---|---|---|---|
| **Material**<br>**Steel, galvanized**<br>**& Stainless Steel** | | | |

# JA-Pipe-Holding-Device with 1 m chain

| **Order-No.** | J01 0 00 40 | |
|---|---|---|
| **Material**<br>**Steel, galvanized** | | for each additional meter chain length |

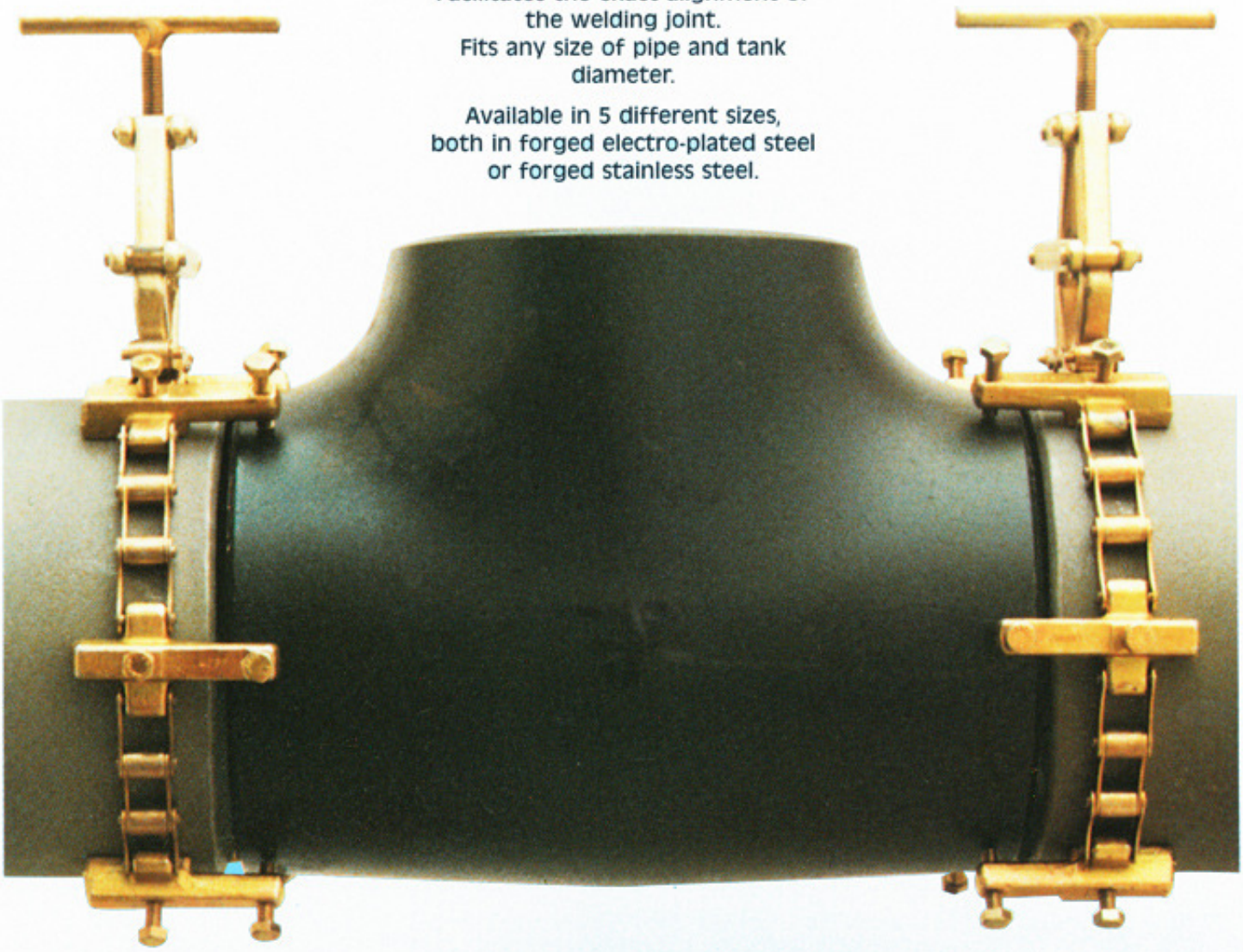
| **Order-No.** | J01 0 00 50 | |
|---|---|---|
| **Material** | | for each additional meter chain length |

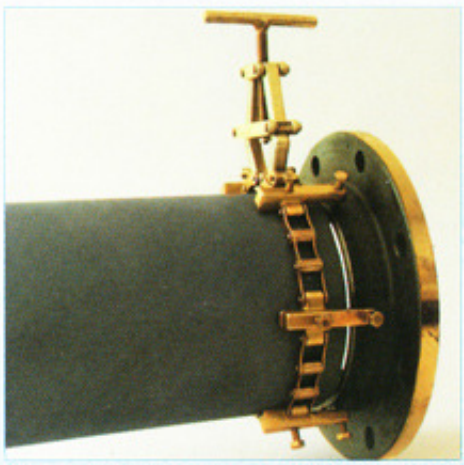
# Pipe-Align Chains Standard

Flexible pipe-align chains.
Suited for pipe-diameter OD 168 mm/6".

Facilitates the exact alignment of the welding joint.
Fits any size of pipe and tank diameter.

Available in 5 different sizes, both in forged electro-plated steel or forged stainless steel.

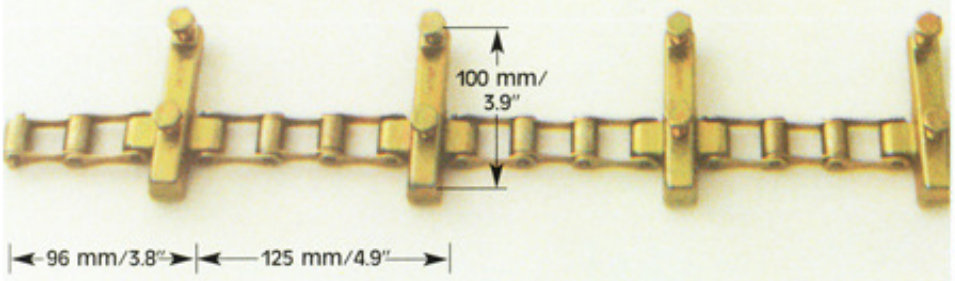








2.0 kg/4.4 lbs



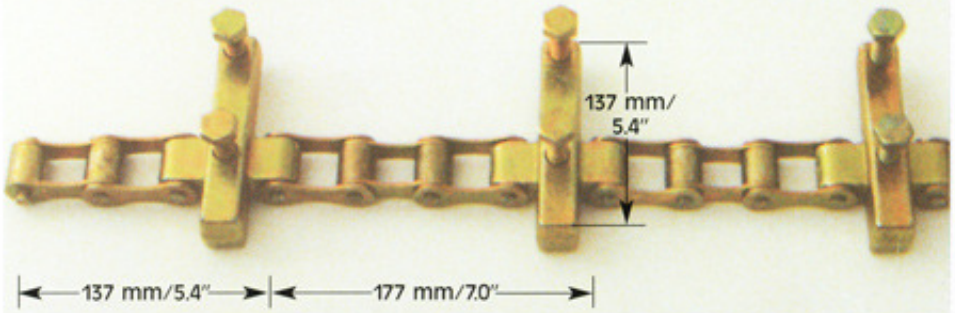

1 kg/2.2 lbs



max. 105 mm/max. 4"

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8.2 kg/18.1 lbs



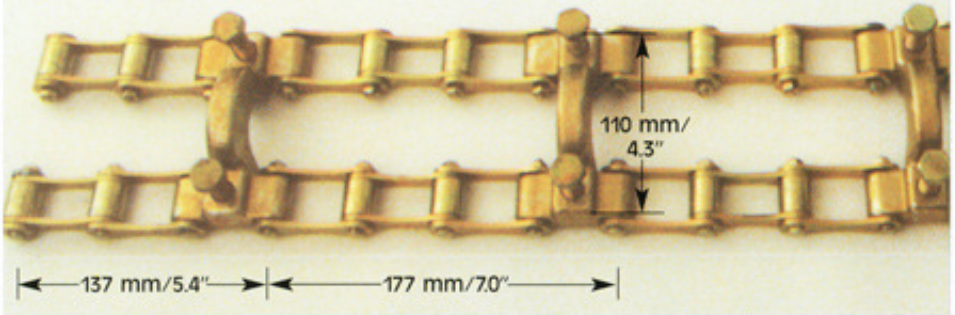

2.2 kg/4.8 lbs



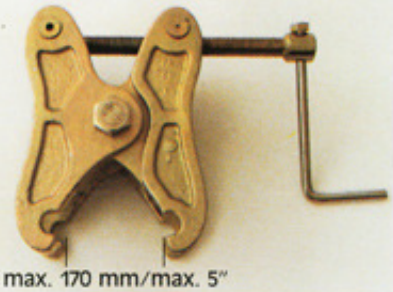
max. 125 mm/max. 5"

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11.5 kg/25.35 lbs



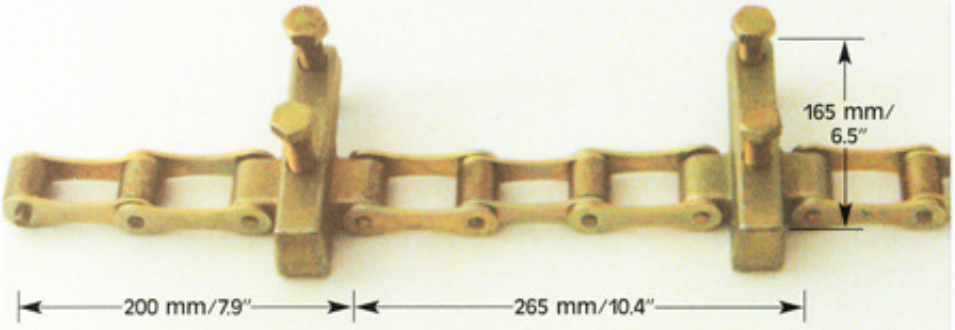

10 kg/22.1 lbs



max. 170 mm/max. 5"

---

17.4 kg/38.4 lbs



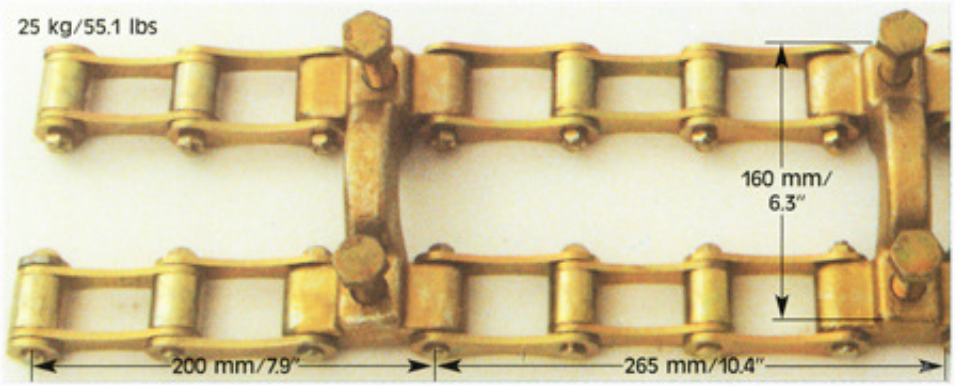

4.3 kg/9.5 lbs



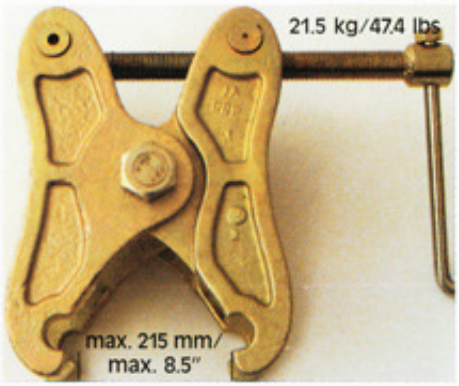
max. 155 mm/max. 6.1"

---

25 kg/55.1 lbs




21.5 kg/47.4 lbs

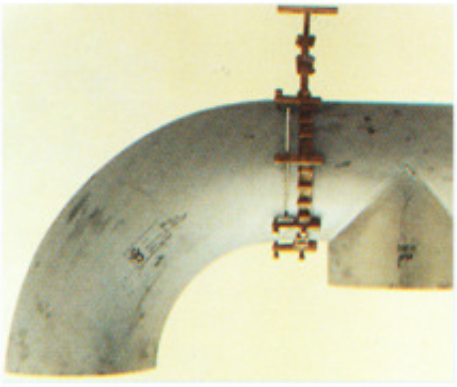


Light model,
Electro-plated steel or
stainless steel.
Standard length: 650 mm/
25.6", 5 centering crosses.
Suited for pipes from
OD 168 mm/6".

Calculation of the total length
(Outside pipe diameter +
15 mm/0.6") x 3.14 = L

Order-Numbers:

| | |
|---|---|
| Steel chain (electro-plated) | 150C |
| Chain extension 125 mm/4.9" long | 150CV |
| Steel tensioner (electro-plated) | 150CS |
| Stainless steel chain | 150E |
| Chain extension 125 mm/4.9" long | 150EV |
| Stainless steel tensioner | 150ES |



Medium model,
Electro-plated steel or
stainless steel.
Standard length: 1275 mm/
50.2", 7 centering crosses.
Suited for pipes from
OD 219 mm/8".

Calculation of the total length
(Outside pipe diameter +
21 mm/0.8") x 3.14 = L

Order-Numbers:

| | |
|---|---|
| Steel chain (electro-plated) | 200C |
| Chain extension 177 mm/7" long | 200CV |
| Steel tensioner (electro-plated) | 200CS |
| Stainless steel chain | 200E |
| Chain extension 177 mm/7" long | 200EV |
| Stainless steel tensioner | 200ES |



Medium duplex model,
Electro-plated steel or
stainless steel.
Standard length: 1275 mm/
50.2", 7 centering crosses.
Suited for pipes from
OD 219 mm/8".

Calculation of the total length
(Outside pipe diameter +
21 mm/0.8") x 3.14 = L

Order-Numbers:

| | |
|---|---|
| Steel chain (electro-plated) | D200C |
| Chain extension 177 mm/7" long | D200CV |
| Steel tensioner (electro-plated) | D200CS |
| Stainless steel chain | D200E |
| Chain extension 177 mm/7" long | D200EV |
| Stainless steel tensioner | D200ES |



Heavy model,
Electro-plated steel or
stainless steel.
Standard length: 1920 mm/
75.6", 7 centering crosses.
Suited for pipes from
OD 324/12".

Calculation of the total length
(Outside pipe diameter +
26 mm/1.0") x 3.14 = L

Order-Numbers:

| | |
|---|---|
| Steel chain (electro-plated) | 300C |
| Chain extension 265 mm/10.4" long | 300CV |
| Steel tensioner (electro-plated) | 300CS |
| Stainless steel chain | 300E |
| Chain extension 265 mm/10.4" long | 300EV |
| Stainless steel tensioner | 300ES |



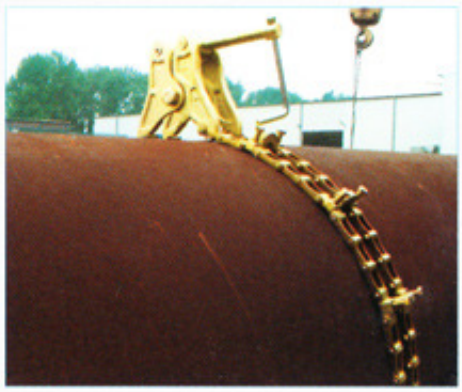
Heavy duplex model, Electro-
plated steel or stainless steel.
Standard length: 1920 mm/
75.6", 7 centering crosses.
Suited for pipes from
OD 324/12".

Calculation of the total length
(Outside pipe diameter +
26 mm/1.0") x 3.14 = L

Every chain can be lengthend by adding extensions to the basic chain package.

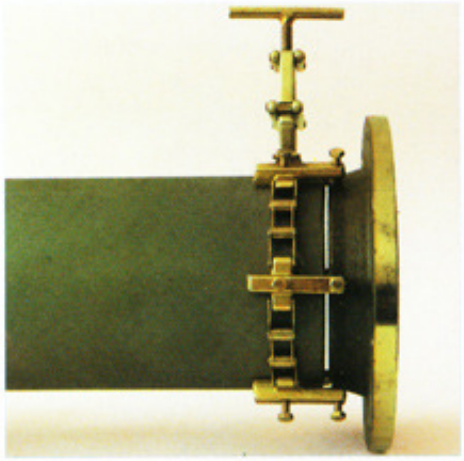
Order-Numbers:

| | |
|---|---|
| Steel chain (electro-plated) | D300C |
| Chain extension 265 mm/10.4" long | D300CV |
| Steel tensioner (electro-plated) | D300CS |
| Stainless steel chain | D300E |
| Chain extension 265 mm/10.4" long | D300EV |
| Stainless steel tensioner | D300ES |

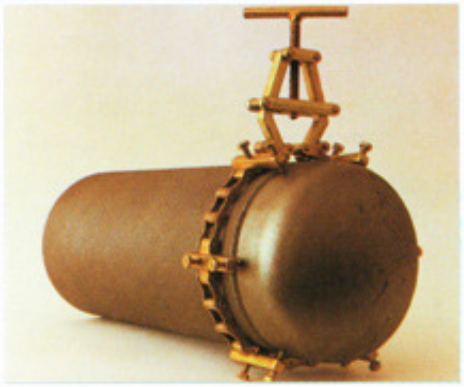


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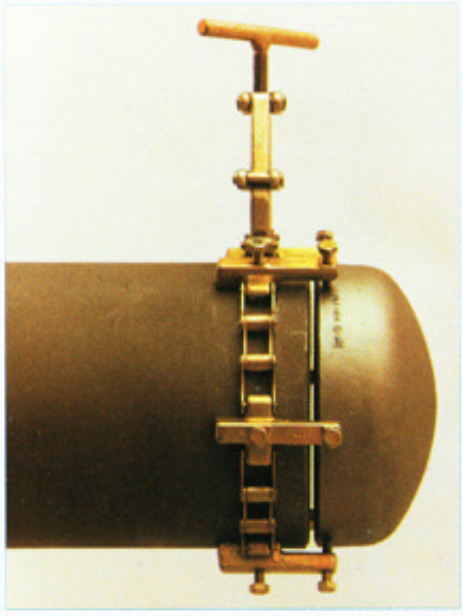














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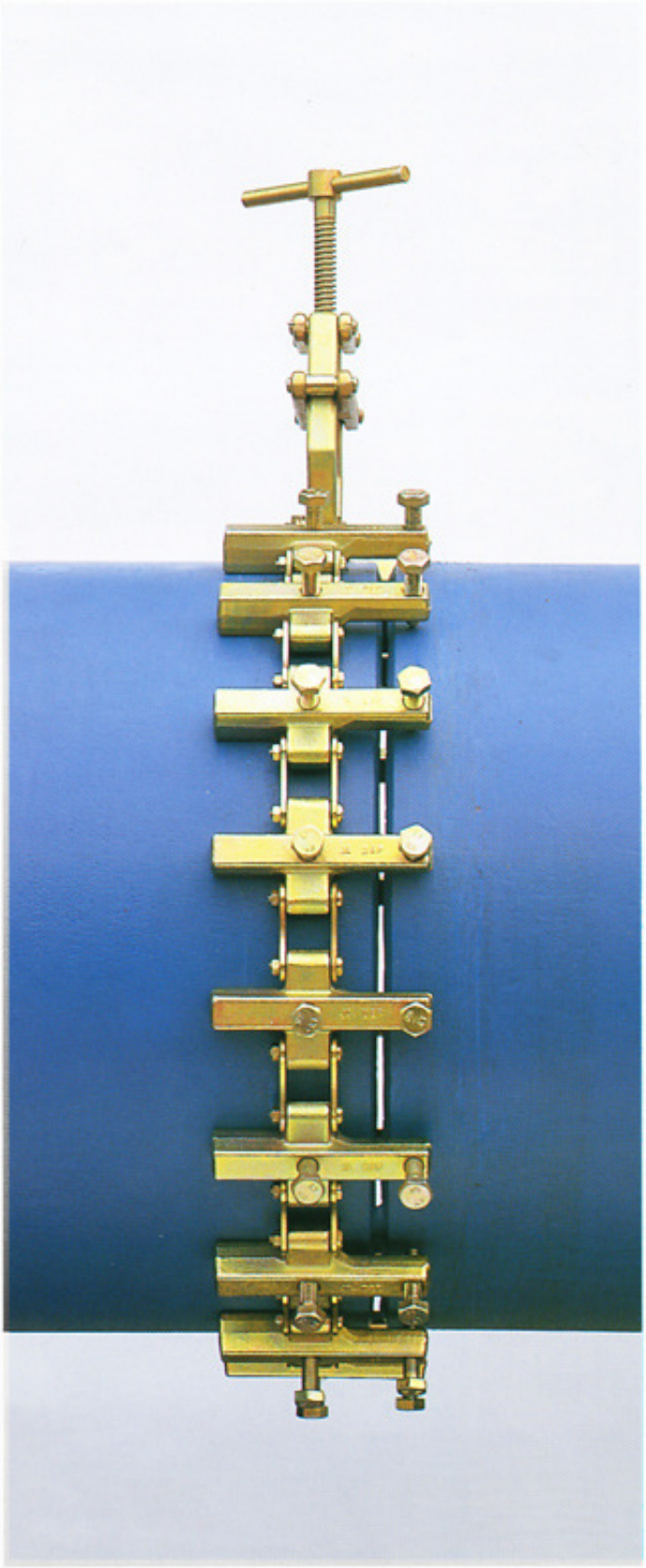
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# Chain clamps

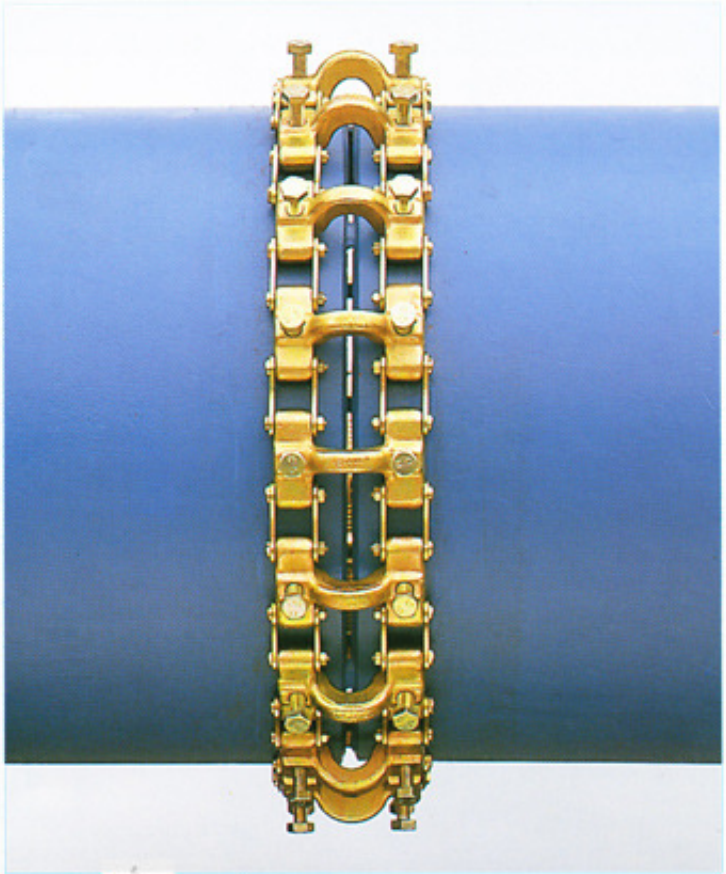
## -Standard size-

| Order-No.: | Description | Material | €/pc |
|---|---|---|---|
| 150 C | Light model, 650 mm lg. | Steel, galv. | |
| 150 CS | Swivel | Steel, galv. | |
| 150 CV | Chain extension, 125 mm lg. | Steel, galv. | |
| 150 CE | Terminal member, 96 mm lg. | Steel, galv. | |
| 150 E | Light model, 650 mm lg. | Stainless steel | |
| 150 ES | Swivel | Stainless steel | |
| 150 EV | Chain extension, 125 mm lg. | Stainless steel | |
| 150 EE | Terminal member, 96 mm lg. | Stainless steel | |
| 200 C | Medium model, 1275 mm lg. | Steel, galv. | |
| 200 CS | Swivel | Steel, galv. | |
| 200 CV | Chain extension, 177 mm lg. | Steel, galv. | |
| 200 CE | Terminal member, 137 mm lg. | Steel, galv. | |
| 200 E | Medium model, 1275 mm lg. | Stainless steel | |
| 200 ES | Swivel | Stainless steel | |
| 200 EV | Chain extension, 177 mm lg. | Stainless steel | |
| 200 EE | Terminal member, 137 mm lg. | Stainless steel | |
| D200 C | Medium duplex model 1275 mm lg. | Steel, galv. | |
| D200 CS | Swivel | Steel, galv. | |
| D200 CV | Chain extension, 177 mm lg. | Steel, galv. | |
| D200 CE | Terminal member, 137 mm lg. | Steel, galv. | |
| D200 E | Medium duplex model, 1275 mm lg. | Stainless steel | |
| D200 ES | Swivel | Stainless steel | |
| D200 EV | Chain extension, 177 mm lg. | Stainless steel | |
| D200 EE | Terminal member, 137 mm lg. | Stainless steel | |
| 300 C | Heavy model, 1920 mm lg. | Steel, galv. | |
| 300 CS | Swivel | Steel, galv. | |
| 300 CV | Chain extension, 265 mm lg. | Steel, galv. | |
| 300 CE | Terminal member, 200 mm lg. | Steel, galv. | |
| 300 E | Heavy model, 1920 mm lg. | Stainless steel | |
| 300 ES | Swivel | Stainless steel | |
| 300 EV | Chain extension, 265 mm lg. | Stainless steel | |
| 300 EE | Terminal member, 200 mm lg. | Stainless steel | |
| D300 C | Heavy duplex model, 1920 mm lg. | Steel, galv. | |
| D300 CS | Swivel | Steel, galv. | |
| D300 CV | Chain extension, 265 mm lg. | Steel, galv. | |
| D300 CE | Terminal member, 200 mm lg. | Steel, galv. | |
| D300 E | Heavy duplex model, 1920 mm lg. | Stainless steel | |
| D300 ES | Swivel | Stainless steel (Contact surface) | |
| D300 EV | Chain extension, 265 mm lg. | Stainless steel | |
| D300 EE | Terminal member, 200 mm lg. | Stainless steel | |

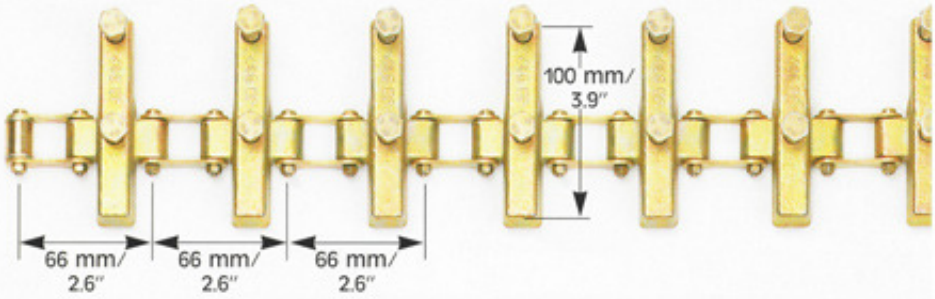
# Pipe-Align Chains Short-Linked Patented



Besides standard applications, the short-linked pipe-align chains are especially geared for the exact alignment of thin-walled pipes and tanks. Pipes and tanks with large deformations require a large-scale alignment while being setup for welding. This is made possible by the short-linked pipe-align chains.
Short-linked pipe-align chains are available in 5 different sizes forged electro-plated steel or forged stainless steel.



150CK
150EK



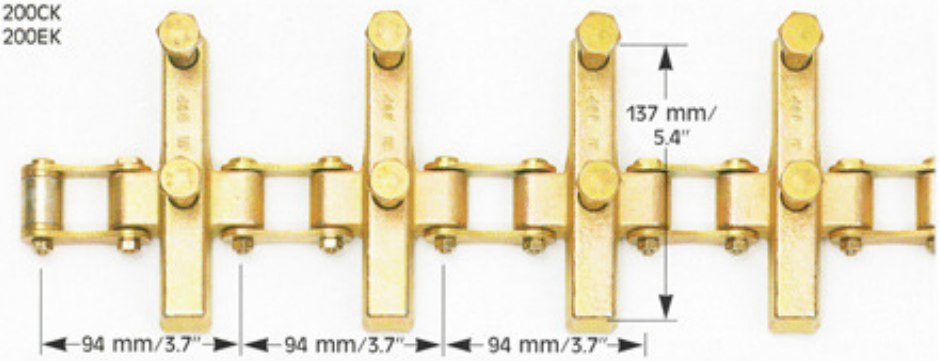

1 kg/2.2 lbs



max. 105 mm/max. 4.1"

---

200CK
200EK



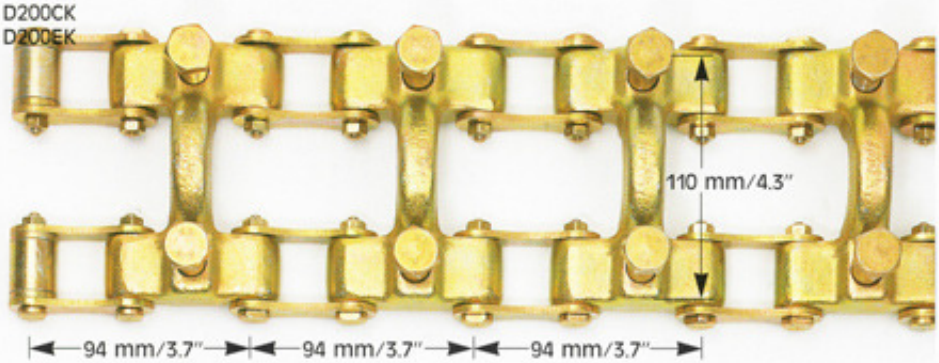

2.2 kg/4.8 lbs



max. 125 mm/max. 5"

---

D200CK
D200EK



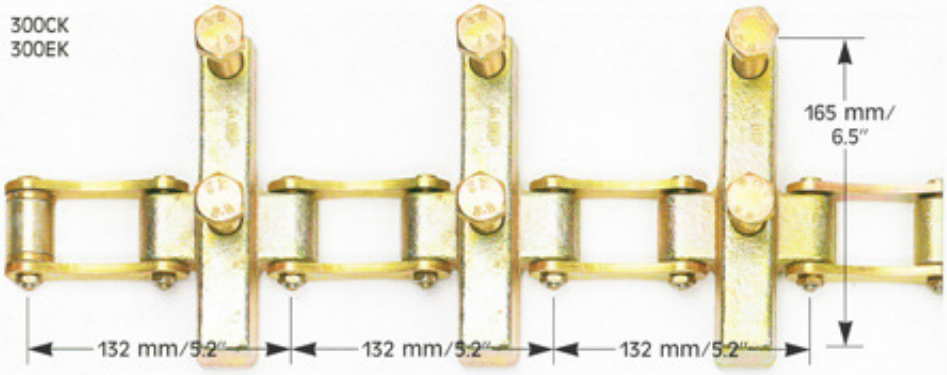

10 kg/22.1 lbs



max. 170 mm/max. 6.7"

---

300CK
300EK



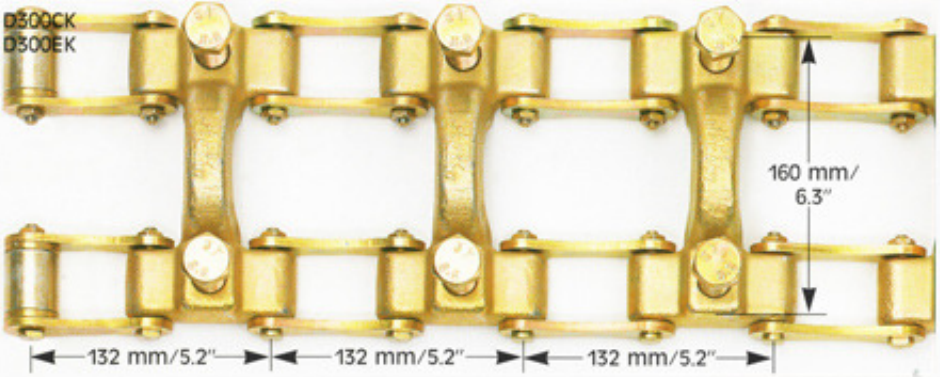

4.3 kg/9.5 lbs



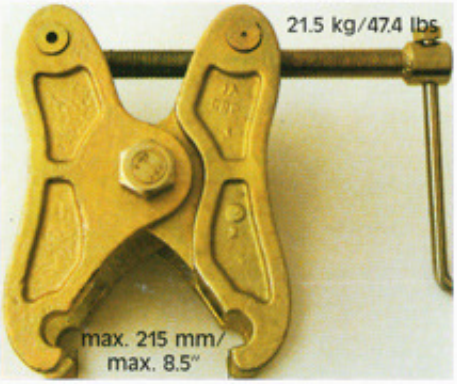
max. 155 mm/max. 6.1"

---

D300CK
D300EK




21.5 kg/47.4 lbs



max. 215 mm/
max. 8.5"

Light model,
Electro-plated steel or
stainless steel.
Suited for pipes from
OD 168 mm/6".

Calculation of the total length
(Outside pipe diameter +
15 mm/0.6") x 3.14 = L

| Order-Numbers: | |
|---|---|
| Steel chain (electro-plated) | 150CK |
| Chain extension 66 mm/2 1/2" long | 150CKV |
| Steel tensioner (electro-plated) | 150CS |
| Stainless steel chain | 150EK |
| Chain extension 66 mm/2 1/2" long | 150EKV |
| Stainless steel tensioner | 150ES |



---

Medium model,
Electro-plated steel or
stainless steel.
Suited for pipes from
OD 219 mm/8".

Calculation of the total length
(Outside pipe diameter +
21 mm/0.8") x 3.14 = L

| Order-Numbers: | |
|---|---|
| Steel chain (electro-plated) | 200CK |
| Chain extension 94 mm/3 3/4" long | 200CKV |
| Steel tensioner (electro-plated) | 200CS |
| Stainless steel chain | 200EK |
| Chain extension 94 mm/3 3/4" long | 200EKV |
| Stainless steel tensioner | 200ES |



---

Medium duplex model,
Electro-plated steel or
stainless steel.
Suited for pipes from
OD 219 mm/8".

Calculation of the total length
(Outside pipe diameter +
21 mm/0.8") x 3.14 = L

| Order-Numbers: | |
|---|---|
| Steel chain (electro-plated) | D200CK |
| Chain extension 94 mm/3 3/4" long | D200CKV |
| Steel tensioner (electro-plated) | D200CS |
| Stainless steel chain | D200EK |
| Chain extension 94 mm/3 3/4" long | D200EKV |
| Stainless steel tensioner | D200ES |



---

Heavy model,
Electro-plated steel or
stainless steel.
Suited for pipes from
OD 324 mm/12".

Calculation of the total length
(Outside pipe diameter +
26 mm/1.0") x 3.14 = L

| Order-Numbers: | |
|---|---|
| Steel chain (electro-plated) | 300CK |
| Chain extension 132 mm/5 1/4" long | 300CKV |
| Steel tensioner (electro-plated) | 300CS |
| Stainless steel chain | 300EK |
| Chain extension 132 mm/5 1/4" long | 300EKV |
| Stainless steel tensioner | 300ES |



---

Heavy duplex model, Electro-
plated steel or stainless steel.
Suited for pipes from
OD 324 mm/12".

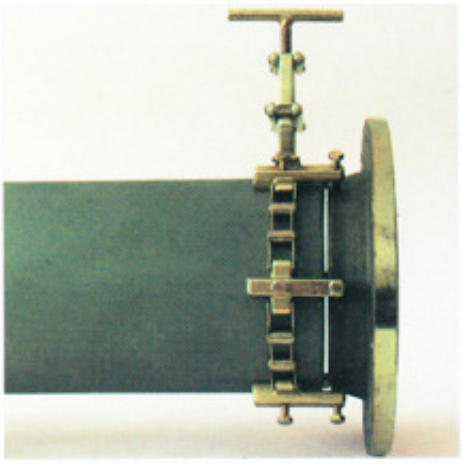
Calculation of the total length
(Outside pipe diameter +
26 mm/1.0") x 3.14 = L

Every chain can be lengthend
by adding extensions to the
basic chain package.

| Order-Numbers: | |
|---|---|
| Steel chain (electro-plated) | D300CK |
| Chain extension 132 mm/5 1/4" long | D300CKV |
| Steel tensioner (electro-plated) | D300CS |
| Stainless steel chain | D300EK |
| Chain extension 132 mm/5 1/4" long | D300EKV |
| Stainless steel tensioner | D300ES |

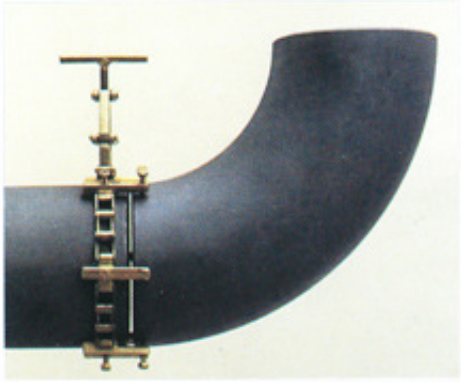


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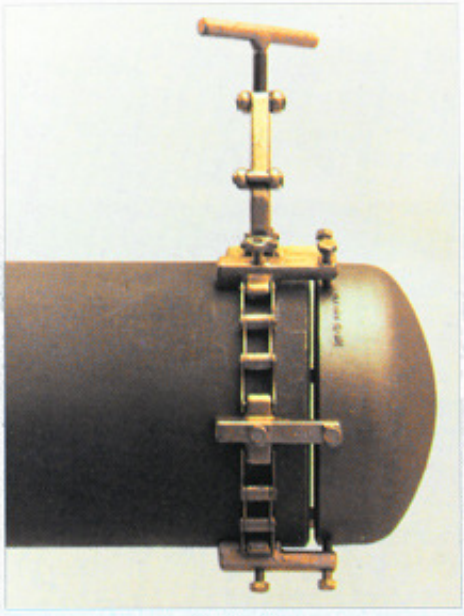














Examples: Photos of standard pipe-align chain. The same applications are possible with the short-linked version.

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# Chain clamps
## short-linked

| Order-No.: | Description | Material | €/Pc. |
|---|---|---|---|
| **150 CK** | **Light model** | **Steel, galv.** | **calculate length** |
| 150 CS | Swivel | Steel, galv. | |
| 150 CKV | Chain extension, 66 mm lg. | Steel, galv. | |
| 150 CKE | Terminal member, 66 mm lg. | Steel, galv. | |
| **150 EK** | **Light model** | **Stainless steel** | **calculate length** |
| 150 ES | Swivel | Stainless steel | |
| 150 EKV | Chain extension, 66 mm lg. | Stainless steel | |
| 150 EKE | Terminal member, 66 mm lg. | Stainless steel | |

**Calculation of the required chain length:**
(*Pipe outside diameter* + 14mm *chain height*) x 3,14 = chain length

| | | | |
|---|---|---|---|
| **200 CK** | **Medium model** | **Steel, galv.** | **calculate length** |
| 200 CS | Swivel | Steel, galv. | |
| 200 CKV | Chain extension, 94 mm lg. | Steel, galv. | |
| 200 CKE | Terminal member, 94 mm lg. | Steel, galv. | |
| **200 EK** | **Medium model** | **Stainless steel** | **calculate length** |
| 200 ES | Swivel | Stainless steel | |
| 200 EKV | Chain extension, 94 mm lg. | Stainless steel | |
| 200 EKE | Terminal member, 94 mm lg. | Stainless steel | |
| **D200 CK** | **Medium duplex model** | **Steel, galv.** | **calculate length** |
| D200 CS | Swivel | Steel, galv. | |
| D200 CKV | Chain extension, 94 mm lg. | Steel, galv. | |
| D200 CKE | Terminal member, 94 mm lg. | Steel, galv. | |
| **D200 EK** | **Medium duplex model** | **Stainless steel** | **calculate length** |
| D200 EKS | Swivel | Stainless steel | |
| D200 EKV | Chain extension, 94 mm lg. | Stainless steel | |
| D200 EKE | Terminal member, 94 mm lg. | Stainless steel | |

**Calculation of the required chain length:**
(*Pipe outside diameter* + 21mm *chain height*) x 3,14 = chain length

| | | | |
|---|---|---|---|
| **300 CK** | **Heavy model** | **Steel, galv.** | **calculate length** |
| 300 CS | Swivel | Steel, galv. | |
| 300 CKV | Chain extension, 132 mm lg. | Steel, galv. | |
| 300 CKE | Terminal member, 132 mm lg. | Steel, galv. | |
| **300 EK** | **Heavy model** | **Stainless steel** | **calculate length** |
| 300 ES | Swivel | Stainless steel | |
| 300 EKV | Chain extension, 132 mm lg. | Stainless steel | |
| 300 EKE | Terminal member, 132 mm lg. | Stainless steel | |
| **D300 CK** | **Heavy duplex model** | **Steel, galv.** | **calculate length** |
| D300 CS | Swivel | Steel, galv. | |
| D300 CKV | Chain extension, 132 mm lg. | Steel, galv. | |
| D300 CKE | Terminal member, 132 mm lg. | Steel, galv. | |
| **D300 EK** | **Heavy duplex model** | **Stainless steel** | **calculate length** |
| D300 ES | Swivel | Stainless steel (Contact surface) | |
| D300 EKV | Chain extension, 132 mm lg. | Stainless steel | |
| D300 EKE | Terminal member, 132 mm lg. | Stainless steel | |

**Calculation of the required chain length:**
(*Pipe outside diameter* + 26mm *chain height*) x 3,14 = chain length

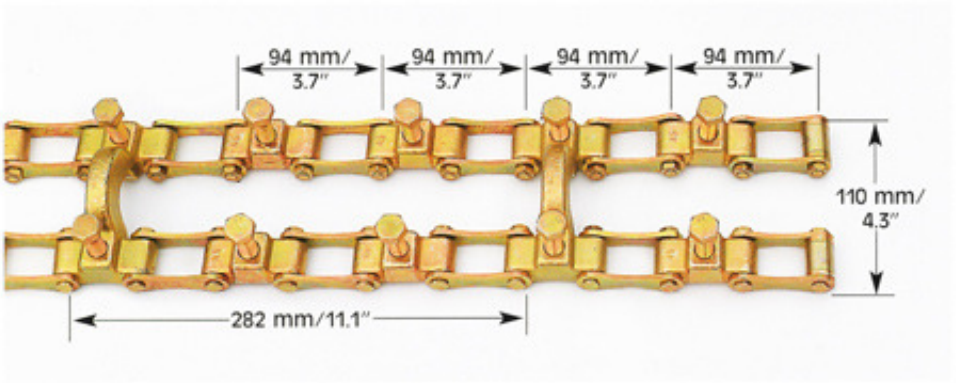
# Pipe-Align Chains Long-Linked Patented

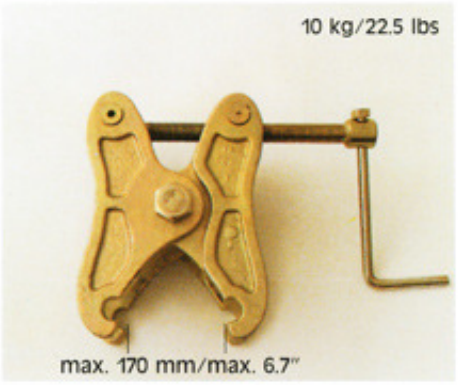
Flexible pipe-align chains with arc-sharped cross members permit a complete weld around the pipe or tank body without having to remove the chain.
For use with pipes and tanks larger than 219 mm/8″ in diameter.
Available in forged electro-plated steel or forged stainless steel in two sizes.
The number of arc-shaped cross members can be changed if desired to allow for the largest possible weld-joint.
Due to the low chain construction, a grinder can be used if necessary.

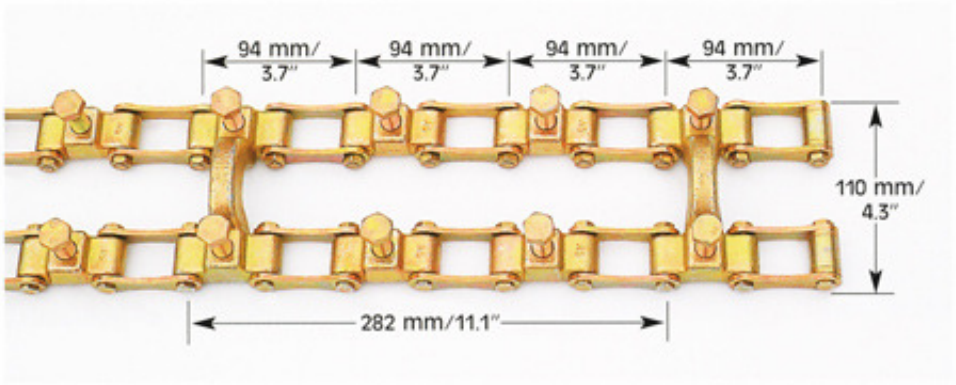


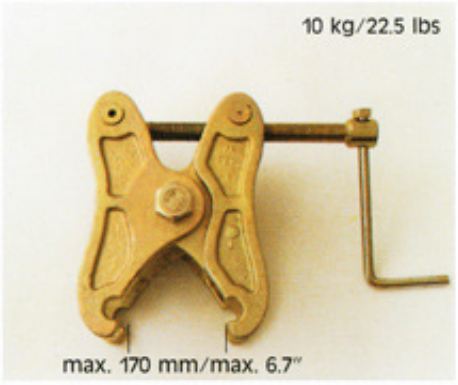


## Type 1, Medium Duplex Model (Long-Linked)

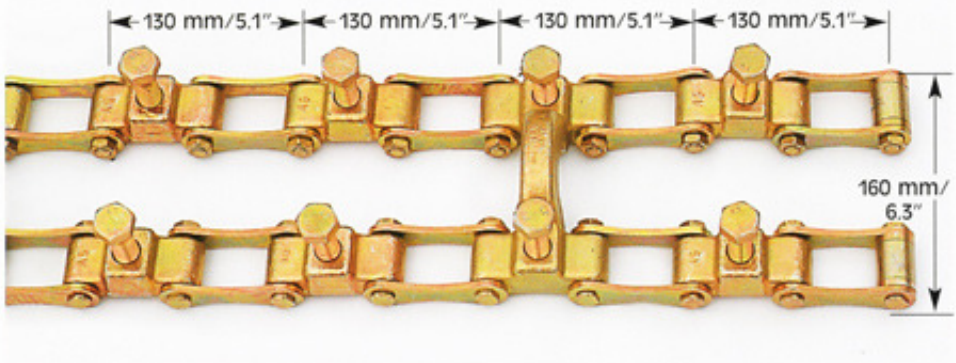


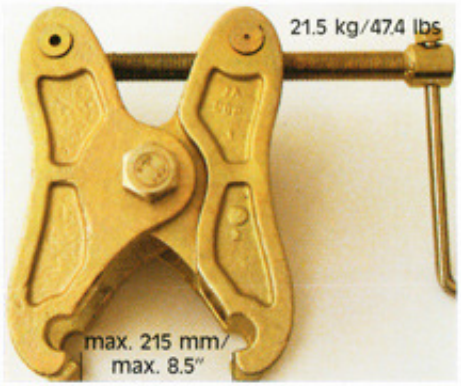



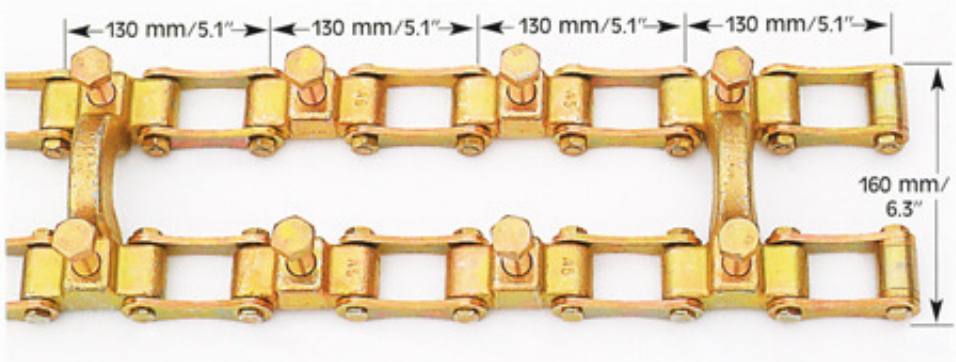



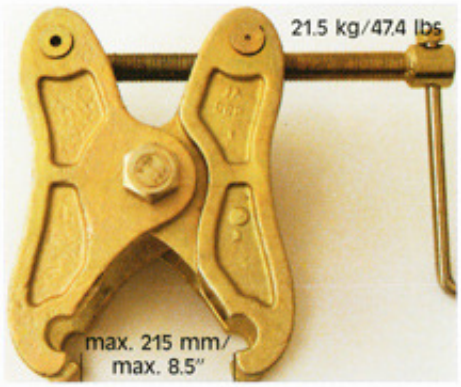




## Type 2, Heavy Duplex Model (Long-Linked)



- D200CL steel (electro-plated)
- D200EL stainless steel

Suited for pipes from OD 219 mm/8″ to OD 1016 mm/40″

Calculation of the total length
(Outside pipe diameter + 21 mm/0.8″) x 3.14 = L

Non cross-linked pieces have a length of 94 mm/3 3/4″.

At time of order please determine the number of non cross-linked pieces between the linked pieces.

| Order-Numbers: | |
|---|---|
| Electro-plated steel chain | D200CL |
| Steel chain extension with cross link, 94 mm/3 3/4″ long | D200CLVB |
| Steel chain extension without cross link, 94 mm/3 3/4″ long | D200CLVO |
| Steel tensioner (electro-plated) | D200CS |

| Order-Numbers: | |
|---|---|
| Stainless steel chain | D200EL |
| Stainless steel chain extension with cross link, 94 mm/3 3/4″ long | D200ELVB |
| Stainless steel chain extension without cross-link, 94 mm/3 3/4″ long | D200ELVO |
| Stainless steel tensioner | D200ES |



- D300CL steel (electro-plated)
- D300EL stainless steel

Suited for pipes from OD 324 mm/12.8″ to OD 2020 mm/80″

Calculation of the total length
(Outside pipe diameter + 26 mm/1.0″) x 3.14 = L

Non cross-linked pipes have a length of 130 mm/5″.

At time of order please determine the number of non cross-linked pieces between the linked pieces.

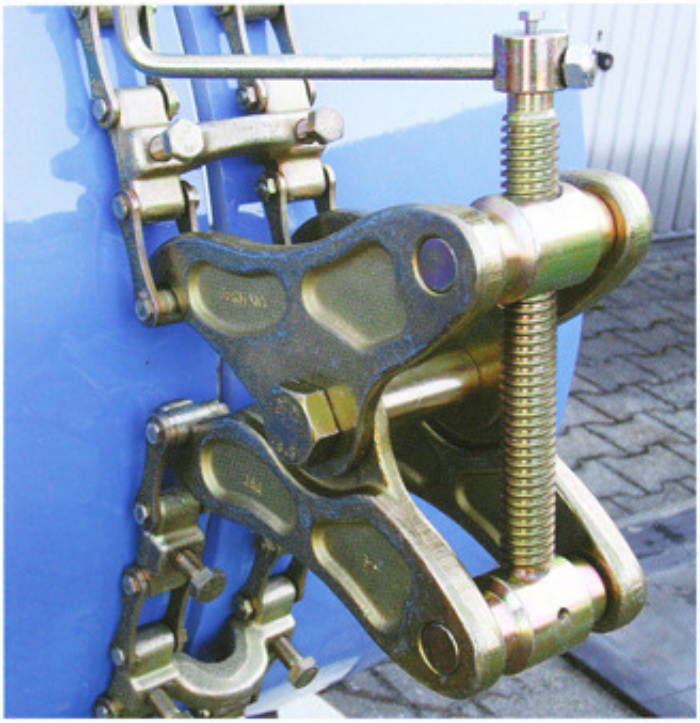
| Order-Numbers: | |
|---|---|
| Electro-plated steel chain | D300CL |
| Steel chain extension with cross-links, 130 mm/5″ long | D300CLVB |
| Steel chain extension without cross-links, 130 mm/5″ long | D300CLVO |
| Steel tensioner (electro-plated) | D300CS |

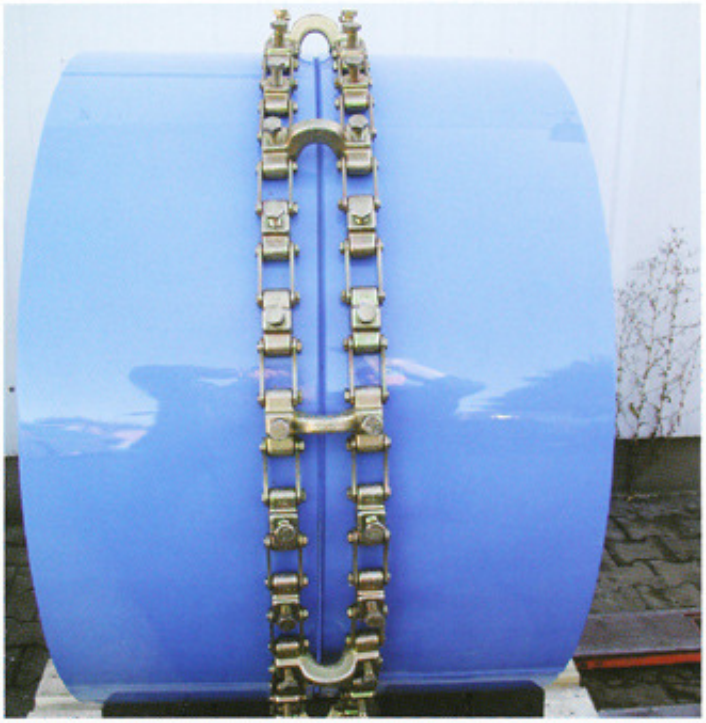
| Order-Numbers: | |
|---|---|
| Stainless steel chain | D300EL |
| Stainless steel chain extension with cross-links, 130 mm/5″ long | D300ELVB |
| Stainless steel chain extension without cross-links, 130 mm/5″ long | D300ELVO |
| Stainless steel plate-welded tensioner | D300ES |

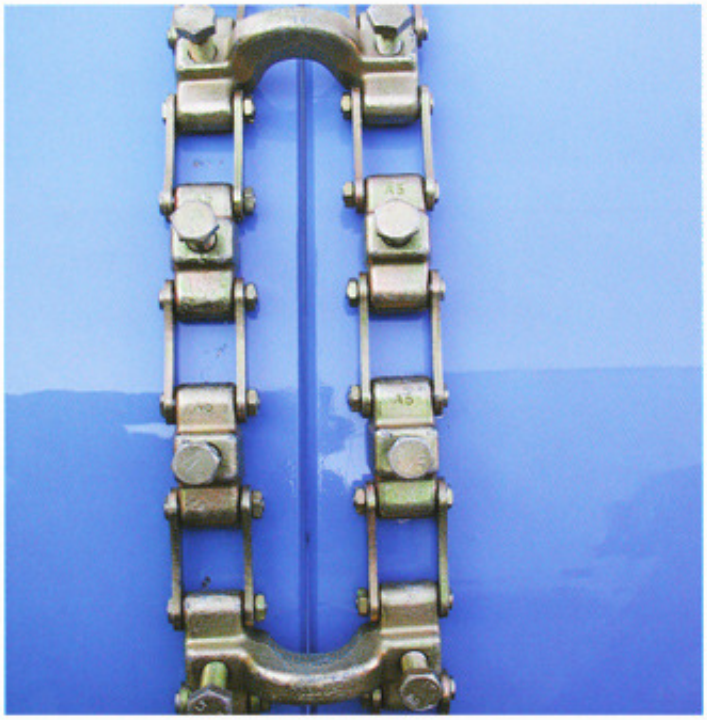


Centering manually or by powertool

Made in Germany









Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.

Printed in Germany

# Chain clamps

## Long-Linked

| Order-No.: | Description | Material | €/Pc. |
|---|---|---|---|
| **D200 CL** | **Medium duplex model** | **Steel, galv.** | **calculate length** |
| D200 CS | swivel | Steel, galv. | |
| D200 CLVB | Chain extension with bridge,94 mm lg. | Steel, galv. | |
| D200 CLVO | Chain extension without bridge, 94 mm lg. | Steel, galv. | |
| D200 CLEB | Terminal member with bridge, 94 mm lg. | Steel, galv. | |

| | | | |
|---|---|---|---|
| **D200 EL** | **Medium duplex model** | **Stainless steel** | **calculate length** |
| D200 ES | swivel | Stainless steel | |
| D200 ELVB | Chain extension with bridge,94 mm lg. | Stainless steel | |
| D200 ELVO | Chain extension without bridge, 94 mm lg. | Stainless steel | |
| D200 ELEB | Terminal member with bridge, 94 mm lg. | Stainless steel | |

**Calculation of the required chain length:**

(*Pipe outside diameter* + 21mm *chain height*) x 3,14 = chain length

| | | | |
|---|---|---|---|
| **D300 CL** | **Heavy duplex model** | **Steel, galv.** | **calculate length** |
| D300 CS | swivel | Steel, galv. | |
| D300 CLVB | Chain extension with bridge,130 mm lg. | Steel, galv. | |
| D300 CLVO | Chain extension without bridge, 130 mm lg. | Steel, galv. | |
| D300 CLEB | Terminal member with bridge, 130 mm lg. | Steel, galv. | |

| | | | |
|---|---|---|---|
| **D300 EL** | **Heavy duplex model** | **Stainless steel** | **calculate length** |
| D300 ES | Tensioner | Stainless steel (Contact surface) | |
| D300 ELVB | Chain extension with bridge,130 mm lg. | Stainless steel | |
| D300 ÉLVO | Chain extension without bridge, 130 mm lg. | Stainless steel | |
| D300 ELEB | Terminal member with bridge, 130 mm lg. | Stainless steel | |

**Calculation of the required chain length:**

(*Pipe outside diameter* + 26mm *chain height*) x 3,14 = chain length

Catalog
08.12.2011
Prices on request

# spare parts for chain clamps
## -Standard size- Long-linked -Short-linked-

| Order-No.: | Description | Material | €/Pc. |
|---|---|---|---|
| J 01 202 01 | Centering link | **Type 150** steel, galvanized | |
| J 01 213 01 | Hexagon screw with stainless steel ball bearing | | |
| J 01 207 10 | Chain side bar | | |
| J 01 207 11 | Chain pulley | | |
| J 01 207 12 | Chain bolt | | |
| J 01 213 02 | Lock nut | | |
| J 01 213 03 | Distance washer for terminal member | | |
| J 01 202 05 | Centering link | **Type 150** stainless steel | |
| J 01 213 10 | Hexagon screw with stainless steel ball bearing | | |
| J 01 206 08 | Chain side bar | | |
| J 01 206 09 | Chain pulley | | |
| J 01 206 10 | Chain bolt | | |
| J 01 213 11 | Lock nut | | |
| J 01 213 12 | Distance washer for terminal member | | |
| J 01 202 02 | Centering link | **Type 200** steel, galvanized | |
| J 01 213 04 | Hexagon screw with stainless steel ball bearing | | |
| J 01 207 14 | Chain side bar | | |
| J 01 207 15 | Chain pulley | | |
| J 01 207 16 | Chain bolt | | |
| J 01 213 05 | Lock nut | | |
| J 01 213 06 | Distance washer for terminal member | | |
| J 01 202 07 | Centering link | **Type 200** stainless steel | |
| J 01 213 13 | Hexagon screw with stainless steel ball bearing | | |
| J 01 206 11 | Chain side bar | | |
| J 01 206 12 | Chain pulley | | |
| J 01 206 13 | Chain bolt | | |
| J 01 213 14 | Lock nut | | |
| J 01 213 15 | Distance washer for terminal member | | |
| J 01 202 03 | Centering link | **Type D 200** steel, galvanized | |
| J 01 213 04 | Hexagon screw with stainless steel ball bearing | | |
| J 01 207 14 | Chain side bar | | |
| J 01 207 15 | Chain pulley | | |
| J 01 207 16 | Chain bolt | | |
| J 01 213 05 | Lock nut | | |
| J 01 213 06 | Distance washer for terminal member | | |
| J 01 202 08 | Centering link | **Type D 200** stainless steel | |
| J 01 213 13 | Hexagon screw with stainless steel ball bearing | | |
| J 01 206 11 | Chain side bar | | |
| J 01 206 12 | Chain pulley | | |
| J 01 206 13 | Chain bolt | | |
| J 01 213 14 | Lock nut | | |
| J 01 213 15 | Distance washer for terminal member | | |
| J 01 202 04 | Centering link | **Type 300** steel, galvanized | |
| J 01 213 07 | Hexagon screw with stainless steel ball bearing | | |
| J 01 207 17 | Chain side bar | | |
| J 01 207 18 | Chain pulley | | |
| J 01 207 19 | Chain bolt | | |
| J 01 213 08 | Lock nut | | |
| J 01 213 09 | Distance washer for terminal member | | |
| J 01 202 09 | Centering link | **Type 300** stainless steel | |
| J 01 213 16 | Hexagon screw with stainless steel ball bearing | | |
| J 01 206 14 | Chain side bar | | |
| J 01 206 15 | Chain pulley | | |
| J 01 206 16 | Chain bolt | | |
| J 01 213 17 | Lock nut | | |
| J 01 213 18 | Distance washer for terminal member | | |
| J 01 202 06 | Centering link | **Type D 300** steel, galvanized | |
| J 01 213 07 | Hexagon screw with stainless steel ball bearing | | |
| J 01 207 17 | Chain side bar | | |
| J 01 207 18 | Chain pulley | | |
| J 01 207 19 | Chain bolt | | |
| J 01 213 08 | Lock nut | | |
| J 01 213 09 | Distance washer for terminal member | | |
| J 01 202 10 | Centering link | **Type D 300** stainless steel | |
| J 01 213 16 | Hexagon screw with stainless steel ball bearing | | |
| J 01 206 14 | Chain side bar | | |
| J 01 206 15 | Chain pulley | | |
| J 01 206 16 | Chain bolt | | |
| J 01 213 17 | Lock nut | | |
| J 01 213 18 | Distance washer for terminal member | | |

Information
08.12.2011

**Chain 150 C or E + Swivel 150 CS or ES** Standard length 650 mm = 5 Chain links

| Inch/Zoll | DN | Pipe diameter O.D. | Links + Swivel | Weight of chain | Weight of swivel |
|---|---|---|---|---|---|
| 6 | 150 | 168,3 mm | 4 | 1,6 kg | 1,0 kg |
| 8 | 200 | 219,1 mm | 6 | 2,4 kg | 1,0 kg |
| 10 | 250 | 273,0 mm | 7 | 2,8 kg | 1,0 kg |
| 12 | 300 | 323,9 mm | 8 | 3,2 kg | 1,0 kg |
| 14 | 350 | 355,6 mm | 9 | 3,6 kg | 1,0 kg |
| 16 | 400 | 406,4 mm | 11 | 4,4 kg | 1,0 kg |

**Chain 200 C or E + Swivel 200 CS or ES** Standard length 1275 mm = 7 Chain links

| Inch/Zoll | DN | Pipe diameter O.D. | Links + Swivel | Weight of chain | Weight of swivel |
|---|---|---|---|---|---|
| 8 | 200 | 219,1 mm | 4 | 4,68 kg | 2,2 kg |
| 10 | 250 | 273,0 mm | 5 | 5,86 kg | 2,2 kg |
| 12 | 300 | 323,9 mm | 6 | 7,20 kg | 2,2 kg |
| 14 | 350 | 355,6 mm | 6 | 7,20 kg | 2,2 kg |
| 16 | 400 | 406,4 mm | 7 | 8,20 kg | 2,2 kg |
| 20 | 500 | 508,0 mm | 9 | 10,54 kg | 2,2 kg |
| 24 | 600 | 609,6 mm | 11 | 12,89 kg | 2,2 kg |

**Chain D200 C or E + Swivel D200 CS or ES** Standard length 1275 mm = 7 Chain links

| Inch/Zoll | DN | Pipe diameter O.D. | Links + Swivel | Weight of chain | Weight of swivel |
|---|---|---|---|---|---|
| 12 | 300 | 323,9 mm | 6 | 9,86 kg | 10,0 kg |
| 14 | 350 | 355,6 mm | 6 | 9,86 kg | 10,0 kg |
| 16 | 400 | 406,4 mm | 7 | 11,50 kg | 10,0 kg |
| 20 | 500 | 508,0 mm | 9 | 14,79 kg | 10,0 kg |
| 24 | 600 | 609,6 mm | 11 | 18,07 kg | 10,0 kg |
| 28 | 700 | 711,2 mm | 13 | 19,71 kg | 10,0 kg |
| 32 | 800 | 812,8 mm | 14 | 23,00 kg | 10,0 kg |
| 36 | 900 | 914,4 mm | 16 | 26,29 kg | 10,0 kg |
| 40 | 1000 | 1016,0 mm | 18 | 29,57 kg | 10,0 kg |
| 44 | 1100 | 1120,0 mm | 19 | 31,21 kg | 10,0 kg |
| 48 | 1200 | 1220,0 mm | 21 | 34,50 kg | 10,0 kg |
| 52 | 1300 | 1320,0 mm | 23 | 37,79 kg | 10,0 kg |
| 56 | 1400 | 1420,0 mm | 25 | 41,07 kg | 10,0 kg |
| 60 | 1500 | 1520,0 mm | 26 | 42,71 kg | 10,0 kg |

**Chain 300 C or E + Swivel 300 CS or ES** Standard length 1920 mm = 7 Chain links

| Inch/Zoll | DN | Pipe diameter O.D. | Links + Swivel | Weight of chain | Weight of swivel |
|---|---|---|---|---|---|
| 12 | 300 | 323,9 mm | 4 | 9,94 kg | 4,3 kg |
| 14 | 350 | 355,6 mm | 4 | 9,94 kg | 4,3 kg |
| 16 | 400 | 406,4 mm | 5 | 12,42 kg | 4,3 kg |
| 20 | 500 | 508,0 mm | 6 | 14,91 kg | 4,3 kg |
| 24 | 600 | 609,6 mm | 7 | 17,40 kg | 4,3 kg |
| 28 | 700 | 711,2 mm | 9 | 22,37 kg | 4,3 kg |
| 32 | 800 | 812,8 mm | 10 | 24,86 kg | 4,3 kg |
| 36 | 900 | 914,4 mm | 11 | 27,34 kg | 4,3 kg |
| 40 | 1000 | 1016,0 mm | 12 | 29,82 kg | 4,3 kg |

**Chain D300 C or E + Swivel D300 CS or ES** Standard length 1920 mm = 7 Chain links

| Inch/Zoll | DN | Pipe diameter O.D. | Links + Swivel | Weight of chain | Weight of swivel |
|---|---|---|---|---|---|
| 12 | 300 | 323,9 mm | 4 | 14,28 kg | 21,5 kg |
| 14 | 350 | 355,6 mm | 4 | 14,28 kg | 21,5 kg |
| 16 | 400 | 406,4 mm | 5 | 17,86 kg | 21,5 kg |
| 20 | 500 | 508,0 mm | 6 | 21,42 kg | 21,5 kg |
| 24 | 600 | 609,6 mm | 7 | 25,00 kg | 21,5 kg |
| 28 | 700 | 711,2 mm | 9 | 32,14 kg | 21,5 kg |
| 32 | 800 | 812,8 mm | 10 | 35,71 kg | 21,5 kg |
| 36 | 900 | 914,4 mm | 11 | 39,29 kg | 21,5 kg |
| 40 | 1000 | 1016,0 mm | 12 | 42,86 kg | 21,5 kg |
| 44 | 1100 | 1120,0 mm | 13 | 46,42 kg | 21,5 kg |
| 48 | 1200 | 1220,0 mm | 15 | 53,57 kg | 21,5 kg |
| 52 | 1300 | 1320,0 mm | 16 | 57,14 kg | 21,5 kg |
| 56 | 1400 | 1420,0 mm | 17 | 60,71 kg | 21,5 kg |
| 60 | 1500 | 1520,0 mm | 18 | 64,29 kg | 21,5 kg |
| 63 | 1600 | 1620,0 mm | 20 | 71,43 kg | 21,5 kg |
| 70 | 1800 | 1820,0 mm | 22 | 78,57 kg | 21,5 kg |
| 80 | 2000 | 2020,0 mm | 25 | 89,29 kg | 21,5 kg |

# CENTROMAT®

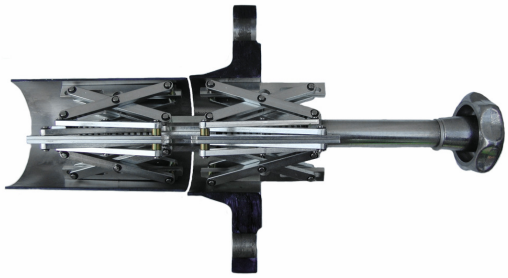


## Type 2

### CENTROMAT®-Internal Alignment Clamp

for a quick and accurate alignment and clamping of flanges, nozzles and short pipe sections of pipes and cylindrical tanks. The clamps balance out any variations in diameter. To avoid electrolytic corrosion, clamps are available in VA / AL / CU. Prices on request. We also deliver custom-made products.

| Size | Capacity | Weight | Steel € / piece | Stainless steel € / piece |
|---|---|---|---|---|
| 004 | 15-19 mm | 0,20 kg | | |
| 003 | 16-20 mm | 0,25 kg | | |
| 002 | 19-25 mm | 0,30 kg | | |
| 001 | 24-32 mm | 0,50 kg | | |
| 01 | 31-40 mm | 0,50 kg | | |
| 0 | 38-52 mm | 1,30 kg | | |
| 00 | 51-64 mm | 1,35 kg | | |

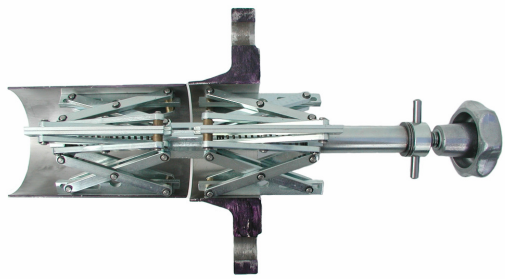


## Type 3 A

### CENTROMAT®-Internal Alignment Clamp

for a quick and accurate alignment and clamping of flanges, nozzles and short pipe sections of pipes and cylindrical tanks. The clamps balance out even great variations in diameter. There is no need for additional adjustments. The internal clamp allows free access to all parts of the weld. To avoid electrolytic corrosion, clamps are available in VA / AL / CU. Prices on request. We also deliver custom-made products.

| Size | Capacity | Weight | Steel € / piece | Stainless steel € / piece |
|---|---|---|---|---|
| 1 | 54-140 mm | 1,25 kg | | |
| 2 | 85-220 mm | 3,60 kg | | |
| 3 | 120-350 mm | 10,50 kg | | |



## Type 4

### CENTROMAT®-Internal Alignment Clamp

This model has two independently expanding clamps, allowing coaxial alignment of two hollow cylindrical components of different diameters. The lower expanding clamp is inserted and fixed into the pipe. Then the other part (e.g. flange) is placed over the top expanding clamp and fixed by means of the hand-bar. This model is especially suitable for heavy parts. Clamps are available in VA / AL / CU. Prices on request. We also deliver custom-made products.

| Size | Capacity | Weight | Steel € / piece | Stainless steel € / piece |
|---|---|---|---|---|
| 1/e | 54-140 mm | 1,30 kg | | |
| 2/e | 85-220 mm | 3,90 kg | | |
| 3/e | 120-350 mm | 11,65 kg | | |
| 4/e | 180-520 mm | 27,00 kg | | |
| 4/e//s | 400-940 mm | 39,00 kg | | |

S=double expanding device

# Product Range
# for the Protective Gas Technology

JA® Protective Gas Fingers
for tubes from 8 mm to 80 mm inside diameter

JA® Protective Gas System Mini
for tubes from 16 mm to 49 mm inside diameter

JA® Protective Gas Cylinder - Modular System with 2 sealing discs, 2 lips
for tubes from 38 mm to 410 mm inside diameter

JA® Protective Gas Cylinder - Modular System with 2 x 2 sealing discs, 1 lip
for tubes from 68 mm to 410 mm inside diameter

JA® Protective Gas Cylinder - Modular System with 2 x 1 sealing discs, 1 lip
for tubes from 68 mm to 410 mm inside diameter

JA® Protective Gas Cylinder Universal System with 2 sealing discs, 4 lips
for tubes from 43 mm to 218 mm inside diameter

JA® Protective Gas Cylinder Compact System
for tubes from 100 mm to 410 mm inside diameter

JA® Protective Gas Ring
for tubes from 300 mm to 3000 mm inside diameter

JA® Angle Profile
for longitudinal and edge welding seams

JA® Pipe plugs out of silicone or rubber
with and without drill hole, with Protective Gas Diffusor upon request

JA® Aluminium Cover Tape

JA® Water-soluble foil and water-soluble paper

JA® Trailing Shields

JA® Sintermetals and Protective Gas Diffusors in Stainless Steel

# JA Protective Gas Systems

In order to safeguard the welding quality in the pipe and container construction as well as in the plant and structural steel business our protective gas welding systems have proven successful in thousands of applications.

**All advantages in a glance:**

- for all types of welding seams
- for all types of welding methods
- for all types of materials
- for all pipes with an inside diameter of more than 9 mm
- suitable for large-size pipes and containers
- special equipments available
- the working temperature ranges
  up to 330 °C for silicone rubber
  up to 800 °C for textile sealings
- the protective gas consumption is effectively reduce by two measures:
- 1) the flushing chamber design is so efficient that the flushing volume can be reduced to a minimum
- 2) the flushing time times can be reduced to only 1–2 minutes
- some of the protective gas systems can be dismantled even after the welding is completed and can be removed out of the pipe through little holes
- the complete system consists of measuring devices to determine, control and document the remaining oxygen
- the system is endurable and therefore suitable also for using in workshops and on-site erection

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informs

## Practical recommendations

When welding austenitic Cr-Ni-steel the weld seam and the adjacent material will oxidate if the contact with the air-contained oxygen cannot be prevented.

Oxidated surfaces are no longer corrosion proof.

The then required removal of oxide layers with mechanical means, e.g. grinding also destroys the passive layer of the surface. This leads to a further reduction of corrosion stability.

The prevention of tarnish colouration/oxidation is achieved with the use of protective gas in combination with technical applicances to keep away the air-oxygen.

Remaining oxygen of more than 0.1 % anyway disturbs the homogenous composition of the weld seam and causes strong chrome oxidation. Therefore these materials should only be welded with an oxygen volume portion of less than 70 ppm.

Additionally the protective gas should be applied until all pre-heated areas have cooled down to max. 180 °C.

The protective gas application should be kept up in multi-layer weldings in relation to the welding method and the input of welding energy up to a layer thickness of 10–12 mm minimum.

When welding chrome alloys with more than 1.25 % chrome content which usually done after pre-heating the formation of chrome oxides has to be avoided. This can be achived with a remaining oxygen content of less than 1000 ppm.

High pre-heating temperatures of up to 300 °C foster the formation of chrome oxides. Therefore a further reduction of the oxygen content is recommended.

The remaining oxygen content is influenced by the following criteria which therefore should always be kept in mind:

1) The customary welding and forming gases contain a remaining portion of oxygen.
2) Intake and diffusion of oxygen through:
   a) ring lines/supporting lines
   b) hoses of various materials, connections, sealings, interior in welding machines
   c) TiG and plasma hose packets
   d) pressure reducers
   e) protective gas systems
   f) open seams
3) Important: The flushing volumina of protective gas systems are to be as little as possible. This does not only improve the welding quality but also saves gas and time by allowing flushing times of only 1–2 minutes.

Because the possible oxygen concentration caused by the aforementioned criteria can be higher than specified a permanent control with the oxygen indicators is required.

informs

# Working Safety

## We recommend to avoid the use flammable gas for formation or butt-weld protection purposes

A flammable gas composition is given if the concentration of hydrogen in the air lies between 4 % and 75 % in respect of the volume.

When welding large-size pipes or containers a gas composition like the aforementioned can lead to severe explosions.

For forming gases with a hydrogen concentration of more than 10 % the EN 439 (formerly DIN 32526) requires burning-off.

But this is only possible under certain conditions.

Because of the hydrogen flame hardly being visible in daylight burnings are likely to happen.

The material used for our sealings will stand a temperature of up to 330 °C.

However, direct exposure to flames with extremely high temperatures will destroy these materials.

When welding with protective gases in large-size pipes, containers or small rooms the breathing air and the oxygen are being driven out. Therefore an additional supply with breathing air has to be provided.

The use of an oxygen indicator is strongly recommended.

## Formation Gases – Materials

The usual formation gases are:

- Argon as an inert protective gas
- Nitrogen as a semi-inert protective gas
- Compositions of these in connection with hydrogen as reducing protective gas

| Protective Gas | Materials |
|---|---|
| argon | all metals, gas-sensitive materials, austenitic Cr-Ni-alloys, austenitic ferrous steels (duplex), gas sensitive materials like titanium, circonium and molybdene, hydrogen-sensitive materials (high-tension fine-grain steels, copper and copper alloys, aluminium and aluminium alloys as well as other non-ferrous metals, ferrous Cr-steels |
| * nitrogen; compositions of nitrogen and argon | austenitic Cr-Ni-steels, duplex and superduplex steels |
| * compositions of nitrogen and hydrogen | austenitic Cr-Ni-steels (which are not stabilized with titanium) all steels except high-tension fine-grain steels |
| compositions of argon and hydrogen | austenitic Cr-Ni-steels, nickel and nickel-based alloys |

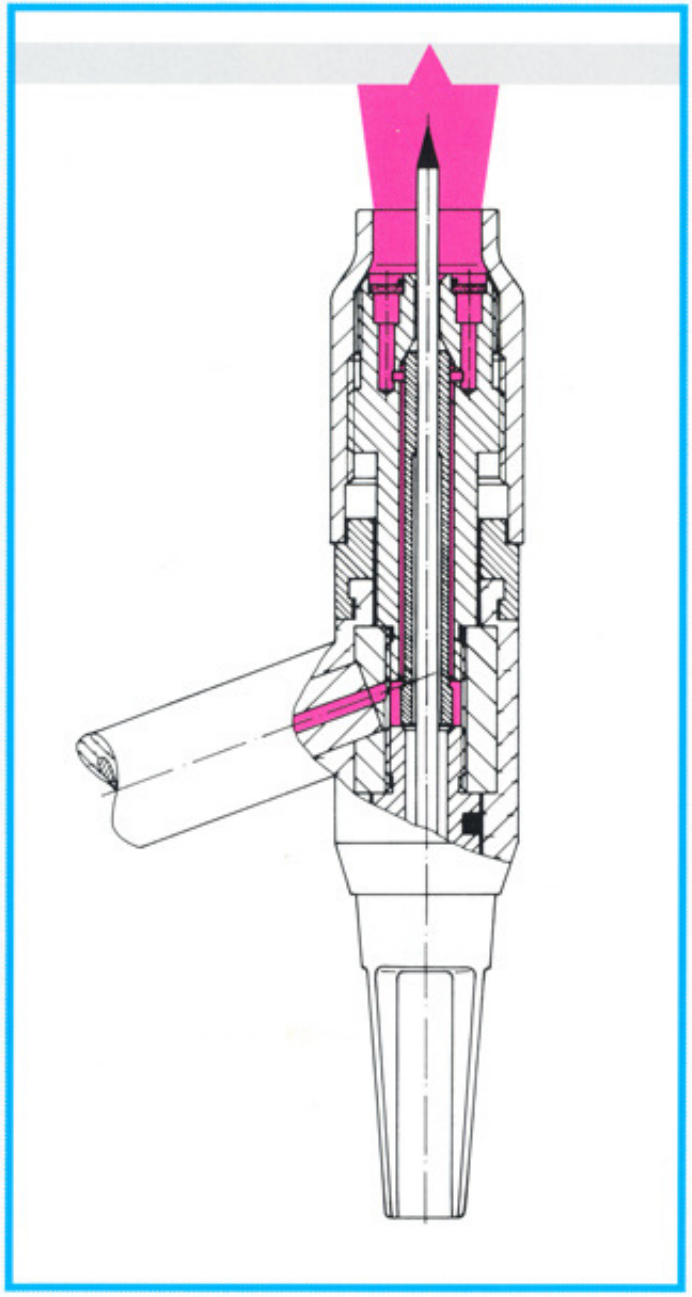
* Stainless steels which are stabilized by titanium tend to form titane-nitrid when nitrogen or nitrogen-hydrogen compositions are applied. Titane-nitrid leads to yellow colouration of the weld seam. It has to be decided from case to case whether to remove this or not.

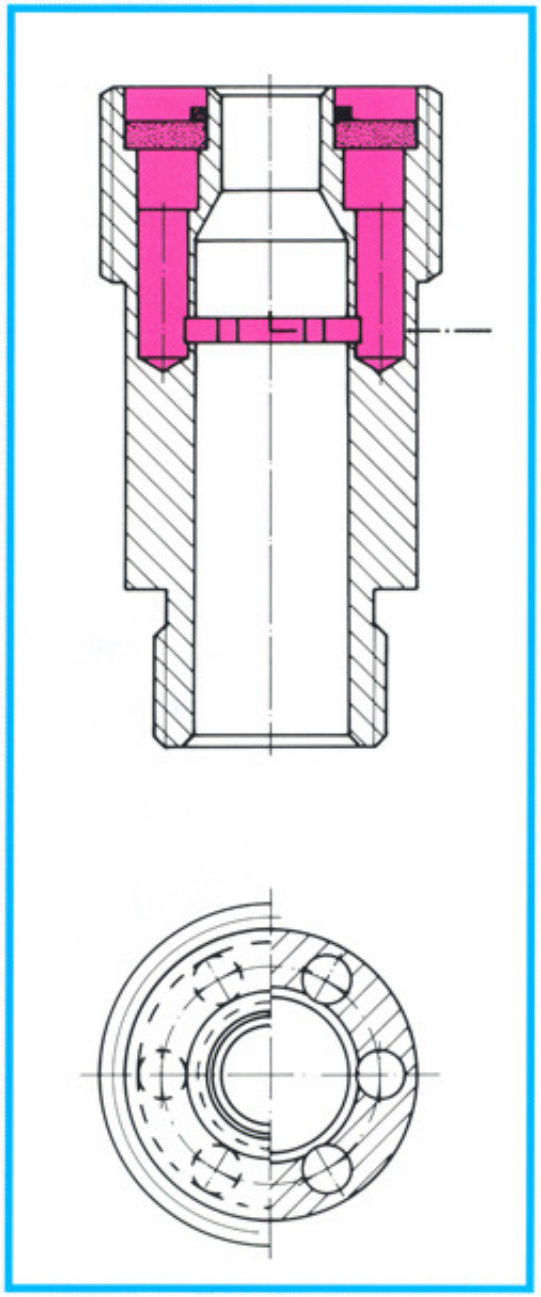
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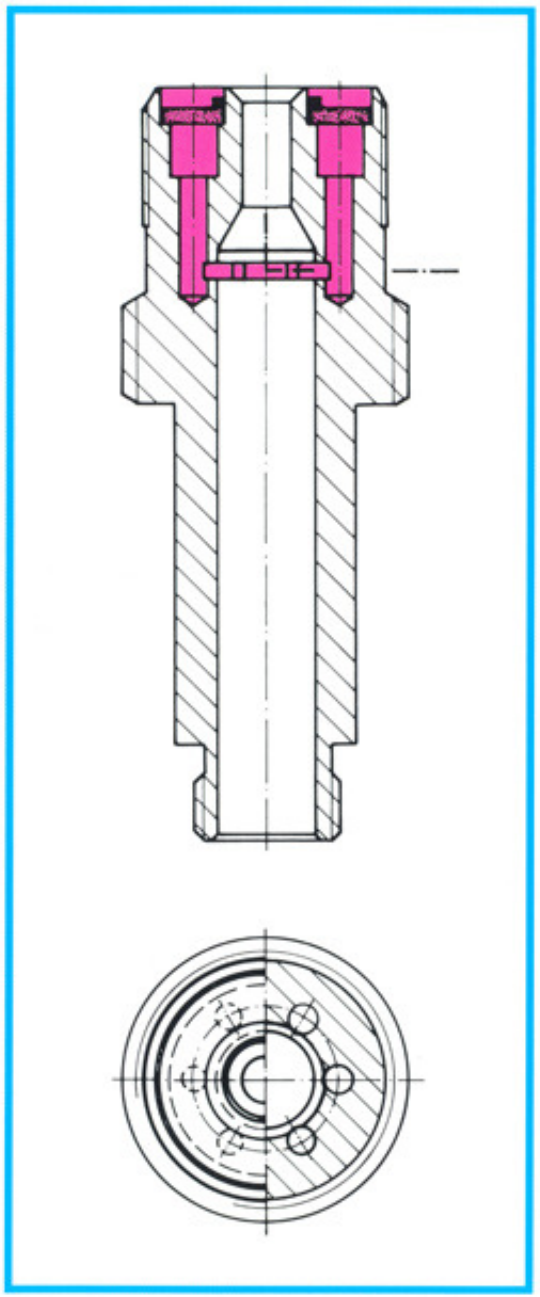
# Gas Lenses DBGM No. G 9108706

For TiG-machine and TiG-manual welds from the mini gas lens up to the large-surface gas lens with laminar gas outlet for welding of titanium and aluminium









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Catalog
26.01.2012
Prices on request

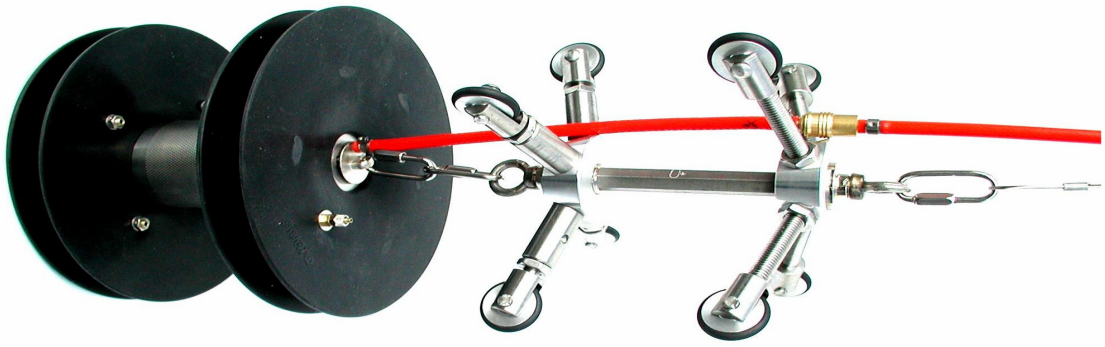
# Running device for pipes and bent tubes

for all JA®-Protective-Gas-Systems from 45 mm up to 140 mm pipe I.D.

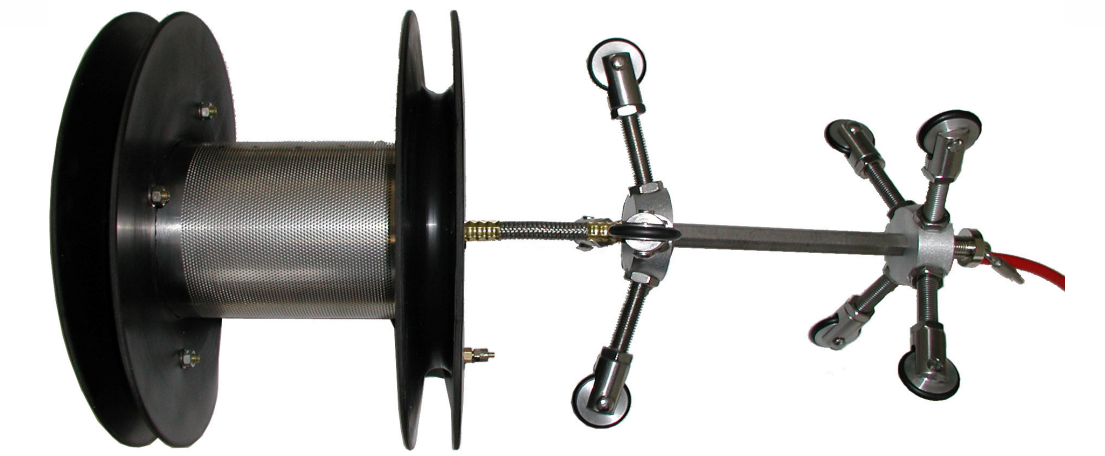
| Data in mm | Description | € / piece |
|---|---|---|
| Ø 45-60 | Material: Plastic<br>Without picture. | |
| Ø 50-70 | | |
| Ø 65-85 | | |
| Ø 85-105 | | |
| Ø 125-140 | | |

for all JA®-Protective-Gas-Systems from 130 mm up to 410 mm pipe I.D.

| Data in mm | Description | Running device € / piece | |
|---|---|---|---|
| | | Pict.1 with chain links | Pict. 2 with flexible hose 100mm |
| Ø 130 - 160 | Material: Stainless Steel / Aluminium / Viton.<br>See Figure 1 and 2. | | |
| Ø 160 - 190 | | | |
| Ø 190 - 220 | | | |
| Ø 220 - 250 | | | |
| Ø 250 - 280 | | | |
| Ø 280 - 310 | | | |
| Ø 310 - 340 | | | |
| Ø 340 - 370 | | | |
| Ø 370 - 400 | | | |
| Ø 400 - 410 | | | |



Picture 1: dual running device with screwable chain links and separate gas supply



Picture 2: dual running device with flexible hose 100mm and separate gas supply

## Routeing for JA® Protective Gas Finger

For small pipes it is usually sufficient to seal them off against any oxygen inflow by placing a heat resistant disk on one side within the pipe.

1. Insert the Protective Gas Finger by hand into the pipe to be welded and adjust its position towards the direction in which you want to pull it by means of the gas hose which also functions as a pulling device.
2. During the assembly, pull the gas hose through the pipe to be welded and connect with the gas source. The gas hose also functions as pulling device.
3. Adjust and center the weld seam.
4. Position the gas finger according to the examples of use.
5. Seal the outer side of the weld seam by means of aluminium foil adhesive tape or protective tape to avoid unwanted influx of oxygen. Please notice that the greatest influx of oxygen occurs before the welding process through any air gaps.
6. The preheating depends upon the quality of the steel.
7. Release protective gas before beginning to tack-weld (protective gas flush of approx. 10 litres)
8. The amount of protective gas depends upon the pipe diameter and shall not in any case be < 5-15 litres/min.

This data is only a recommendation and can vary according to quality requirements. Any remaining oxygen in the lower seam region can be measured by permanent visual control of the root surface as follows: Lighten up the air gap by means of a special lamp or by constantly measuring the oxygen content with either the oxygen analyzer Aero$_2$mat 4115/4120 or SMG 4. Stainless steel should only be welded on with less than 70 Vppm of oxygen remaining.

9. Partial tack welds should be affixed once under protective gas in the required amount (under visual internal control).
10. When welding on material with a wall thickness of up to 10 mm the root protection should remain until the the whole seam, including the cover layer, have been completed.
11. When welding on material with a wall thickness of more than 12 mm, the over-welding does not interfere with the interior side (however, only when using manual metal arc welding and TIG welding, not when using submerged arc welding).

## Questions regarding the flush time

The flush time is defined as follows:
The flush time is the amount of time required to bring a certain amount of protective gas to the weld seam in order to minimize the remaining oxygen to an acceptable level (mostly below 70 Vppm).

When using the JA-protective gas system, flush times of 0.5 to 2 minutes are sufficient under good conditions.
This data is not binding, however, because requirements depend on the actual welding parameters.
In order to find reliable values the user should consult our “Practical Recommendations” and take notice of critical points which are necessary to achieve quality criteria:

1. Which requirements of manufacturing quality and welding specifications have to be fulfilled regarding the weld seam and its weld seam zones? In other words, which manufacturing quality shall be achieved with which welding specifications regarding the weld seam and its weld seam zones?
2. What is the surface quality of the parts to be welded?
3. Which protective gas is used under consideration of the materials used?
4. How are the welding gaps chosen and prepared?
5. Do you weld with or without air gap?
6. Can the air gaps be protected against draft and upwind (for instance by using aluminium foil adhesive tape or protective tape)?
7. Is the welding position of high importance?
8. Do you weld with or without preheating (preheating supports the unwanted upwind)?
9. Can draft be avoided?
10. How high is the relative humidity in the ambient air?

**As with all of our protective gas systems, we remind you that flammable protective gases should not be used! Gas compositions containing more than 8 % hydrogen (H2) are flammable! There is a danger of fire and explosion!**

Our products are made of a material that can withstand a temperature of 300°C. However, the products can be damaged when exposed directly to open flames.

Catalog
08.12.2011
Prices on request

# Protective Gas Finger

for tubes from 9 to 80 mm l. Ø

Equipped with a highly heat-resistant sealing disc, SS-sintered-metal protective gas finger,
10 m two-ply PVC-hose, coupling and
a gas cylinder connector G 1/4 R (alternatively G 3/8L)

## Protective Gas Finger Ø 6 mm x 30 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disk | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 01 | 9-16 | without | Ø 6 mm x 30 mm lg. | |
| | | | available up to 400 mm lg | |

## Protective Gas Finger Ø 10 mm x 12 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disk | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 21 | 16-19 | Ø 6 x 21 mm | Ø 10 mm x 12 mm lg. | |
| J 02 0 00 22 | 19-24 | Ø 6 x 26 mm | Ø 10 mm x 12 mm lg. | |
| J 02 0 00 23 | 24-29 | Ø 6 x 31 mm | Ø 10 mm x 12 mm lg. | |
| J 02 0 00 24 | 29-34 | Ø 6 x 36 mm | Ø 10 mm x 12 mm lg. | |
| J 02 0 00 25 | 34-38 | Ø 6 x 41 mm | Ø 10 mm x 12 mm lg. | |
| J 02 0 00 26 | 38-44 | Ø 6 x 46 mm | Ø 10 mm x 12 mm lg. | |
| J 02 0 00 27 | 42-49 | Ø 6 x 51 mm | Ø 10 mm x 12 mm lg. | |

## Protective Gas Finger Ø 10 mm x 25 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disk | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 31 | 16-19 | Ø 6 x 21 mm | Ø 10 mm x 25 mm lg. | |
| J 02 0 00 32 | 19-24 | Ø 6 x 26 mm | Ø 10 mm x 25 mm lg. | |
| J 02 0 00 33 | 24-29 | Ø 6 x 31 mm | Ø 10 mm x 25 mm lg. | |
| J 02 0 00 34 | 29-34 | Ø 6 x 36 mm | Ø 10 mm x 25 mm lg. | |
| J 02 0 00 35 | 34-38 | Ø 6 x 41 mm | Ø 10 mm x 25 mm lg. | |
| J 02 0 00 36 | 38-44 | Ø 6 x 46 mm | Ø 10 mm x 25 mm lg. | |
| J 02 0 00 37 | 42-49 | Ø 6 x 51 mm | Ø 10 mm x 25 mm lg. | |

## equipped with Protective Gas Finger Ø 10 mm x 50 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disk | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 41 | 16-19 | Ø 6 x 21 mm | Ø 10 mm x 50 mm lg. | |
| J 02 0 00 42 | 19-24 | Ø 6 x 26 mm | Ø 10 mm x 50 mm lg. | |
| J 02 0 00 43 | 24-29 | Ø 6 x 31 mm | Ø 10 mm x 50 mm lg. | |
| J 02 0 00 44 | 29-34 | Ø 6 x 36 mm | Ø 10 mm x 50 mm lg. | |
| J 02 0 00 45 | 34-38 | Ø 6 x 41 mm | Ø 10 mm x 50 mm lg. | |
| J 02 0 00 46 | 38-44 | Ø 6 x 46 mm | Ø 10 mm x 50 mm lg. | |
| J 02 0 00 47 | 42-49 | Ø 6 x 51 mm | Ø 10 mm x 50 mm lg. | |

## equipped with Protective Gas Finger Ø 10 mm x 120 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disk | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 51 | 16-19 | Ø 6 x 21 mm | Ø 10 mm x 120 mm lg. | |
| J 02 0 00 52 | 19-24 | Ø 6 x 26 mm | Ø 10 mm x 120 mm lg. | |
| J 02 0 00 53 | 24-29 | Ø 6 x 31 mm | Ø 10 mm x 120 mm lg. | |
| J 02 0 00 54 | 29-34 | Ø 6 x 36 mm | Ø 10 mm x 120 mm lg. | |
| J 02 0 00 55 | 34-38 | Ø 6 x 41 mm | Ø 10 mm x 120 mm lg. | |
| J 02 0 00 56 | 38-44 | Ø 6 x 46 mm | Ø 10 mm x 120 mm lg. | |
| J 02 0 00 57 | 42-49 | Ø 6 x 51 mm | Ø 10 mm x 120 mm lg. | |

Catalog
08.12.2011
Prices on request

# Protective Gas Finger

for tubes from 9 to 80 mm ID Ø

quipped with a highly heat-resistant sealing disc, SS-sintered-metal protective gas finger, 10 m two-p PVC hose, coupling and a gas cylinder connector G 1/4 R (alternatively G 3/8 L)

## equipped with Protective Gas Finger Ø 22 mm x 25 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disc | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 61 | 24-29 | Ø 6 x 31 mm | Ø 22 mm x 25 mm lg. | |
| J 02 0 00 62 | 29-34 | Ø 6 x 36 mm | Ø 22 mm x 25 mm lg. | |
| J 02 0 00 63 | 34-38 | Ø 6 x 41 mm | Ø 22 mm x 25 mm lg. | |
| J 02 0 00 64 | 38-44 | Ø 6 x 46 mm | Ø 22 mm x 25 mm lg. | |
| J 02 0 00 65 | 42-49 | Ø 6 x 51 mm | Ø 22 mm x 25 mm lg. | |

## equipped with Protective Gas Finger Ø 22 mm x 50 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disc | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 71 | 24-29 | Ø 6 x 31 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 72 | 29-34 | Ø 6 x 36 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 73 | 34-38 | Ø 6 x 41 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 74 | 38-44 | Ø 6 x 46 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 70 | 42-49 | Ø 6 x 51 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 75 | 43-48 m. A. | Ø 15 x 50 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 76 | 47-53 m. A. | Ø 15 x 55 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 77 | 52-58 m. A. | Ø 15 x 60 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 78 | 54-63 m. A. | Ø 15 x 65 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 79 | 58-68 m. A. | Ø 15 x 70 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 80 | 64-72 m. A. | Ø 15 x 75 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 81 | 68-76 m. A. | Ø 15 x 80 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 82 | 72-81 m. A. | Ø 15 x 85 mm | Ø 22 mm x 50 mm lg. | |
| J 02 0 00 83 | m.A.=Adapter | | | |

## equipped with Protective Gas Finger Ø 36 mm x 50 mm lg.

| Order-No. | for pipe inside Ø in mm | sealing disc | optional suitable PG-Finger | EUR/pc. |
|---|---|---|---|---|
| J 02 0 00 90 | 38-43 m. A. | Ø 15 x 45 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 91 | 43-48 m. A. | Ø 15 x 50 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 92 | 47-53 m. A. | Ø 15 x 55 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 93 | 52-58 m. A. | Ø 15 x 60 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 94 | 54-63 m. A. | Ø 15 x 65 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 95 | 58-68 m. A. | Ø 15 x 70 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 96 | 64-72 m. A. | Ø 15 x 75 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 97 | 68-76 m. A. | Ø 15 x 80 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 98 | 72-81 m. A. | Ø 15 x 85 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 99 | 80-84 m. A. | Ø 15 x 90 mm | Ø 36 mm x 50 mm lg. | |
| J 02 0 00 83 | m.A.=Adapter | | | |

Catalog
08.12.2011
Prices on request

# Spare Parts and Accessories for Protective Gas Finger

for tubes from 9 to 80 mm I. Ø

## Spare parts
## Stainless Steel-Sintered Metal - Protective Gas Finger

| Order-No. | | EUR / pc. |
|---|---|---|
| 50006300 | Ø 6 mm x 30,0 mm lg. for hose connector for pipe inside Ø 9 - 16 mm | |
| 50010125 | Ø 10 mm x 12,5 mm lg. for silicone disk for pipe inside Ø 30 - 44 mm | |
| 50010250 | Ø 10 mm x 25,0 mm lg. for silicone disk for pipe inside Ø 30 - 44 mm | |
| 50010500 | Ø 10 mm x 50,0 mm lg. for silicone disk for pipe inside Ø 30 - 44 mm | |
| 50011200 | Ø 10 mm x 120,0 mm lg. for silicone disk for pipe inside Ø 30 - 44 mm | |
| 50022250 | Ø 22 mm x 25,0 mm lg. for silicone disk for pipe inside Ø 30 - 44 mm | |
| 50022500 | Ø 22 mm x 50,0 mm lg. for silicone disk for pipe inside Ø 30 - 44 mm | |
| 50026500 | Ø 36 mm x 50,0 mm lg. for silicone disk for pipe inside Ø 45 - 85 mm | |
| **All Protective Gas Finger also with silicone discs 45-90 with adapter** | | |
| **Other lengths and diameters on request** | | |

## Highly heat-resistant sealing disc

| Order-No. | Dimension | for pipe inside Ø | EUR / pc. |
|---|---|---|---|
| 50330021 | Ø 6 x 21 mm | Ø 16 - 19 mm | |
| 50330026 | Ø 6 x 26 mm | Ø 19 - 24 mm | |
| 50330031 | Ø 6 x 31 mm | Ø 24 - 29 mm | |
| 50330036 | Ø 6 x 36 mm | Ø 29 - 34 mm | |
| 50330041 | Ø 6 x 41 mm | Ø 34 - 38 mm | |
| 50330046 | Ø 6 x 46 mm | Ø 38 - 44 mm | |
| 50330051 | Ø 6 x 51 mm | Ø 42 - 49 mm | |

## Highly heat-resistant sealing disc with adapter

| | | | |
|---|---|---|---|
| 50330045 | Ø 15 x 45 mm | Ø 38 - 43 mm | |
| 50330050 | Ø 15 x 50 mm | Ø 43 - 48 mm | |
| 50330055 | Ø 15 x 55 mm | Ø 47 - 53 mm | |
| 50330060 | Ø 15 x 60 mm | Ø 52 - 58 mm | |
| 50330065 | Ø 15 x 65 mm | Ø 54 - 63 mm | |
| 50330070 | Ø 15 x 70 mm | Ø 58 - 68 mm | |
| 50330075 | Ø 15 x 75 mm | Ø 64 - 72 mm | |
| 50330080 | Ø 15 x 80 mm | Ø 68 - 76 mm | |
| 50330085 | Ø 15 x 85 mm | Ø 72 - 81 mm | |
| 50330090 | Ø 15 x 90 mm | Ø 75 - 86 mm | |

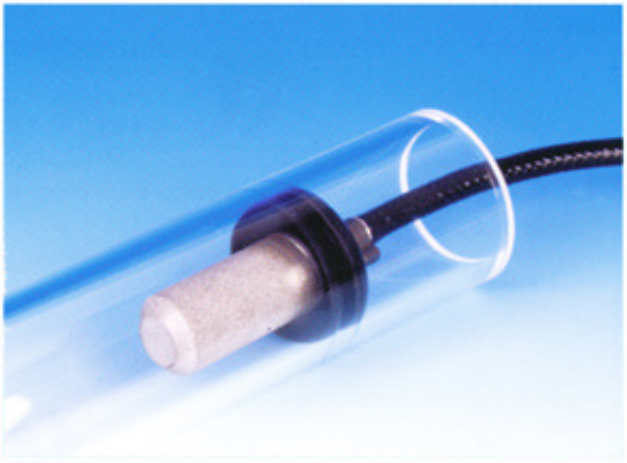
## Accessories

| Order-No. | Description | EUR / pc.<br>EUR/ m |
|---|---|---|
| 50000021 | 2-ply PVC-hose 5x 8 mm Ø | |
| 50000022 | largely oxygen diffusion-proof hose 5x 8 mm Ø | |
| 50000023 | Stainless steel hose clip with insert ring 9.5 mm Ø | |
| 50000024 | Complete coupling DN5 (brass) with gas closing | |
| 50000025 | Mouthpiece for hose, DN5 (brass) for coupling | |
| 50000026 | Nut G 1/4“ R with mouthpiece DN 5 (brass), suitable for Argon pressure reducer | |
| 50000027 | Nut G 3/8“ L with mouthpiece DN 5 (brass), suitable for protective gas pressure reducer | |
| J 02 0 00 83 | Adapter (M 7) for sealing discs Ø 45 - 90 mm | |

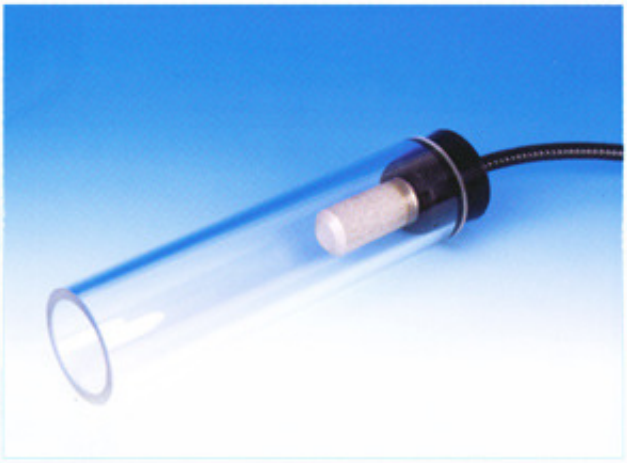
# Protective gas finger for welding seams

The original as invented by JA®
from 8 mm inside Ø up to 85 mm inside Ø





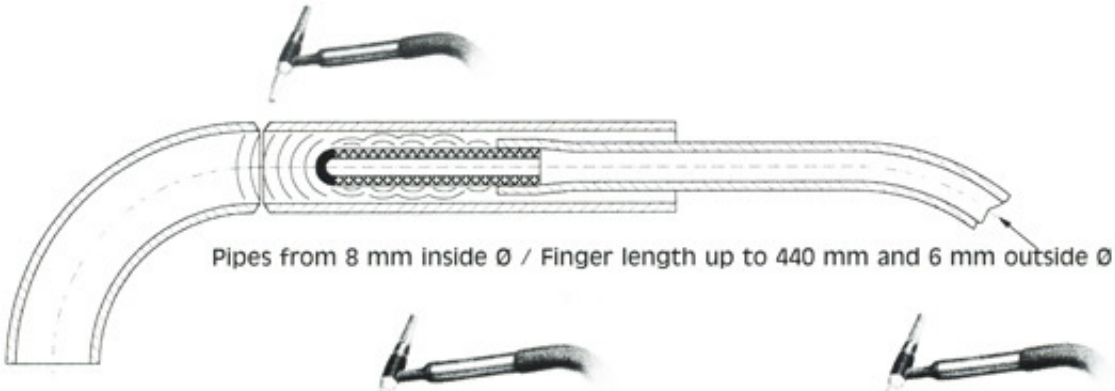




Protective gas finger made of dry powdered metal available in different diameter and length combined with unilateral gas protection safeguard an effortless and quick handling. Without flushing corrosion can be avoided. After the welding the protective gas finger can be removed easily with the gas supply hose. There is no need for a release cable.

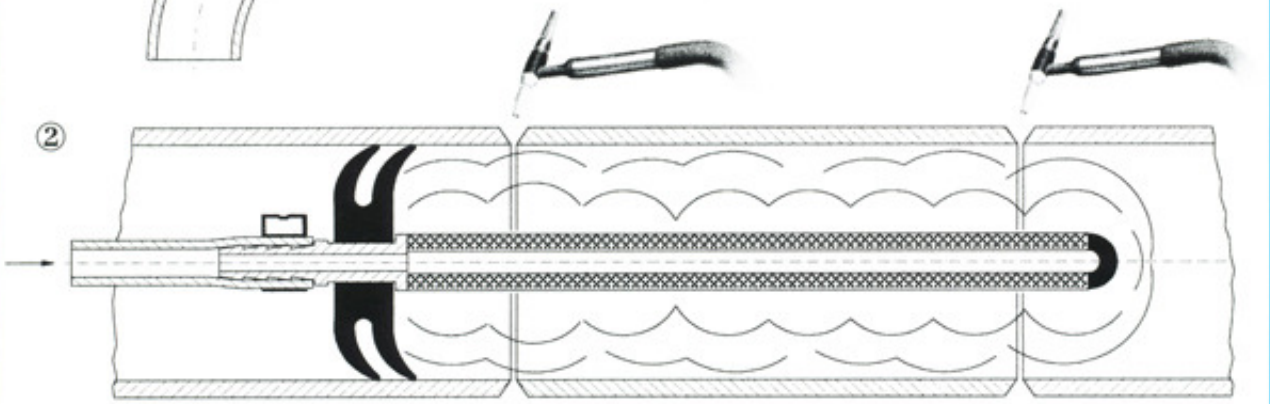
# Examples of application for the protective gas system

①



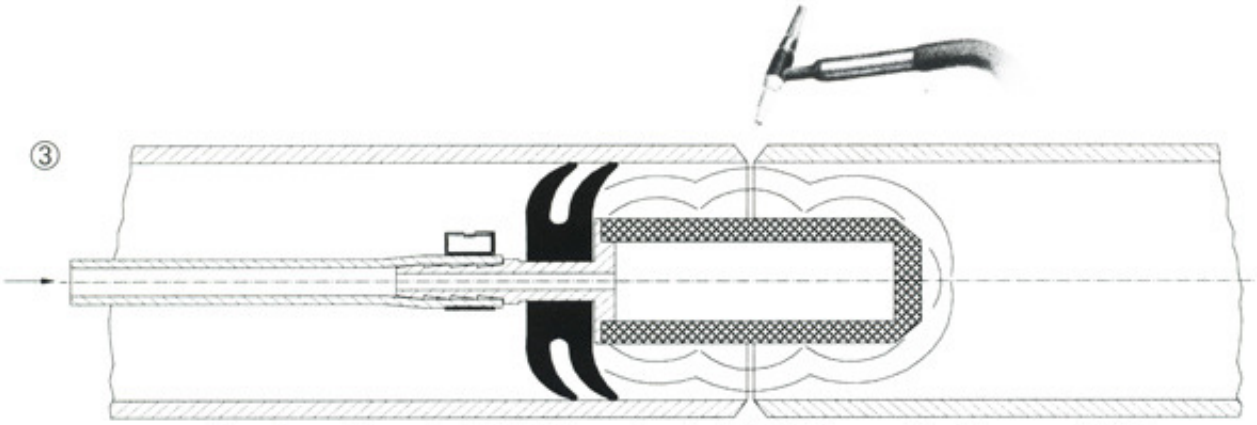
Pipes from 8 mm inside Ø / Finger length up to 440 mm and 6 mm outside Ø

②



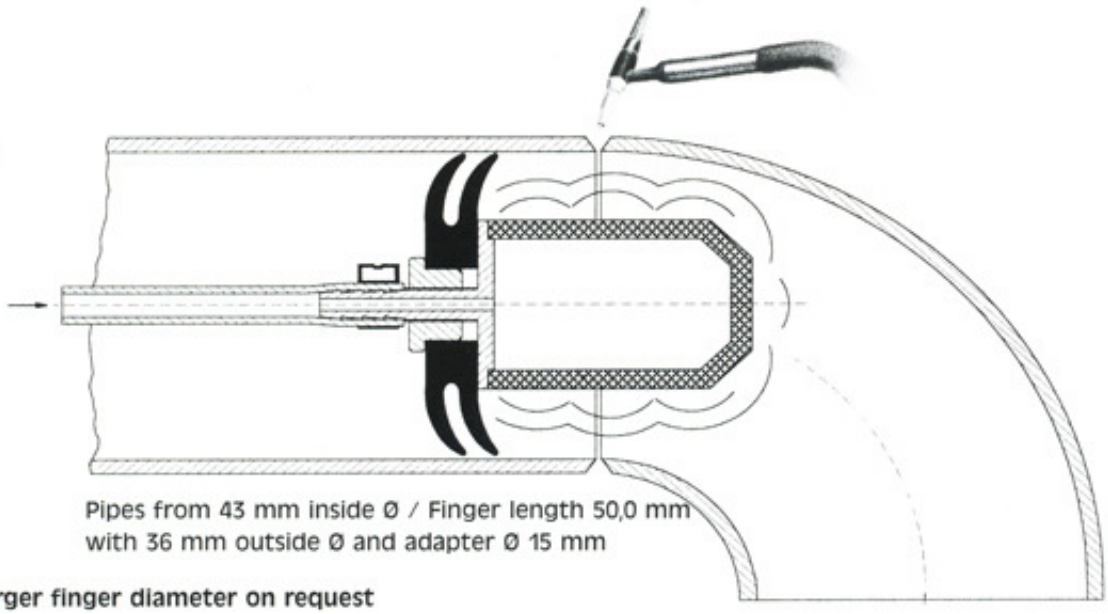
Pipes from 16 mm inside Ø / Finger length 12,5 / 25,0 / 50,0 / 120,0 mm with 10 mm outside Ø

③



Pipes from 24 mm inside Ø / Finger length 25,0 / 50,0 mm with 22 mm outside Ø

④



Pipes from 43 mm inside Ø / Finger length 50,0 mm
with 36 mm outside Ø and adapter Ø 15 mm

**Larger finger diameter on request**

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Catalog
08.12.2011
Prices on request

# Protective Gas System Mini 2.4

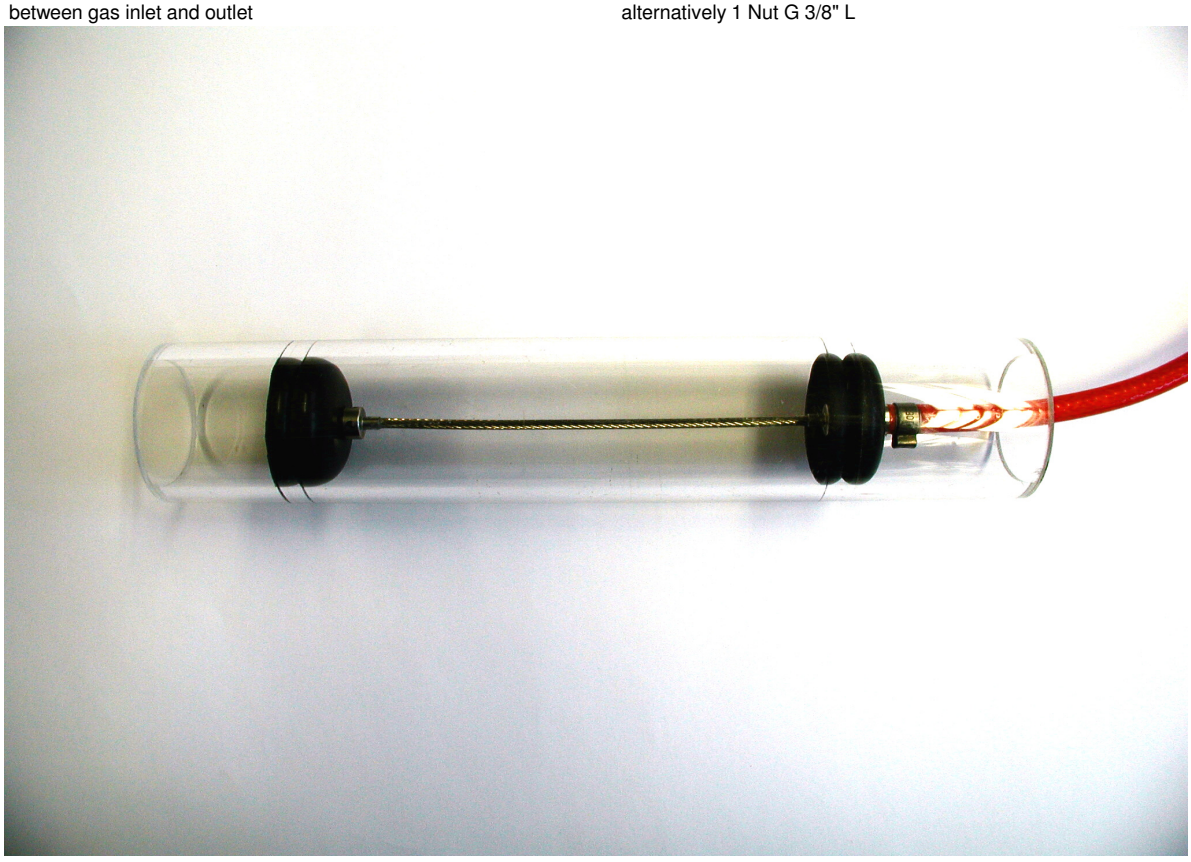
Equipped with 2 highly heat-resistant silicone discs 2 lips

**Complete**, all listed components inclusive

| Order-No.:. | Heat resistant sealing discs | Inside pipe diameter Ø in mm | EUR / pc. Complete |
|---|---|---|---|
| M 50330021 | Ø 6 x 21 mm | Ø 16 - 19 mm | |
| M 50330026 | Ø 6 x 26 mm | Ø 19 - 24 mm | |
| M 50330031 | Ø 6 x 31 mm | Ø 24 - 29 mm | |
| M 50330036 | Ø 6 x 36 mm | Ø 29 - 34 mm | |
| M 50330041 | Ø 6 x 41 mm | Ø 34 - 38 mm | |
| M 50330046 | Ø 6 x 46 mm | Ø 38 - 44 mm | |
| M 50330051 | Ø 6 x 51 mm | Ø 43 - 49 mm | |

## Content of a complete unit:

Protective Gas Inlet Mini
Protective Gas Outlet Mini
2 heat-resistant sealing discs
SS-release cable Ø 3 mm as a connection between gas inlet and outlet
10 m two-ply PVC-hose Ø 5 i x 1.5 mm wall, 4 SS-hose clips, 1 coupling DN 5,
1 mouthpiece
1 Nut G 1/4" R for Argon gas reducer or alternatively 1 Nut G 3/8" L



## Heat-resistant sealing discs

| Order-No. | Heat-resistant sealing disc | for Pipe ID- Ø in mm | EUR / pc. |
|---|---|---|---|
| **For disc mounting Ø 6 mm SYSTEM** | | | |
| 50330021 | Ø 6 x Ø 21 mm | Ø 16 - 19 mm | |
| 50330026 | Ø 6 x Ø 26 mm | Ø 19 - 24 mm | |
| 50330031 | Ø 6 x Ø 31 mm | Ø 24 - 29 mm | |
| 50330036 | Ø 6 x Ø 36 mm | Ø 29 - 34 mm | |
| 50330041 | Ø 6 x Ø 41 mm | Ø 34 - 38 mm | |
| 50330046 | Ø 6 x Ø 46 mm | Ø 38 - 44 mm | |
| 50330051 | Ø 6 x Ø 51 mm | Ø 34 - 48 mm | |

**Please note!** For the area from **Ø 6 mm x Ø 21 mm** up to **Ø 6 mm x Ø 51 mm** all sealing discs suit

Information
08.12.2011

## Questions regarding the flush time

The flush time is defined as follows:
The flush time is the amount of time required to bring a certain amount of protective gas to the weld seam in order to minimize the remaining oxygen to an acceptable level (mostly below 70 Vppm).

When using the JA-protective gas system flush times of 0.5 to 2 minutes are sufficient under good conditions. These data are not binding, however, because requirements depend on the actual welding parameters.
In order to find reliable values the user should consult our “Practical Tips” and take notice of the points which are critical to achieve quality criteria:

1. Which requirements of manufacturing quality and welding specifications have to be fulfilled regarding the weld seam and its weld seam zones? In other words, which manufacturing quality shall be achieved with which welding specifications regarding the weld seam and its weld seam zones?
2. What is the surface quality of the parts to be welded?
3. Which protective gas is used under consideration of the materials used?
4. How are the welding gaps chosen and prepared?
5. Do you weld with or without air gap?
6. Can the air gaps be protected against draft and upwind (for instance by using aluminium foil adhesive tape or protective tape)?
7. The welding position is of high importance?
8. Do you weld with or without preheating (preheating supports the unwanted upwind)?
9. Can draft be avoided?
10. How high is the relative humidity in the ambient air?

**As with all our protective gas systems we advise you that flammable protective gases are not allowed!**
**Gas compositions containing more than 8 % hydrogen (H2) are flammable! There is the danger of fire and explosion!**

The materials used in our products withstand a temperature of 300oC. However, they could be damaged when exposed directly to open flames.

**Routeing for the JA®-Protective Gas Modular System,
the JA®-Compact System and the JA®-Universal System**

1. Insert the Protective Gas System by hand into the pipe to be welded and adjust its position towards the direction in which you want to pull it.

be welded.

3. Adjust and center the weld seam.
4. Position the gas system in the center of the weld seam.

avoid unwanted influx of oxygen. Please note that the greatest influx of oxygen occurs before the welding process through any air gaps.

6. The preheating depends upon the quality of the steel.
7. Release protective gas before beginning to tack-weld (protective gas flush of approx. 20-40 litres). The flush time will be approx. 0.5-2 mins.
8. The amount of protective gas at weld start is 0.5 – 1 litre per centimetre, however, in any case it is not less than 5 litres per minute.

   Pipe diameter/ Minute

   Example: $\frac{\text{nominal width 200}}{10}$ x 0.75 litres = 15 litres / minute at weld start

the lower seam region can be measured by permanent visual control of the root surface as follows: Lighten up the air gap by means of a special lamp or by constantly measuring the oxygen content with either the oxygen analyzer Aero$_2$mat 4115/4120 or SMG 4. Stainless steel should only be welded on with less than 70 Vppm of oxygen remaining.

9. Partial tack welds should be affixed once under protective gas in the required amount (under visual internal control).
10. Welding start:

With an increasing length of the completed root weld the unwanted influx of oxygen decreases.
Result:
When welding the root layer the amount of gas has to be reduced. The amount of gas as calculated in Item 8 can be therefore substantially reduced which saves cost.

11. When welding on material with a wall thickness of up to 10 mm the root protection should remain until the the whole seam, including the cover layer, have been completed.
12. When welding on material with a wall thickness of more than 12 mm, the over-welding does not interfere with the interior side (however, only when using manual metal arc welding and TIG welding, not when using submerged arc welding).

# Protective Gas Cylinder - Modular System

highly heat-resistant

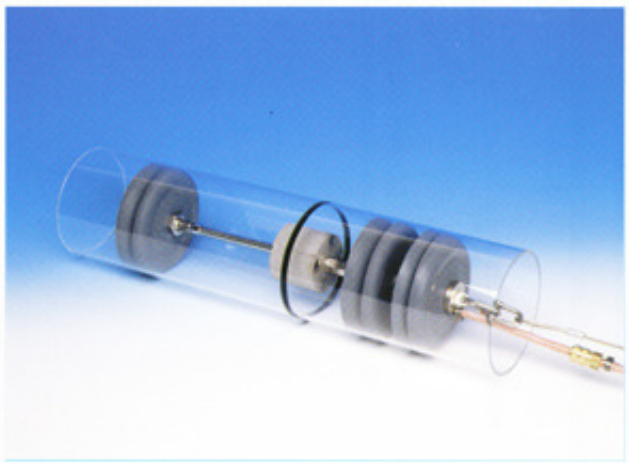
DBP No. 3728184



For pipe and container seams from 38 up to 325 mm inside diameter. This system can be mounted and reassembled to fit different conditions. Devices for bended pipes assist the smooth working in pipes and bends.

## Application Examples



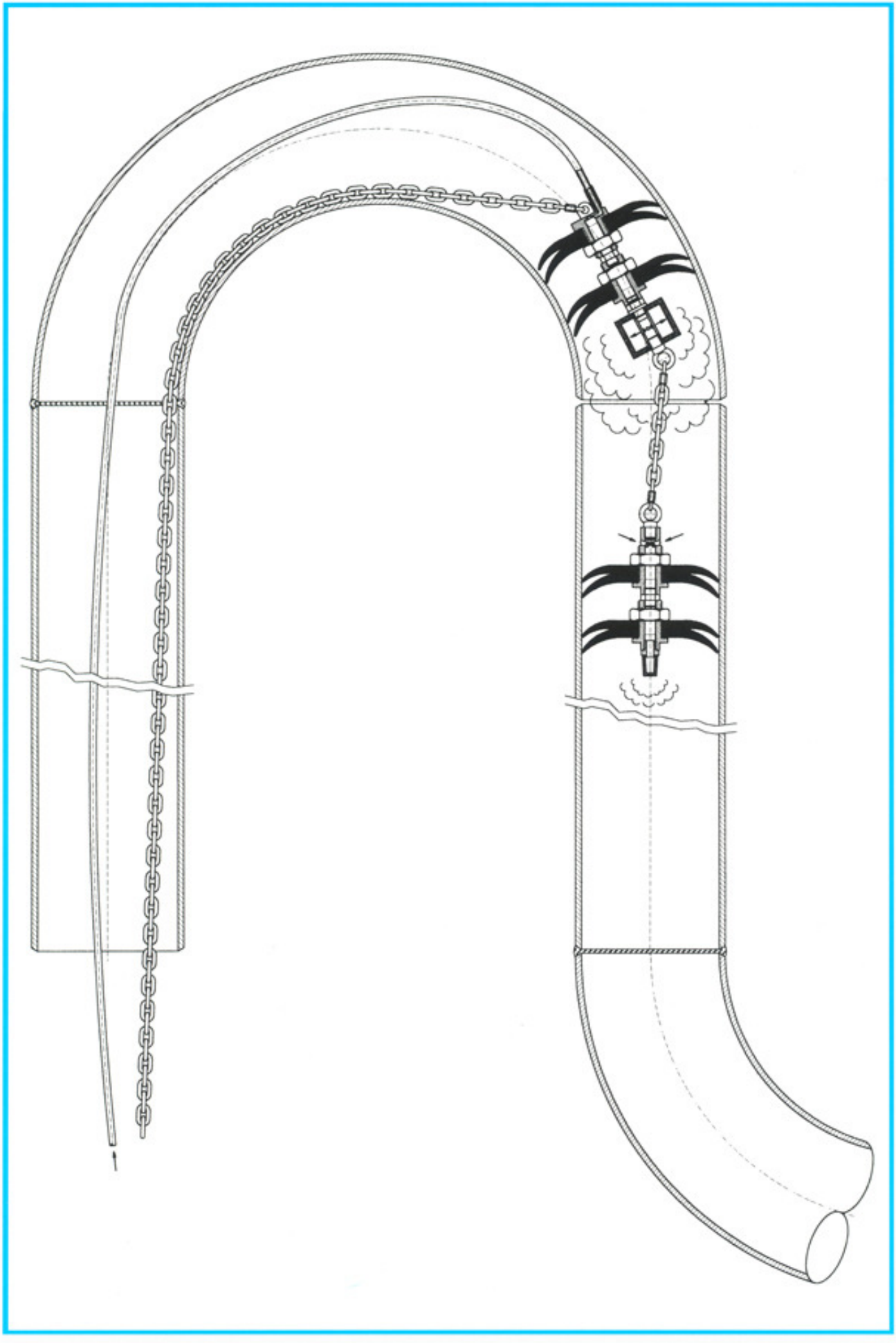






Other examples of application of the modular system are illustrated in the appendix.

# Application Examples



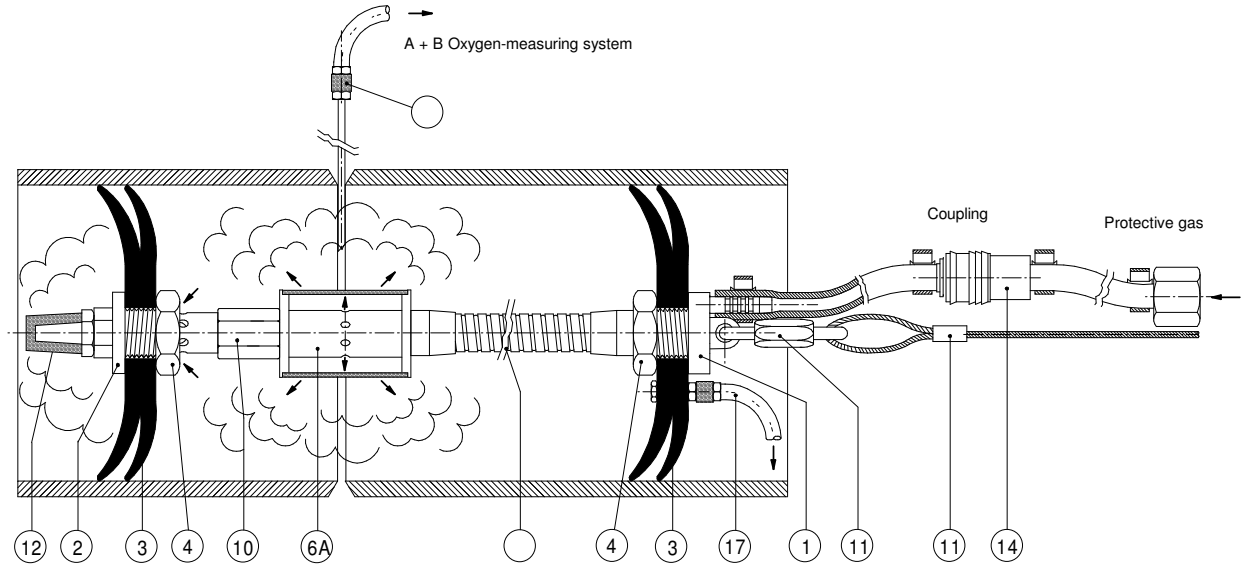
hairpin pipes

Printed in Germany

# Protective Gas Cylinder - Modular System / System 1 2.4

Equipped with 2 Highly Heat-resistant Silicone discs- **2 lips**
Expandable according to the modular system, see handout 2.4 for examples of use
Complete, all listed components inclusive.

| Order-No.: | Heat-resistant sealing disc | inside pipe diameter Ø in mm | with protective-gas diffuser | EUR / pc. |
|---|---|---|---|---|
| B50330045 | Ø 15 x 45 mm | Ø 38 – 43 | Ø 27 mm x 30 mm lg. | |
| B50330050 | Ø 15 x 50 mm | Ø 43 – 48 | Ø 27 mm x 30 mm lg. | |
| B50330055 | Ø 15 x 55 mm | Ø 47 – 53 | Ø 27 mm x 30 mm lg. | |
| B50330060 | Ø 15 x 60 mm | Ø 52 – 58 | Ø 27 mm x 30 mm lg. | |
| B50330065 | Ø 15 x 65 mm | Ø 54 – 63 | Ø 27 mm x 30 mm lg. | |
| B50330070 | Ø 15 x 70 mm | Ø 58 – 68 | Ø 27 mm x 30 mm lg. | |
| B50330075 | Ø 15 x 75 mm | Ø 64 – 72 | Ø 27 mm x 30 mm lg. | |
| B50330080 | Ø 15 x 80 mm | Ø 68 – 76 | Ø 36 mm x 35 mm lg. | |
| B50330085 | Ø 15 x 85 mm | Ø 72 – 81 | Ø 36 mm x 35 mm lg. | |
| B50330090 | Ø 15 x 90 mm | Ø 75 – 86 | Ø 36 mm x 35 mm lg. | |
| B50330095 | Ø 15 x 95 mm | Ø 80 – 91 | Ø 36 mm x 35 mm lg. | |
| B50330100 | Ø 15 x 100 mm | Ø 86 – 95 | Ø 36 mm x 35 mm lg. | |
| B50330107 | Ø 15 x 107 mm | Ø 90 – 101 | Ø 36 mm x 35 mm lg. | |
| B50330115 | Ø 20 x 115 mm | Ø 100 – 112 | Ø 44 mm x 35 mm lg. | |
| B50330125 | Ø 20 x 125 mm | Ø 105 – 120 | Ø 44 mm x 35 mm lg. | |
| B50330137 | Ø 20 x 137 mm | Ø 117 – 132 | Ø 44 mm x 35 mm lg. | |
| B50330145 | Ø 20 x 145 mm | Ø 125 – 140 | Ø 44 mm x 35 mm lg. | |
| B50330160 | Ø 20 x 160 mm | Ø 140 – 155 | Ø 44 mm x 35 mm lg. | |
| B50330167 | Ø 20 x 167 mm | Ø 147 – 162 | Ø 44 mm x 35 mm lg. | |
| B50330175 | Ø 20 x 175 mm | Ø 150 – 165 | Ø 44 mm x 35 mm lg. | |
| B50330190 | Ø 20 x 190 mm | Ø 160 – 180 | Ø 44 mm x 35 mm lg. | |
| B50330210 | Ø 20 x 210 mm | Ø 175 – 200 | Ø 65 mm x 50 mm lg. | |
| B50330230 | Ø 20 x 230 mm | Ø 195 – 220 | Ø 65 mm x 50 mm lg. | |
| B50330250 | Ø 20 x 250 mm | Ø 215 – 240 | Ø 65 mm x 50 mm lg. | |
| B50330270 | Ø 20 x 270 mm | Ø 235 – 260 | Ø 65 mm x 50 mm lg. | |
| B50330290 | Ø 20 x 290 mm | Ø 255 – 280 | Ø 65 mm x 50 mm lg. | |
| B50330310 | Ø 20 x 310 mm | Ø 275 – 300 | Ø 65 mm x 50 mm lg. | |
| B50330330 | Ø 20 x 330 mm | Ø 290 – 320 | Ø 65 mm x 50 mm lg. | |
| B50330350 | Ø 20 x 350 mm | Ø 310 – 340 | Ø 65 mm x 50 mm lg. | |
| B50380365 | Ø 20 x 365 mm | Ø 325 – 355 | Ø 65 mm x 50 mm lg. | |
| B50330385 | Ø 20 x 385 mm | Ø 345 – 375 | Ø 65 mm x 50 mm lg. | |
| B50330400 | Ø 20 x 400 mm | Ø 360 – 390 | Ø 65 mm x 50 mm lg. | |
| B50330420 | Ø 20 x 420 mm | Ø 380 – 410 | Ø 65 mm x 50 mm lg. | |




**Content of a complete unit:**

(1) Protective Gas Inlet
(2) Protective Gas Outlet
(3) 2 heat-resistant sealing discs
(4) 2 Nuts
(6A) Protective-Gas-Diffusor* Stainless Steel
(8) 1 flexibel arm
(10) 2 rigid pipes
(11) hook
(14) 10m two-ply PVC-hose
5 iØ x 1,5 mm wall and
4 SS-hose clips,
1 coupling DN 5,
1 mouthpiece,
1 Nut G 1/4" R for argon

* bigger Protective-Gas-Diffusor see additional price list

# ective Gas Cylinder - Modular System 2.4

## Heat-resistant sealing discs

| Order-No. | Heat-resistant sealing disc | for Pipe ID- Ø in mm | EUR / pc. |
|---|---|---|---|
| **For disc mounting Ø 6mm SYSTEM** | | | |
| 50330021 | Ø 6 x 21 mm | Ø 16 - 19 mm | |
| 50330026 | Ø 6 x 26 mm | Ø 19 - 24 mm | |
| 50330031 | Ø 6 x 31 mm | Ø 24 - 29 mm | |
| 50330036 | Ø 6 x 36 mm | Ø 29 - 34 mm | |
| 50330041 | Ø 6 x 41 mm | Ø 34 - 38 mm | |
| 50330046 | Ø 6 x 46 mm | Ø 38 - 44 mm | |
| 50330051 | Ø 6 x 51 mm | Ø 43 - 49 mm | |
| **Please note!** | From Ø 6x21 mm up to Ø 6x51 mm, all sealing discs are suitable and | | |
| **For disc mounting Ø 15mm SYSTEM** | | | |
| 50330045 | Ø 15 x Ø 45 mm | Ø 38 - 43 mm | |
| 50330050 | Ø 15 x Ø 50 mm | Ø 43 - 48 mm | |
| 50330055 | Ø 15 x Ø 55 mm | Ø 47 - 53 mm | |
| 50330060 | Ø 15 x Ø 60 mm | Ø 52 - 58 mm | |
| 50330065 | Ø 15 x Ø 65 mm | Ø 54 - 63 mm | |
| 50330070 | Ø 15 x Ø 70 mm | Ø 58 - 68 mm | |
| 50330075 | Ø 15 x Ø 75 mm | Ø 64 - 72 mm | |
| 50330080 | Ø 15 x Ø 80 mm | Ø 68 - 76 mm | |
| 50330085 | Ø 15 x Ø 85 mm | Ø 72 - 81 mm | |
| 50330090 | Ø 15 x Ø 90 mm | Ø 75 - 86 mm | |
| 50330095 | Ø 15 x Ø 95 mm | Ø 80 - 91 mm | |
| 50330100 | Ø 15 x Ø 100 mm | Ø 86 - 95 mm | |
| 50330107 | Ø 15 x Ø 107 mm | Ø 90 -101 mm | |
| **Please note!** | From Ø 15x45 mm up to Ø 15x107 mm, all sealing discs are suitable and | | |
| **For disc mounting Ø 20mm SYSTEM** | | | |
| 50330115 | Ø 20 x Ø 115 mm | Ø 100 -112 mm | |
| 50330125 | Ø 20 x Ø 125 mm | Ø 105 -120 mm | |
| 50330137 | Ø 20 x Ø 137 mm | Ø 117 -132 mm | |
| 50330145 | Ø 20 x Ø 145 mm | Ø 125 -140 mm | |
| 50330160 | Ø 20 x Ø 160 mm | Ø 140 -155 mm | |
| 50330167 | Ø 20 x Ø 167 mm | Ø 147 -162 mm | |
| 50330175 | Ø 20 x Ø 175 mm | Ø 150 -165 mm | |
| 50330190 | Ø 20 x Ø 190 mm | Ø 160 -180 mm | |
| 50330210 | Ø 20 x Ø 210 mm | Ø 175 -200 mm | |
| 50330230 | Ø 20 x Ø 230 mm | Ø 195 -220 mm | |
| 50330250 | Ø 20 x Ø 250 mm | Ø 215 -240 mm | |
| 50330270 | Ø 20 x Ø 270 mm | Ø 235 -260 mm | |
| 50330290 | Ø 20 x Ø 290 mm | Ø 255 -280 mm | |
| 50330310 | Ø 20 x Ø 310 mm | Ø 275 -300 mm | |
| 50330330 | Ø 20 x Ø 330 mm | Ø 290 -320 mm | |
| 50330350 | Ø 20 x Ø 350 mm | Ø 310 -340 mm | |
| 50380365 | Ø 20 x Ø 365 mm | Ø 325 -355 mm | |
| 50330385 | Ø 20 x Ø 385 mm | Ø 345 -375 mm | |
| 50330400 | Ø 20 x Ø 400 mm | Ø 360 -390 mm | |
| 50330420 | Ø 20 x Ø 420 mm | Ø 380 -410 mm | |

**Please note!** From Ø 20x115 mm up to Ø 20x420 mm, all sealing discs are

# Spare Parts for the Protective Gas Cylinder- Modular System

| Item | Order-No.: | Description | | EUR / pc |
|---|---|---|---|---|
| 1 | 50015001 | protective gas inlet Ø 15 mm with thread M 16 x 1,5 | | |
| 1 | 50020001 | protective gas inlet Ø 20 mm with thread M 20 x 1,5 | | |
| 2 | 50015002 | protective gas outlet Ø 15 mm with thread M 16 x 1,5 | | |
| 2 | 50020002 | protective gas outlet Ø 20 mm with thread M 20 x 1,5 | | |
| 4 | 50000004 | nut M 16 x 1,5 | | |
| 4 | 50000004A | nut M 20 x 1,5 | | |
| 6A | 50027406 | Stainless Steel - protective-gas-Diffusor - Ø 27 x 40 mm lg. , M10x1 | Different lengths and diameters available from our own production | |
| 6A | 50036406 | Stainless Steel - protective-gas-Diffusor - Ø 36 x 40 mm lg. , M10x1 | | |
| 6A | 50044406 | Stainless Steel - protective-gas-Diffusor - Ø 44 x 40 mm lg. , M10x1 | | |
| 6A | 50060406 | Stainless Steel - protective-gas-Diffusor - Ø 60 x 40 mm lg. , M10x1 | | |
| 6A | 50060606 | Stainless Steel - protective-gas-Diffusor - Ø 60 x 60 mm lg. , M10x1 | | |
| 6A | 50075606 | Stainless Steel - protective-gas-Diffusor - Ø 75 x 60 mm lg. , M10x1 | | |
| 6A | 50075106 | Stainless Steel - protective-gas-Diffusor - Ø 75 x 100 mm lg. , M10x1 | | |
| 6A | 50100106 | Stainless Steel - protective-gas-Diffusor - Ø 100 x 100 mm lg. , M10x1 | | |
| 6A | 50150106 | Stainless Steel - protective-gas-Diffusor - Ø 150 x 100 mm lg. , M10x1 | | |
| 6A | 50200106 | Stainless Steel - protective-gas-Diffusor - Ø 200 x 100 mm lg. , M10x1 | | |
| 6A | 50250106 | Stainless Steel - protective-gas-Diffusor - Ø 250 x 100 mm lg. , M10x1 | | |
| 6B | J 02 1 01 51 | Stainless Steel-hose-Diffusor Ø 14 mm x 120 mm long, M10x1 | different lengths available | |
| 6B | J 02 1 01 52 | Stainless Steel-hose-Diffusor Ø 14 mm x 150 mm long, M10x1 | | |
| 6B | J 02 1 01 53 | Stainless Steel-hose-Diffusor Ø 14 mm x 200 mm long, M10x1 | | |
| 6B | J 02 1 01 54 | Stainless Steel-hose-Diffusor Ø 14 mm x 250 mm long, M10x1 | | |
| 8 | 50120008 | flexibel arms 120 mm long | | |
| 8 | 50150008 | flexibel arms 150 mm long | | |
| 8 | 50200008 | flexibel arms 200 mm long | | |
| 8 | 50300008 | flexibel arms 300 mm long | | |
| 8 | 50400008 | flexibel arms 400 mm long | | |
| 8A | 50050008 | Stainless Steel - Metal Gas hose / High flexible , 50 mm lang , M10x1 | | |
| 8A | 50060008 | Stainless Steel - Metal Gas hose / High flexible , 60 mm lang , M10x1 | | |
| 8A | 50070008 | Stainless Steel - Metal Gas hose / High flexible , 70 mm lang , M10x1 | different lengths available | |
| 8A | 50080008 | Stainless Steel - Metal Gas hose / High flexible , 80 mm lang , M10x1 | | |
| 8A | 50090008 | Stainless Steel - Metal Gas hose / High flexible , 90 mm lang , M10x1 | | |
| 8A | 50100008 | Stainless Steel - Metal Gas hose / High flexible , 100 mm lang , M10x1 | | |
| 8a | 50042008 | Ball-and-socket joint,stainless steel, small, Ø 23,5 mm x 42 mm long, M10x1 | | |
| 8a | 50063008 | Ball-and-socket joint,stainless steel, big, Ø 23,5 mm x 63 mm long, M10x1 | | |
| 8a | 50078008 | Ball-and-socket joint,stainless steel, big, Ø 23,5 mm x 78 mm long, M10x1 | | |
| 9 | 50000009 | gas diffuser nozzle SW 14 | | |
| 10 | 50005010 | rigid pipe SW 14 5 mm long | different lengths available | |
| 10 | 50010010 | rigid pipe SW 14 10 mm long | | |
| 10 | 50020010 | rigid pipe SW 14 20 mm long | | |
| 10 | 50040010 | rigid pipe SW 14 40 mm long | | |
| 10 | 50050010 | rigid pipe SW 14 50 mm long | | |
| 10 | 50060010 | rigid pipe SW 14 60 mm long | | |
| 10 | 50100010 | rigid pipe SW 14 100 mm long | | |
| 10 | 50150010 | rigid pipe SW 14 150 mm long | | |
| 10 | 50200010 | rigid pipe SW 14 200 mm long | | |
| 10 | 50300010 | rigid pipe SW 14 300 mm long | | |
| 10 | 50400010 | rigid pipe SW 14 400 mm long | | |
| 11 | 50000011 | hook Ø 4 mm - stainless steel | different lengths available | |
| 11 | 50210011 | 10 m stainless steel release cable Ø 2 mm | | |
| 11 | 50220011 | 20 m stainless steel release cable Ø 2 mm | | |
| 11 | 50310011 | 10 m stainless steel release cable Ø 3 mm | | |
| 11 | 50320011 | 20 m stainless steel release cable Ø 3 mm | | |
| 11 | 50210011P | 10 m stainless steel release cable Ø 2 mm PVC coated (white) | | |
| 11 | 50220011P | 20 m stainless steel release cable Ø 2 mm PVC coated (white) | | |
| 12 | 50000012 | dry powdered protective gas outlet | | |
| 13 | 50015013 | protective gas pass Ø 15 mm with thread M 16 x 1,5 | | |
| 13 | 50020013 | protective gas pass Ø 20 mm with thread M 20 x 1,5 | | |

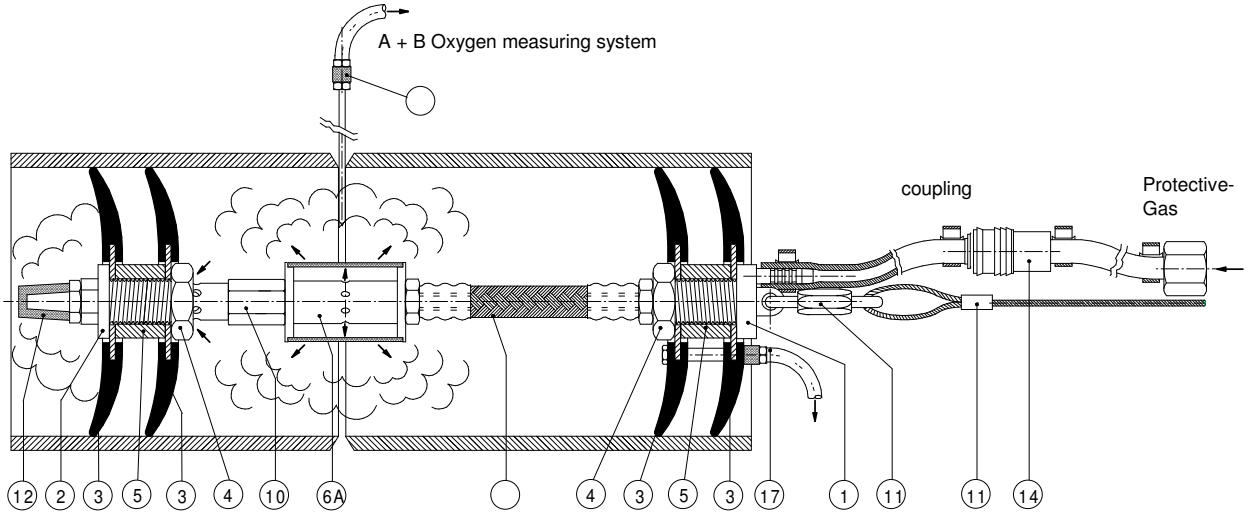
# Additional Accessories for the Protective Gas Cylinder- Modular System

| Order-No.: | Description | EUR/pc./m |
|---|---|---|
| 50000021 | two-ply PVC-hose 5x8 mm Ø | |
| 50000022 | largely oxygen diffusion-proof hose 5x8 mm Ø | |
| 50000046 | largely oxygen diffusion-proof hose, plaited with stainless steel, 5x8 mm Ø | |
| 50000047 | largely oxygen diffusion-proof hose, plaited with stainless steel, 6x8 mm Ø | |
| J 09 2 06 01 | VA helix hose DN 6, not plaited | |
| J 09 2 06 02 | VA helix hose DN 6, plaited with stainless steel | |
| 50000023 | stainless steel hose clip with insert ring 9.5 mm Ø | |
| 50000024 | Complete coupling DN5 (brasss) with gas closing | |
| 50000025 | Mouthpiece for hose, DN5 (brass) for coupling | |
| 50000026 | Nut G 1/4" R with mouthpiece DN5 (brass), suitable for Argon pressure reducer | |
| 50000027 | Nut G 3/8" L with mouthpiece DN5 (brass), suitable for protective gas pressure reducer | |
| 50000028 | oxygen-measuring hose, 5x3 mm Ø | |
| 50000029 | oxygen-measuring probe M 5x23 mm with nut, 2 washers, and hose connection | |
| 50000030 | Stopper M 10 x 1 | |
| 50000031 | stainless steel chain, short-linked, Ø 4 mm | |
| 50000032 | iron chain, galvanized, Ø 4 mm | |
| J 02 2 09 45 | bolt spacer, plastic, Ø 16 mm x Ø 29 mm x 11 mm long | |
| J 02 2 09 46 | bold spacer, plastic, Ø 20 mm x Ø 35 mm x 22 mm long | |
| J 02 2 09 47 | bold spacer, plastic, Ø 20 mm x Ø 35 mm x 30 mm long | |

# Protective Gas Cylinder - Modular System / System 2  2.4

Equipped with 2x2 highly heat-resistant silicone discs- **1 lip**
Expandable according to the modular system, see handout 2.4 for examples of use
Complete, all listed components inclusive.

| Order-No.: | Heat-resistant sealing disc | inside pipe diameter Ø in mm | with protective-gas diffuser | EUR / pc. COMPLETE |
|---|---|---|---|---|
| B50330080 | Ø 15 x 80 mm | Ø 68 – 76 | Ø 36 mm x 35 mm lg. | |
| B50330085 | Ø 15 x 85 mm | Ø 72 – 81 | Ø 36 mm x 35 mm lg. | |
| B50330090 | Ø 15 x 90 mm | Ø 75 – 86 | Ø 36 mm x 35 mm lg. | |
| B50330095 | Ø 15 x 95 mm | Ø 80 – 91 | Ø 36 mm x 35 mm lg. | |
| B50330100 | Ø 15 x 100 mm | Ø 86 – 95 | Ø 36 mm x 35 mm lg. | |
| B50330107 | Ø 15 x 107 mm | Ø 90 – 101 | Ø 36 mm x 35 mm lg. | |
| B50330115 | Ø 20 x 115 mm | Ø 100 – 112 | Ø 44 mm x 35 mm lg. | |
| B50330125 | Ø 20 x 125 mm | Ø 105 – 120 | Ø 44 mm x 35 mm lg. | |
| B50330137 | Ø 20 x 137 mm | Ø 118 – 132 | Ø 44 mm x 35 mm lg. | |
| B50330145 | Ø 20 x 145 mm | Ø 120 – 140 | Ø 44 mm x 35 mm lg. | |
| B50330160 | Ø 20 x 160 mm | Ø 135 – 155 | Ø 44 mm x 35 mm lg. | |
| B50330175 | Ø 20 x 175 mm | Ø 145 – 165 | Ø 44 mm x 35 mm lg. | |
| B50330190 | Ø 20 x 190 mm | Ø 160 – 180 | Ø 44 mm x 35 mm lg. | |
| B50330210 | Ø 20 x 210 mm | Ø 175 – 200 | Ø 65 mm x 50 mm lg. | |
| B50330230 | Ø 20 x 230 mm | Ø 195 – 220 | Ø 65 mm x 50 mm lg. | |
| B50330250 | Ø 20 x 250 mm | Ø 215 – 240 | Ø 65 mm x 50 mm lg. | |
| B50330270 | Ø 20 x 270 mm | Ø 235 – 260 | Ø 65 mm x 50 mm lg. | |
| B50330290 | Ø 20 x 290 mm | Ø 255 – 280 | Ø 65 mm x 50 mm lg. | |
| B50330310 | Ø 20 x 310 mm | Ø 275 – 300 | Ø 65 mm x 50 mm lg. | |
| B50330330 | Ø 20 x 330 mm | Ø 290 – 320 | Ø 65 mm x 50 mm lg. | |
| B50330350 | Ø 20 x 350 mm | Ø 310 – 340 | Ø 65 mm x 50 mm lg. | |
| B50380365 | Ø 20 x 365 mm | Ø 325 – 355 | Ø 65 mm x 50 mm lg. | |
| B50330385 | Ø 20 x 385 mm | Ø 345 – 375 | Ø 65 mm x 50 mm lg. | |
| B50330400 | Ø 20 x 400 mm | Ø 360 – 390 | Ø 65 mm x 50 mm lg. | |
| B50330420 | Ø 20 x 420 mm | Ø 380 – 410 | Ø 65 mm x 50 mm lg. | |




**Content of a complete unit:**

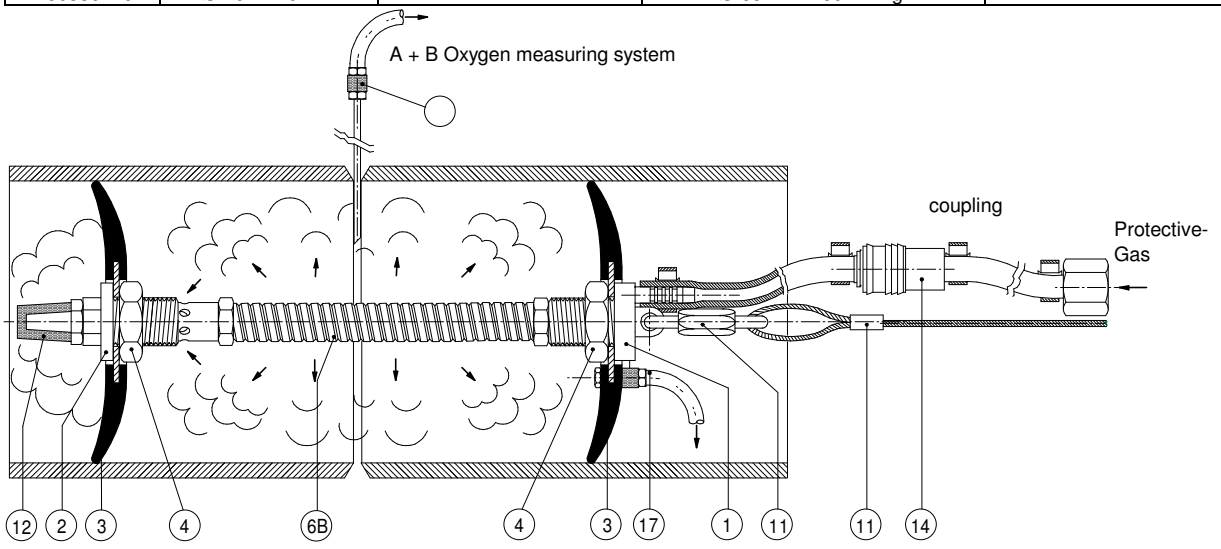
(1) Protective Gas Inlet
(2) Protective Gas Outlet
(3) 4 heat-resistant sealing discs
1 lip
(4) 2 nuts
(5) 2 Spacers
(6A) Protective-Gas-Diffusor* Stainless Steel
(8A) 1 Metal Gas hose /
Highly flexible
(10) 2 rigid pipes
(11) hook
(11) 10 m release cable
(12) sintered metal gas outlet
(14) 10m two-ply PVC-hose
5 iØ x 1,5 mm wall and
4 SS-hose clips,
1 coupling DN 5,
1 mouthpiece,
1 Nut G 1/4" R for argon

* bigger Protective-Gas-Diffusor see additional price list

# Protective Gas Cylinder - Modular System / System 3 2.4

Equipped with 2x1 highly heat-resistant silicone discs **1 lip**
Expandable according to the modular system, see handout 2.4 for examples of application.
Complete, all listed components inclusive.

| Order-No.: | Heat-resistant sealing disc | inside pipe diameter Ø in mm | with protective-gas-hose diffuser | EUR / pc. COMPLETE |
|---|---|---|---|---|
| B50330080 | Ø 15 x 80 mm | Ø 68 – 76 | Ø 36 mm x 35 mm lg. | |
| B50330085 | Ø 15 x 85 mm | Ø 72 – 81 | Ø 36 mm x 35 mm lg. | |
| B50330090 | Ø 15 x 90 mm | Ø 75 – 86 | Ø 36 mm x 35 mm lg. | |
| B50330095 | Ø 15 x 95 mm | Ø 80 – 91 | Ø 36 mm x 35 mm lg. | |
| B50330100 | Ø 15 x 100 mm | Ø 86 – 95 | Ø 36 mm x 35 mm lg. | |
| B50330107 | Ø 15 x 107 mm | Ø 90 – 101 | Ø 36 mm x 35 mm lg. | |
| B50330115 | Ø 20 x 115 mm | Ø 100 – 112 | Ø 44 mm x 35 mm lg. | |
| B50330125 | Ø 20 x 125 mm | Ø 105 – 120 | Ø 44 mm x 35 mm lg. | |
| B50330137 | Ø 20 x 137 mm | Ø 118 – 132 | Ø 44 mm x 35 mm lg. | |
| B50330145 | Ø 20 x 145 mm | Ø 120 – 140 | Ø 44 mm x 35 mm lg. | |
| B50330160 | Ø 20 x 160 mm | Ø 135 – 155 | Ø 44 mm x 35 mm lg. | |
| B50330175 | Ø 20 x 175 mm | Ø 145 – 165 | Ø 44 mm x 35 mm lg. | |
| B50330190 | Ø 20 x 190 mm | Ø 160 – 180 | Ø 44 mm x 35 mm lg. | |
| B50330210 | Ø 20 x 210 mm | Ø 175 – 200 | Ø 65 mm x 50 mm lg. | |
| B50330230 | Ø 20 x 230 mm | Ø 195 – 220 | Ø 65 mm x 50 mm lg. | |
| B50330250 | Ø 20 x 250 mm | Ø 215 – 240 | Ø 65 mm x 50 mm lg. | |
| B50330270 | Ø 20 x 270 mm | Ø 235 – 260 | Ø 65 mm x 50 mm lg. | |
| B50330290 | Ø 20 x 290 mm | Ø 255 – 280 | Ø 65 mm x 50 mm lg. | |
| B50330310 | Ø 20 x 310 mm | Ø 275 – 300 | Ø 65 mm x 50 mm lg. | |
| B50330330 | Ø 20 x 330 mm | Ø 290 – 320 | Ø 65 mm x 50 mm lg. | |
| B50330350 | Ø 20 x 350 mm | Ø 310 – 340 | Ø 65 mm x 50 mm lg. | |
| B50380365 | Ø 20 x 365 mm | Ø 325 – 355 | Ø 65 mm x 50 mm lg. | |
| B50330385 | Ø 20 x 385 mm | Ø 345 – 375 | Ø 65 mm x 50 mm lg. | |
| B50330400 | Ø 20 x 400 mm | Ø 360 – 390 | Ø 65 mm x 50 mm lg. | |
| B50330420 | Ø 20 x 420 mm | Ø 380 – 410 | Ø 65 mm x 50 mm lg. | |




**Content of a complete unit:**

(1) Protective Gas Inlet
(2) Protective Gas Outlet
(3) 2 heat-resistant sealing discs
1 lip
(4) 2 nuts
(5) 2 Spacers
(6B) Protective-Gas-Hose-Diffusor* Stainless Steel
flexible
* longer Protective-Gas-Hose-Diffusor see additional price list

(11) hook
(11) 10 m release cable
(12) sintered metal gas outlet

(14) 10m two-ply PVC-hose
5 iØ x 1,5 mm wall and
4 SS-hose clips,
1 coupling DN 5,
1 mouthpiece,
1 Nut G 1/4" R for Argon

# Protective Gas Cylinder - Modular System 2.4

## Heat-resistant sealing discs 1 lip

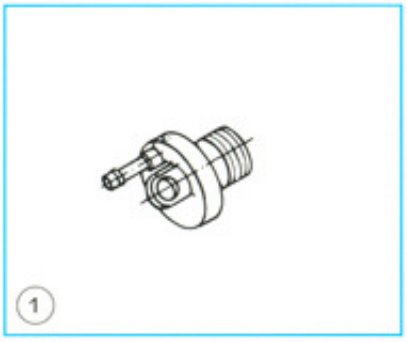
| For disc mounting Ø 15 mm SYSTEM | | | |
|---|---|---|---|
| J 02 2 29 16 | Ø 16 x Ø 80 mm | Ø 68 - 76 mm | |
| J 02 2 29 00 | Ø 16 x Ø 85 mm | Ø 72 - 81 mm | |
| J 02 2 29 01 | Ø 16 x Ø 90 mm | Ø 75 - 86 mm | |
| J 02 2 29 02 | Ø 16 x Ø 95 mm | Ø 80 - 91 mm | |
| J 02 2 29 03 | Ø 16 x Ø 100 mm | Ø 86 - 95 mm | |
| J 02 2 29 04 | Ø 16 x Ø 107 mm | Ø 90 -101 mm | |

**Please note!** From **Ø 16x80 mm** up to **Ø 16x 107 mm**, all sealing discs are suitable and exchangeable

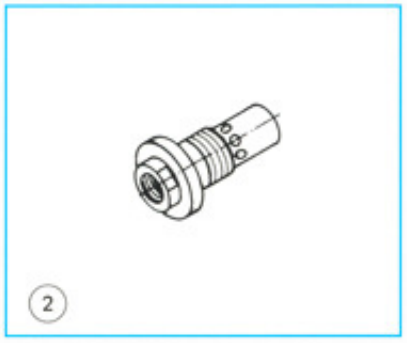
| For disc mounting Ø 20 mm SYSTEM | | | |
|---|---|---|---|
| J 02 2 29 05 | Ø 20 x Ø 115 mm | Ø 100 -112 mm | |
| J 02 2 29 06 | Ø 20 x Ø 125 mm | Ø 105 -120 mm | |
| J 02 2 29 07 | Ø 20 x Ø 137 mm | Ø 118 -132 mm | |
| J 02 2 29 08 | Ø 20 x Ø 145 mm | Ø 120 -140 mm | |
| J 02 2 29 09 | Ø 20 x Ø 160 mm | Ø 135 -155 mm | |
| J 02 2 29 10 | Ø 20 x Ø 175 mm | Ø 145 -165 mm | |
| J 02 2 29 11 | Ø 20 x Ø 190 mm | Ø 160 -180 mm | |
| J 02 2 29 12 | Ø 20 x Ø 210 mm | Ø 175 -200 mm | |
| J 02 2 29 13 | Ø 20 x Ø 230 mm | Ø 195 -220 mm | |
| J 02 2 29 14 | Ø 20 x Ø 250 mm | Ø 215 -240 mm | |
| J 02 2 29 15 | Ø 20 x Ø 270 mm | Ø 235 -260 mm | |
| J 02 2 29 17 | Ø 20 x Ø 290 mm | Ø 255 -280 mm | |
| J 02 2 29 18 | Ø 20 x Ø 310 mm | Ø 275 -300 mm | |
| J 02 2 29 19 | Ø 20 x Ø 330 mm | Ø 290 -320 mm | |
| J 02 2 29 20 | Ø 20 x Ø 350 mm | Ø 310 -340 mm | |
| J 02 2 29 21 | Ø 20 x Ø 365 mm | Ø 325 -355 mm | |
| J 02 2 29 22 | Ø 20 x Ø 385 mm | Ø 345 -375 mm | |
| J 02 2 29 23 | Ø 20 x Ø 400 mm | Ø 360 -390 mm | |
| J 02 2 29 24 | Ø 20 x Ø 420 mm | Ø 380 -410 mm | |

**Please note!** From **Ø 20x115 mm** up to **Ø 20x 420 mm**, all sealing discs are suitable and exchangeable

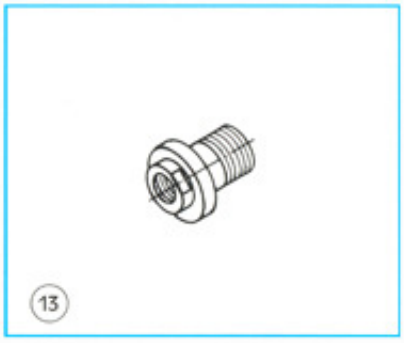
# Accessories for Protective Gas Cylinder



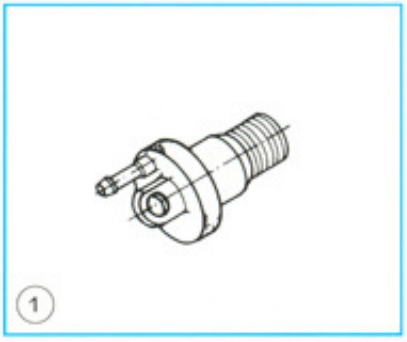

Protective Gas Inlet 15 mm (0.6") diameter. For silicone discs from 15 x 45 mm (0.6" x 1.8") diameter up to 15 x 107 (0.6" x 4.2") diameter.



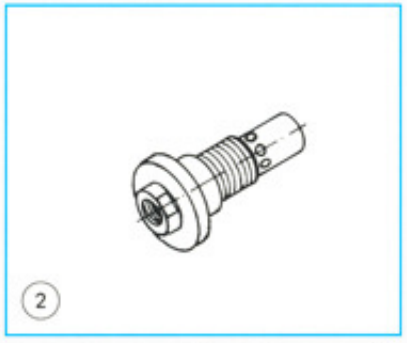

Protective Gas Outlet 15 mm (0.6") diameter. For silicone discs from 15 x 45 mm (0.6" x 1.8") diameter up to 15 x 107 (0.6" x 4.2") diameter.




Protective Gas Pass 15 mm (0.6") diameter. For silicone discs from 15 x 45 mm (0.6" x 1.8") diameter up to 15 x 107 (0.6" x 4.2") diameter.



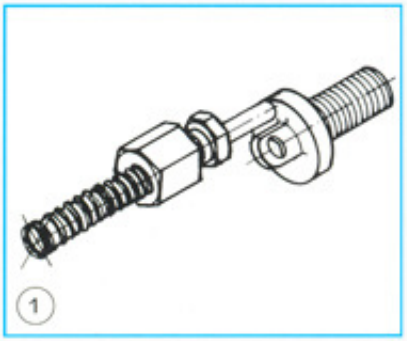

Protective Gas Inlet 20 mm (0.8") diameter. For silicone discs from 20 x 115 mm (0.8" x 4.5") diameter up to 20 x 335 mm (0.8" x 13.2") diameter.



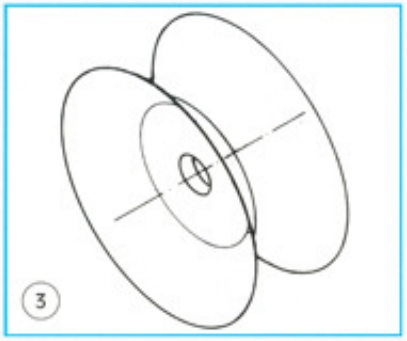

Protective Gas Outlet 20 mm (0.8") diameter. For silicone discs from 20 x 115 mm (0.8" x 4.5") diameter up to 20 x 335 mm (0.8" x 13.2") diameter.



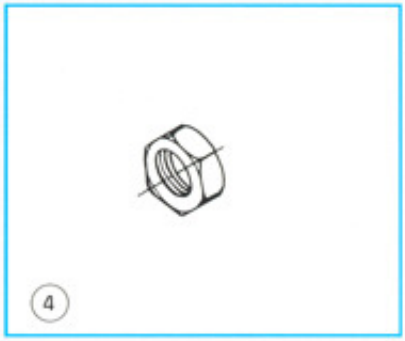

Protective Gas Pass 20 mm (0.8") diameter. For silicone discs from 20 x 115 mm (0.8" x 4.5") diameter up to 20 x 335 mm (0.8" x 13.2") diameter.




Protective Gas Inlet 15 and 20 mm (0.6" and 0.8") diameter.
With connection ⅛ inch for stainless steel tube.

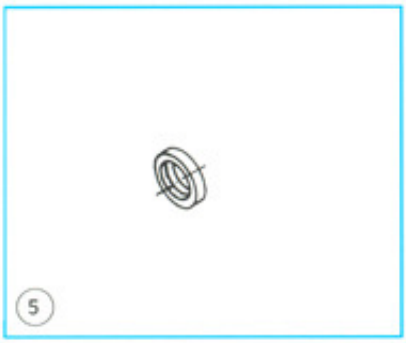



Heat resistant sealing discs 280 °C or 330 °C from 45 mm to 335 mm (1.8" to 13.2") diameter.

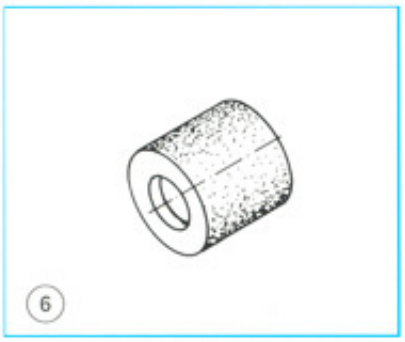



Nut M 16 x 1.5 for protective gas inlets and outlets with 15 mm (0.6") diameter.

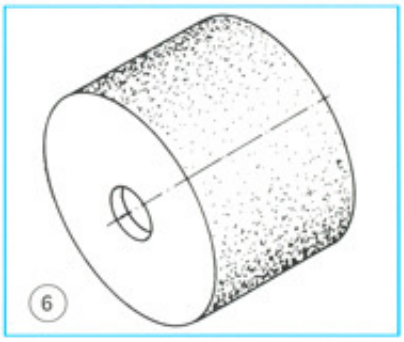
Nut M 20 x 1.5 for protective gas inlets and outlets with 15 mm (0.8") diameter.



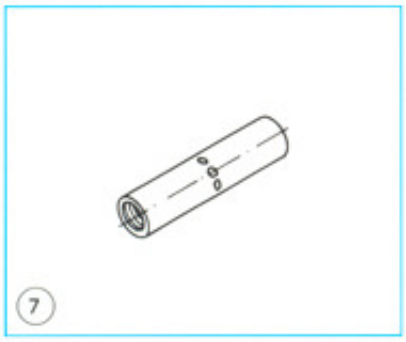

Washer



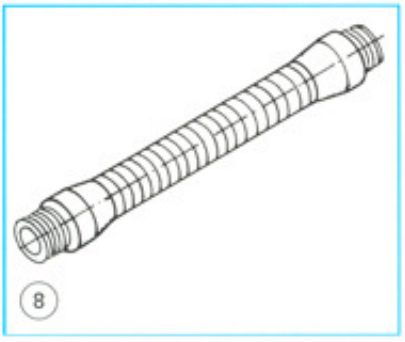

Stainless steel poros metal gas diffuser



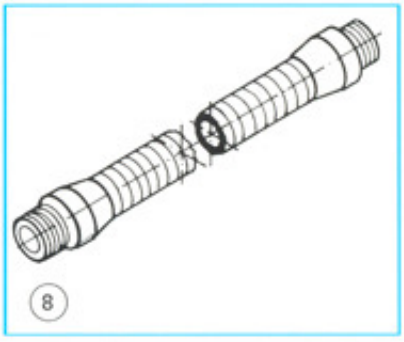

Stainless steel porous metal gas diffuser



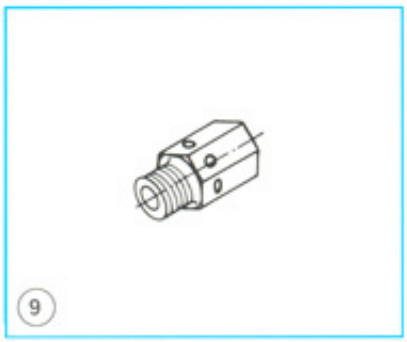

Gas diffuser tubes, fitting for porous metal diffusers as per position 6



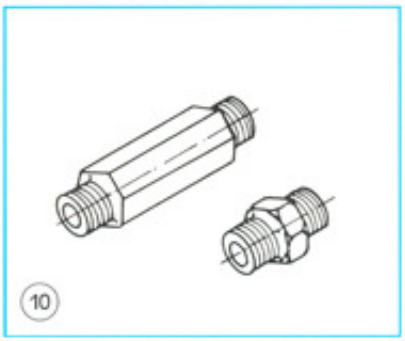

Flexible arms



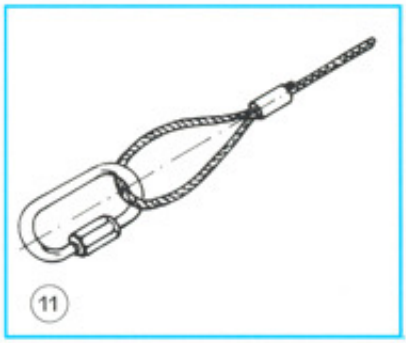

Flexible arms



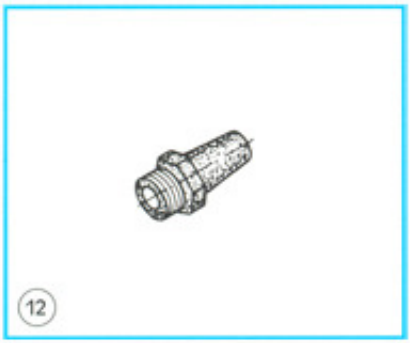

Gas diffuser nozzle, wrench size 14



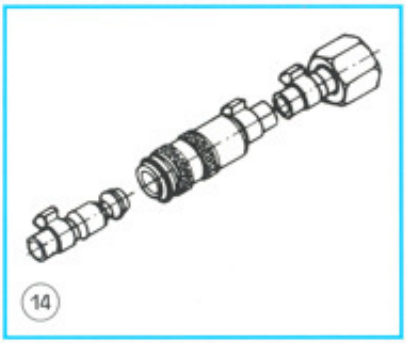

Rigid arms, wrench size 14



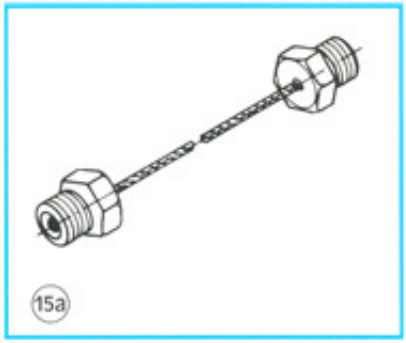

Hook, release cable




Porous metal gas outlet




Gas hose 5 x 8 mm diameter with complete coupling, pressure reducer connection and clamp




Stopper, two pieces with metal rope, remains in pipe when this is blasted

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# Declaration of Symbols

(1) = Protective gas inlet 15 mm (0.6") diameter, for heat resistant sealing discs from 15 x 45 mm (0.6" x 1.8") diameter up to 15 x 107 mm (0.6" x 4.2") diameter

(1) = Protective gas inlet 20 mm diameter, for heat resistant sealing discs from 20 x 115 mm (0.8" x 4.5") diameter up to 20 x 335 mm (0.8" x 13.2") diameter

(2) = Protective gas outlet 15 mm (0.6") diameter, for heat resistant sealing discs from 15 x 45 mm (0.6" x 1.8") diameter up to 15 x 107 mm (0.6" x 4.2") diameter

(2) = Protective gas outlet 20 mm (0.8") diameter, for heat resistant sealing discs from 20 x 115 mm (0.8" x 4.5") diameter up to 120 x 335 mm (4.7" x 13.2") diameter

(3) = Heat resistant sealing discs, 280 °C or 330 °C

(4) = Nut M16 x 1.5 for protective gas inlets and outlets with 15 mm (0.6") diameter
Nut M20 x 1.5 for protective gas inlets and outlets with 20 mm (0.8") diameter

(5) = Washer

(6) = Stainless steel porous gas diffuser

(7) = Gas diffuser tubes, fitting for porous metal diffusers as position 6

(8) = Flexible arms

(9) = Gas diffuser nozzle, wrench size 14

(10) = Rigid arms, wrench size 14

(11) = Hook, stainless steel release cable

(12) = Porous metal gas outlet

(13) = Protective gas pass 15 mm (0.6") diameter, for heat resistant sealing discs from 15 x 45 mm (0.6" x 1.8") diameter up to 15 x 107 mm (0.6" x 4.2") diameter

(13) = Protective gas pass 20 mm diameter, for silicone discs from 20 x 115 mm diameter up to 20 x 335 mm (0.8" x 13.2") diameter

(14) = Gas hose 5 x 8 mm diameter with complete coupling, pressure reducer connection and clamp

(15) = Stopper, M10 x 1

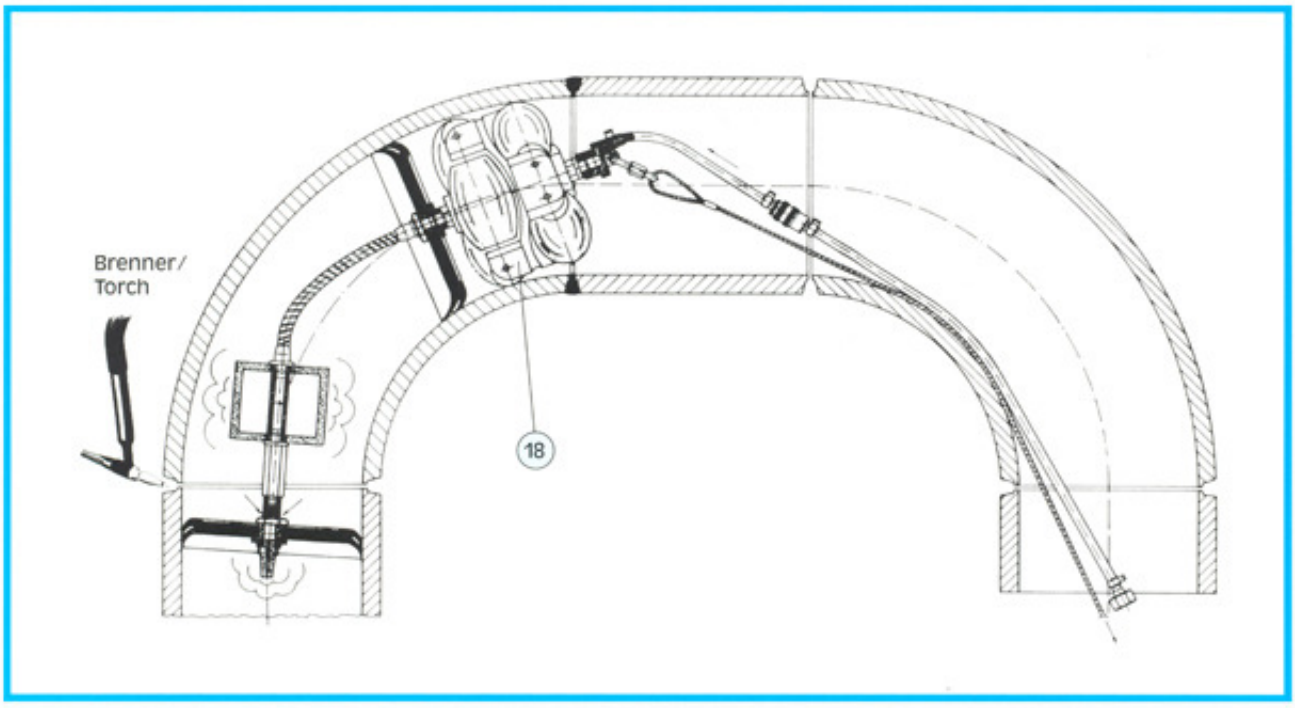
(16) = Oxygen measuring probe or gas outlet

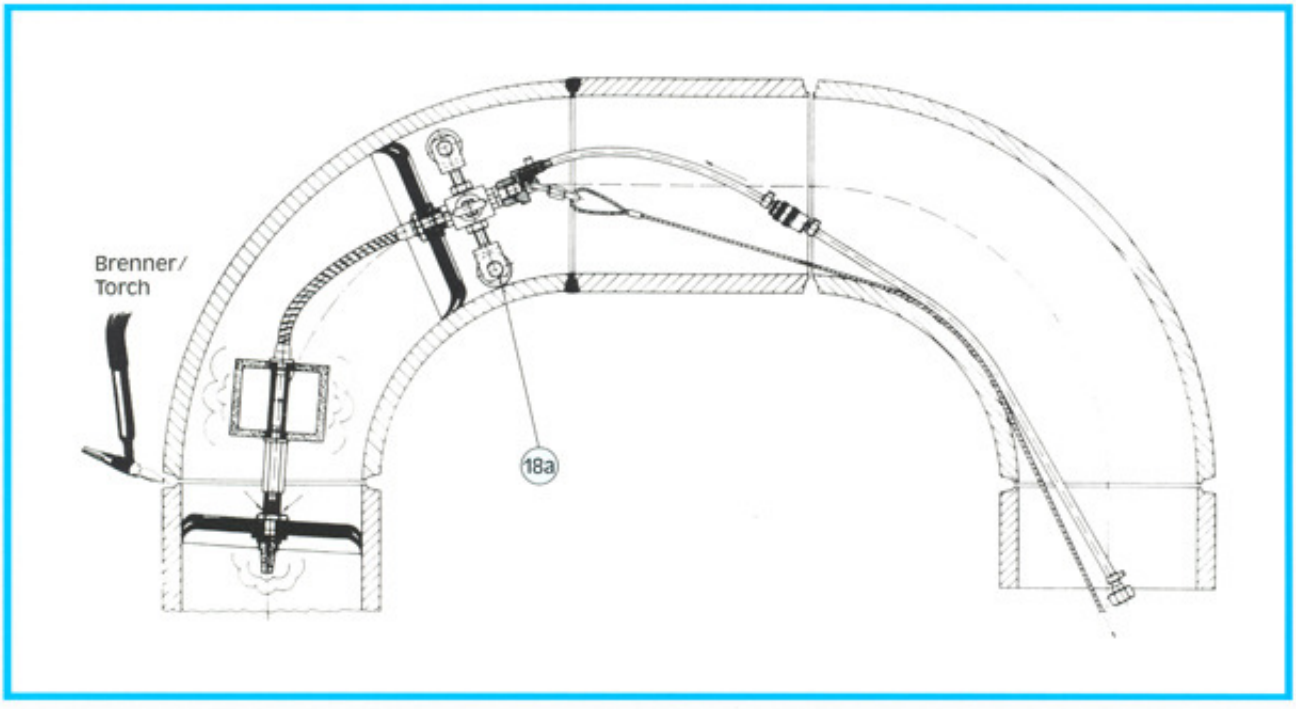
(17) = Oxygen measuring hose, 5 x 3 mm diameter

(18) = Bended pipe device, rollers, plastic/stainless steel, sizes: 40/60/80/120 mm (1.6/2.4/3.1/4.7") diameter

(18a) = Bended pipe device, cubic-shaped with guiding rollers, stainless steel, diameters: min. 105 mm – max. 165 mm (4.1" up to max. 6.5")

(18b) = Bended pipe device, cross-shaped with guiding rollers,
Size I: 170–260 mm diameter (6.7–10.2")
Size II: 250–340 mm diameter (9.8–13.4")
Size III: 330–420 mm diameter (13.0–16.5")

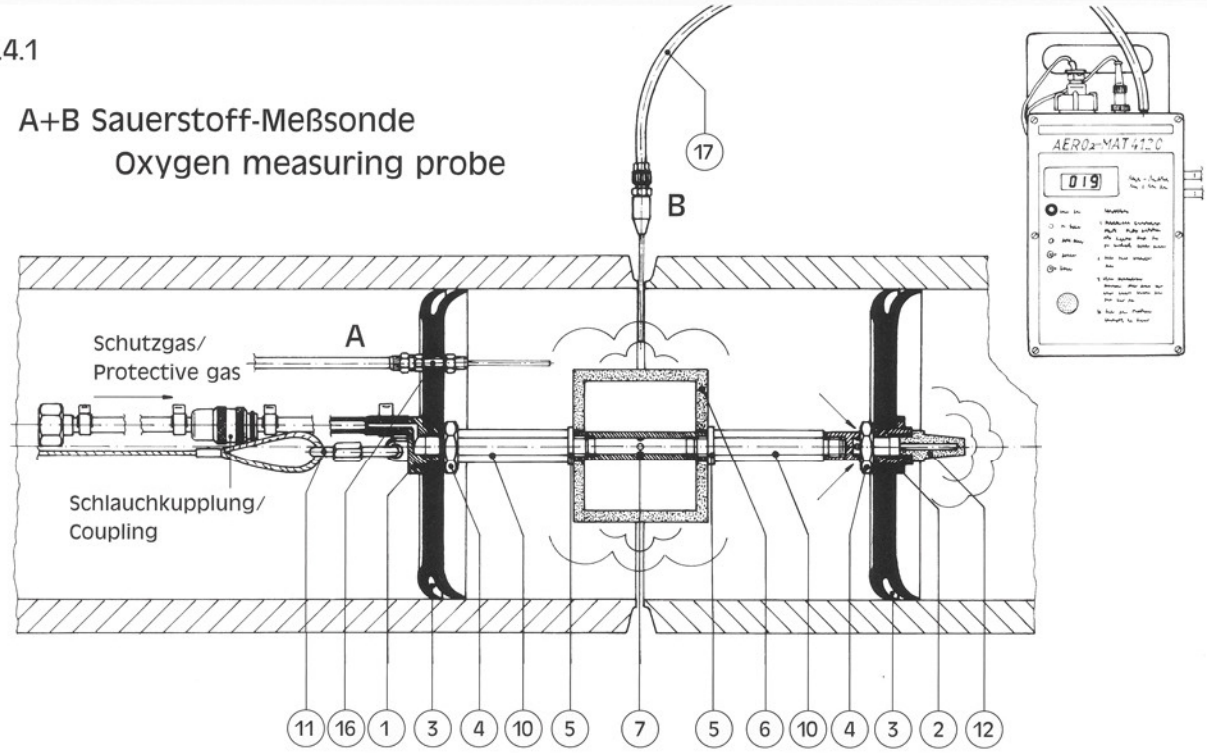


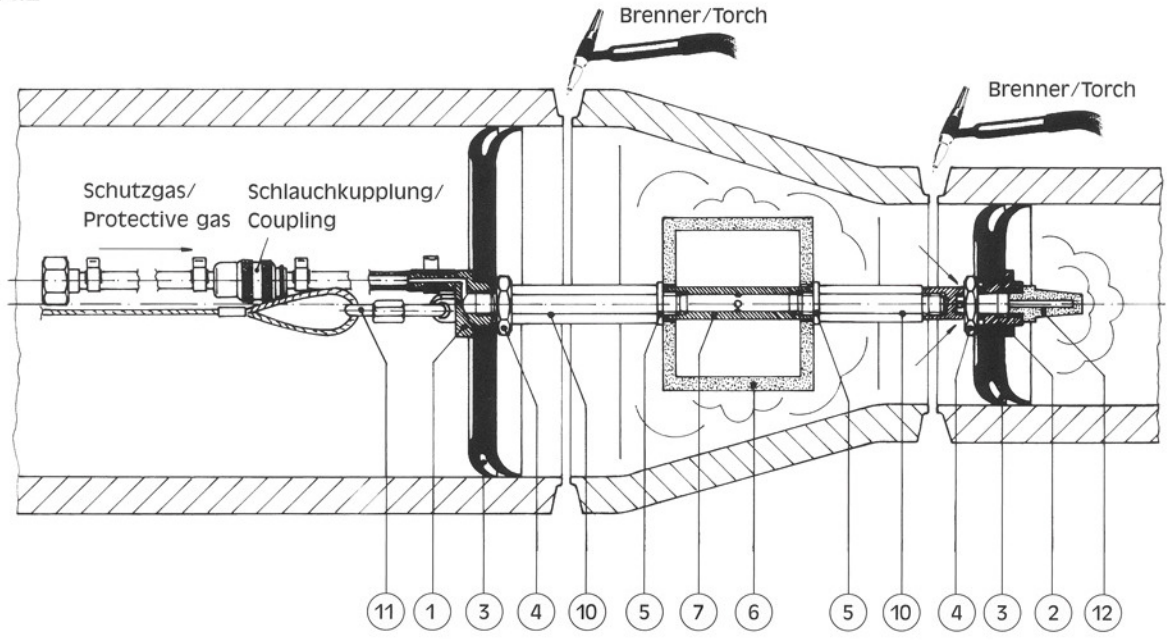

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2.4.1

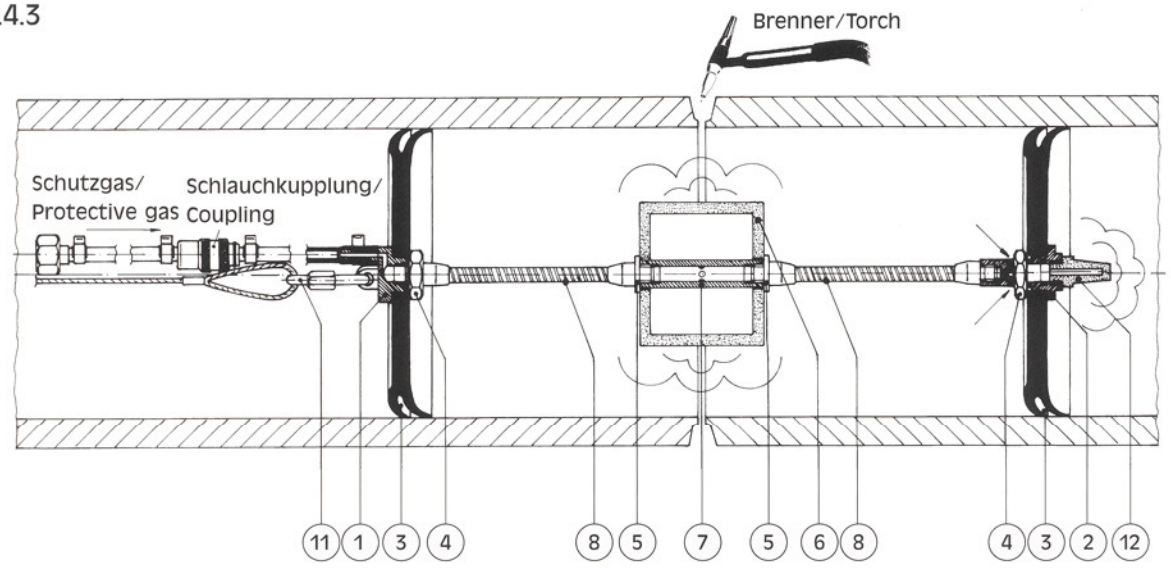
## A+B Sauerstoff-Meßsonde
## Oxygen measuring probe



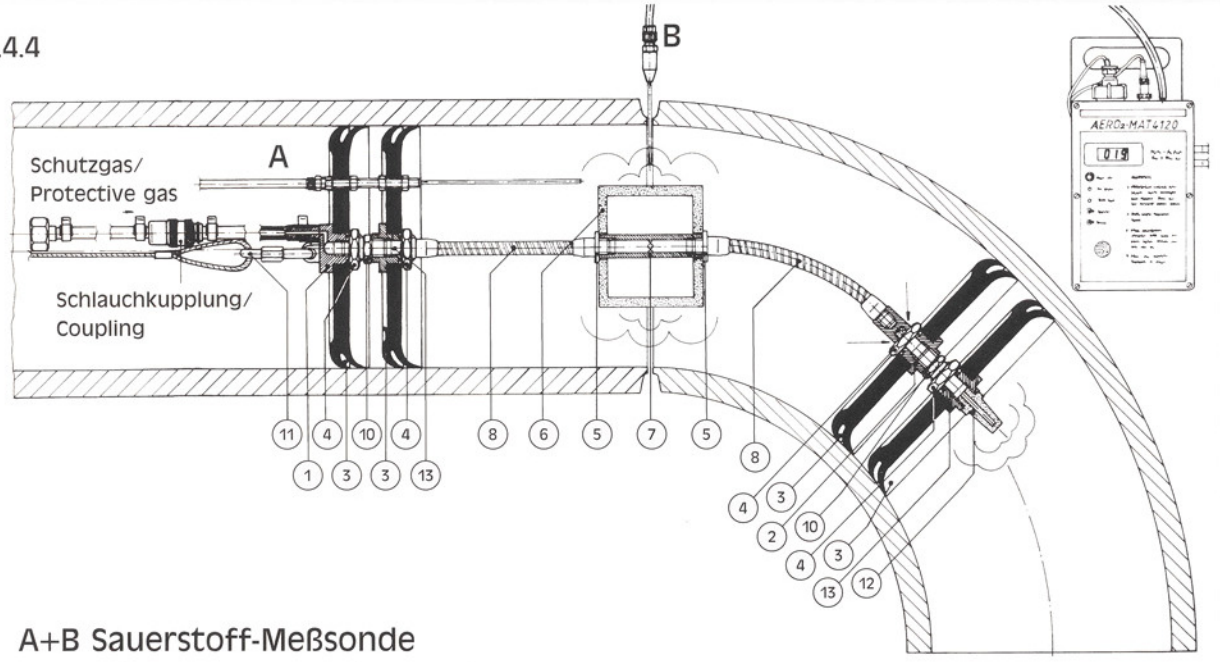

2.4.2



2.4.3



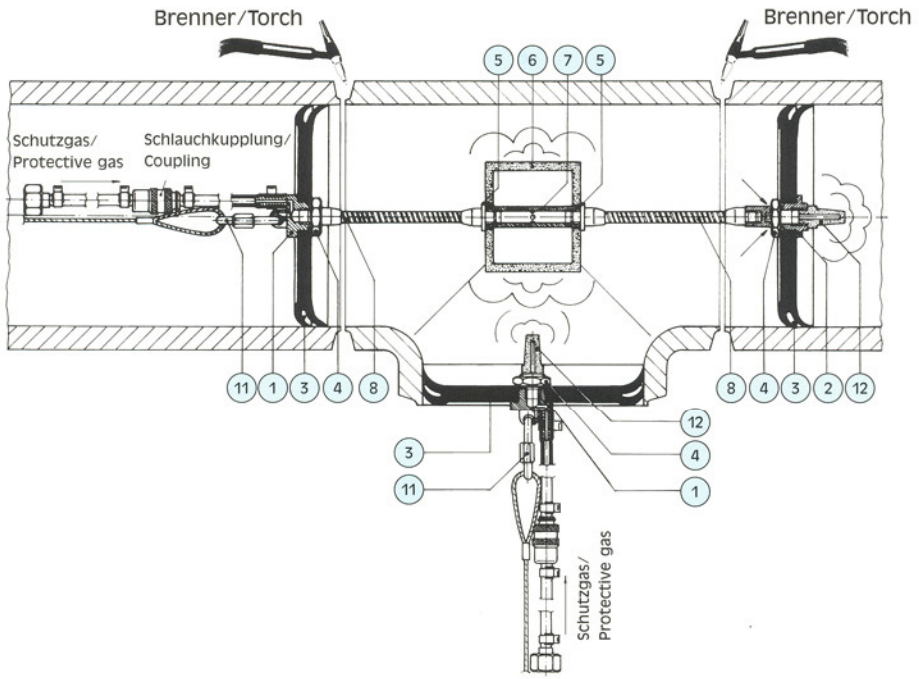

2.4.4



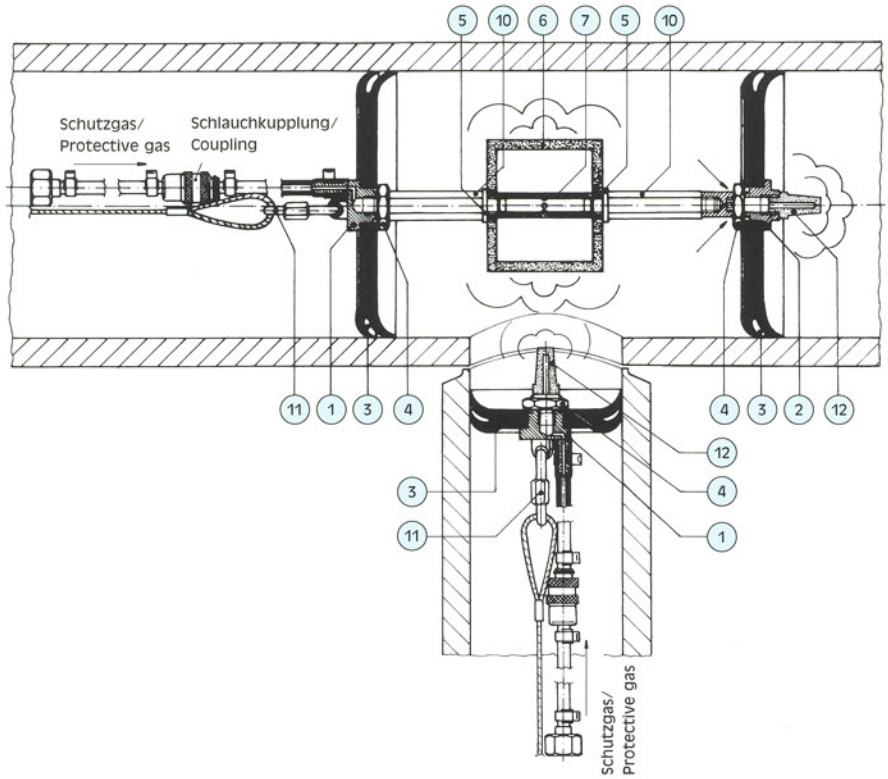

A+B Sauerstoff-Meßsonde
Oxygen measuring probe

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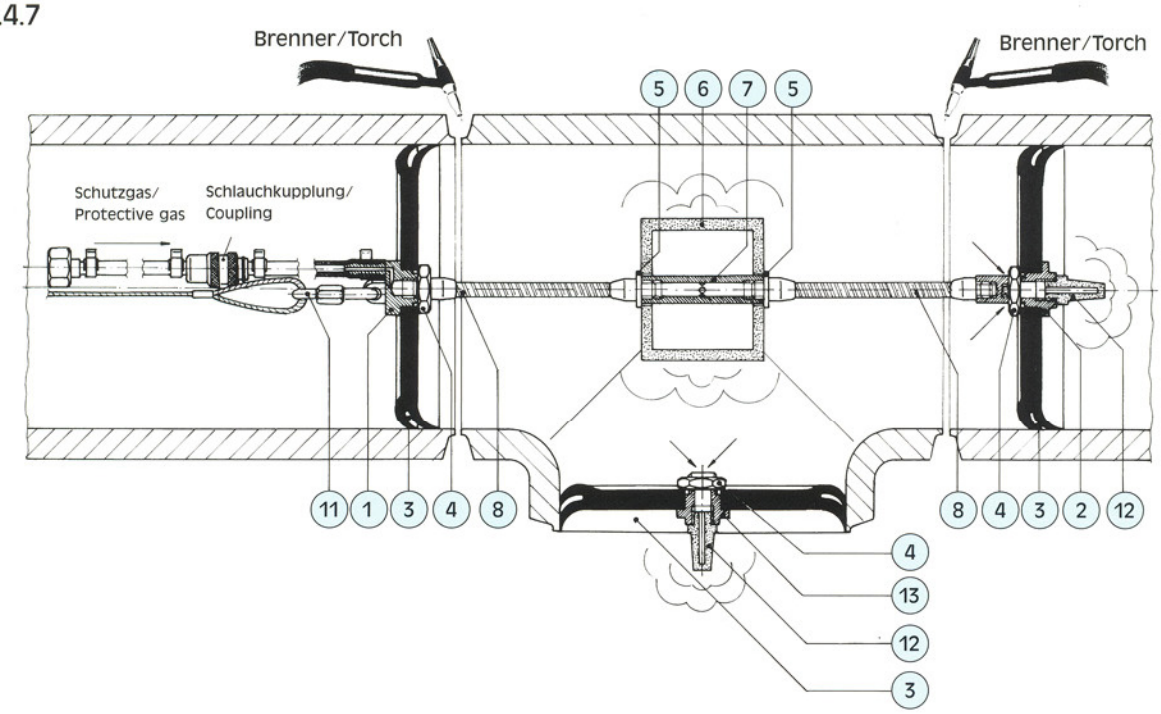
2.4.5


Brenner/Torch
Brenner/Torch
5 6 7 5
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11 1 3 4 8
8 4 3 2 12
12
4
3
11
1
Schutzgas/
Protective gas

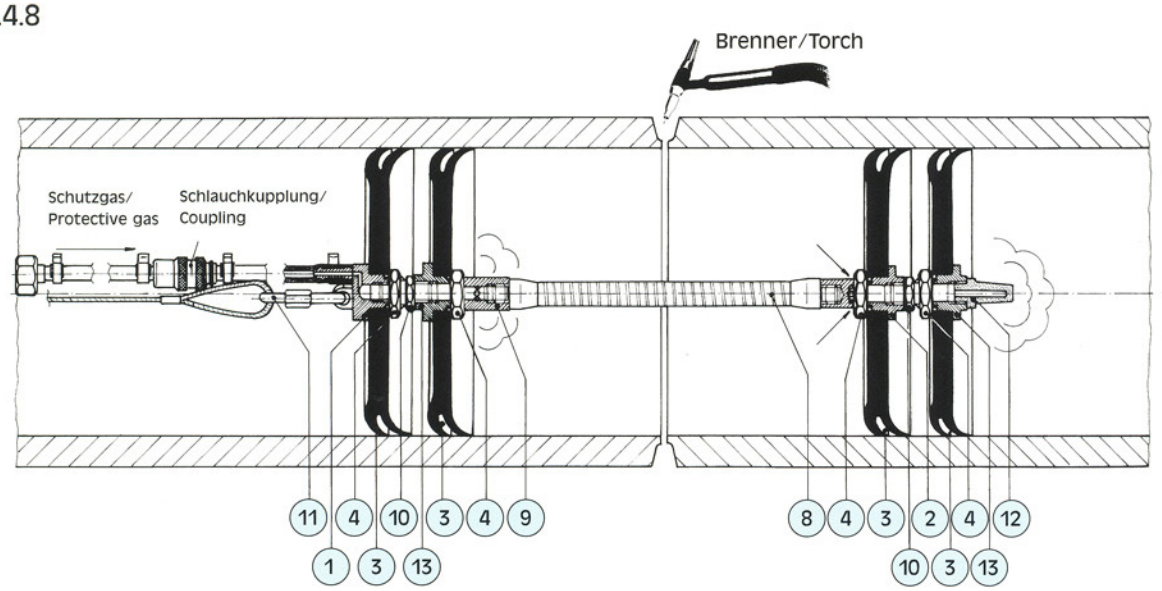
2.4.6


5 10 6 7 5 10
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11 1 3 4
4 3 2 12
12
4
3
11
1
Schutzgas/
Protective gas

2.4.7

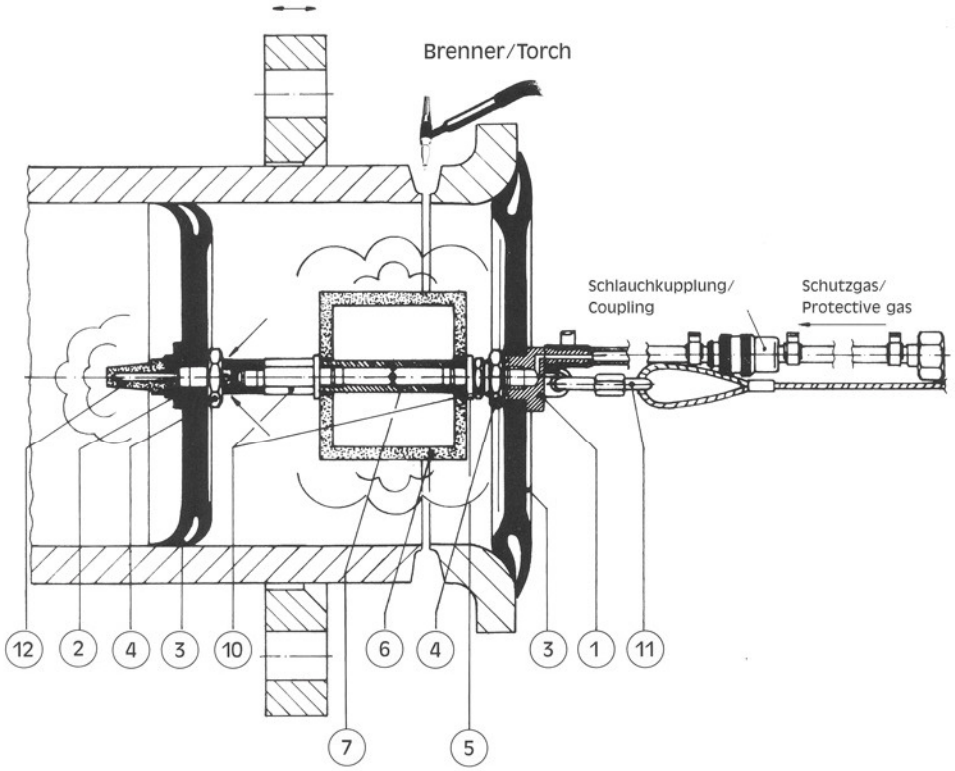



2.4.8

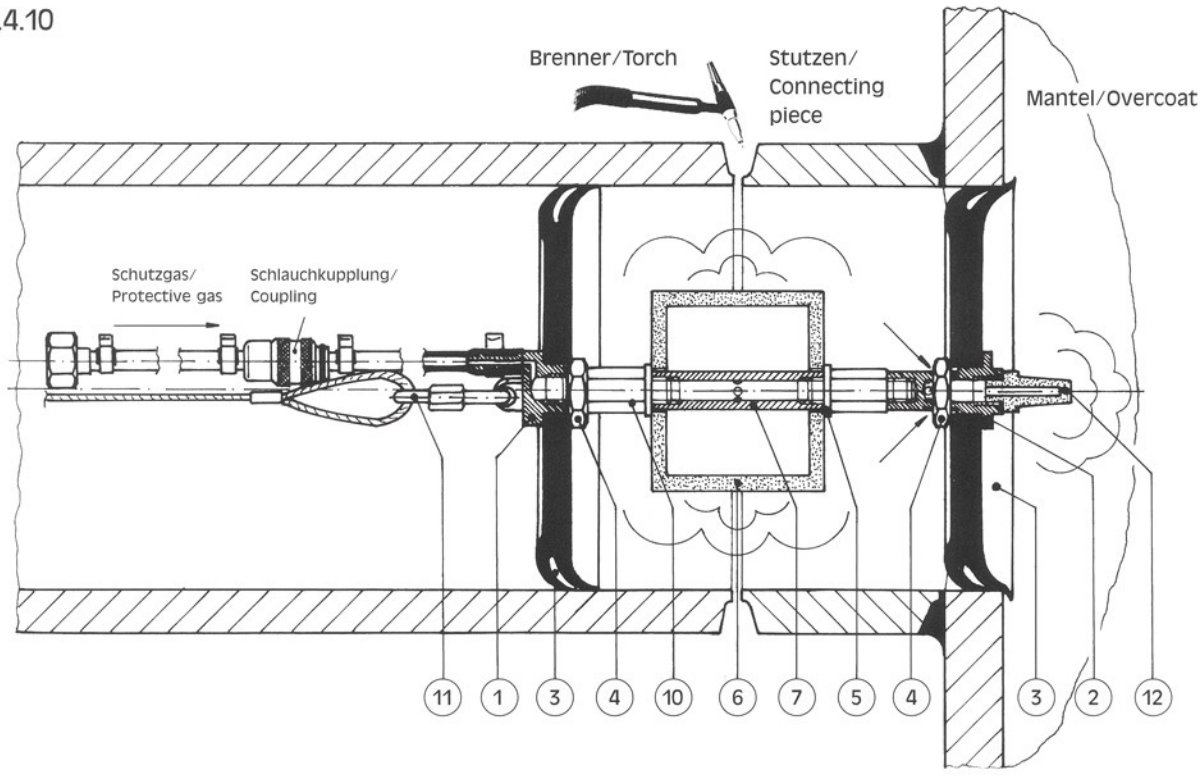



Printed in Germany

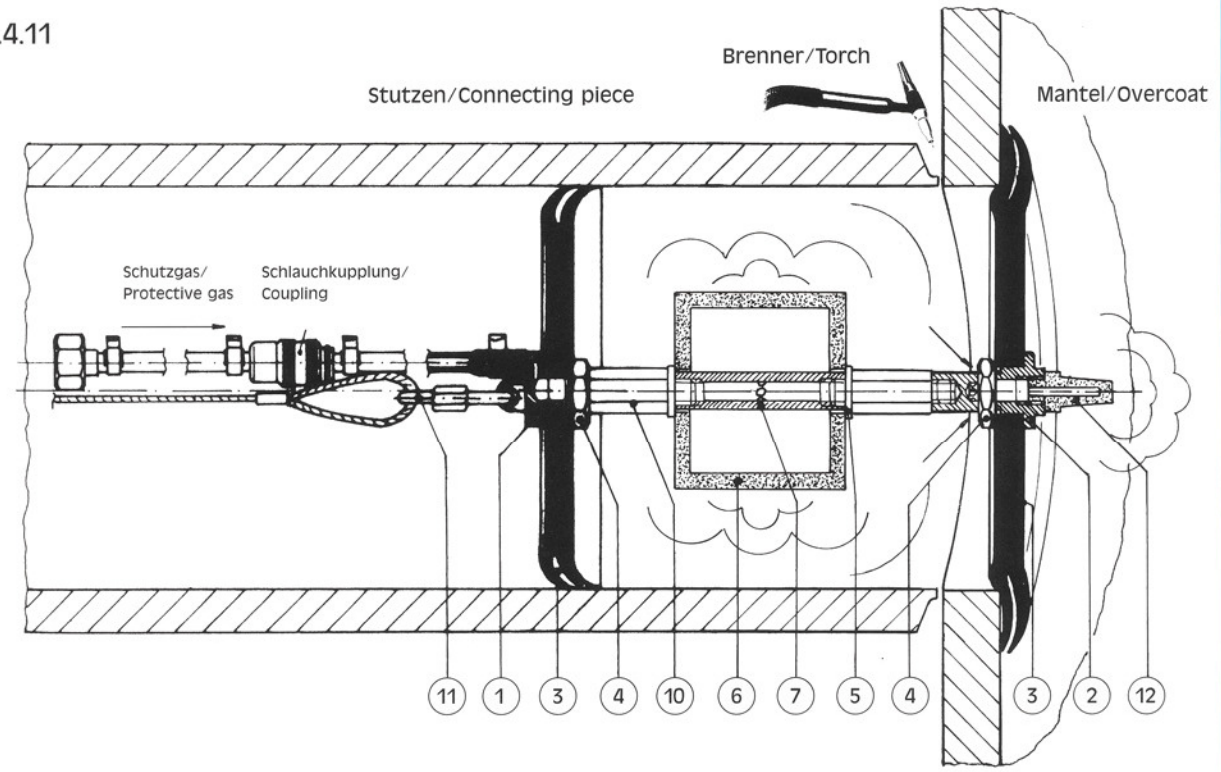
2.4.9


Brenner/Torch
Schlauchkupplung/
Coupling
Schutzgas/
Protective gas
12
2
4
3
10
6
4
3
1
11
7
5

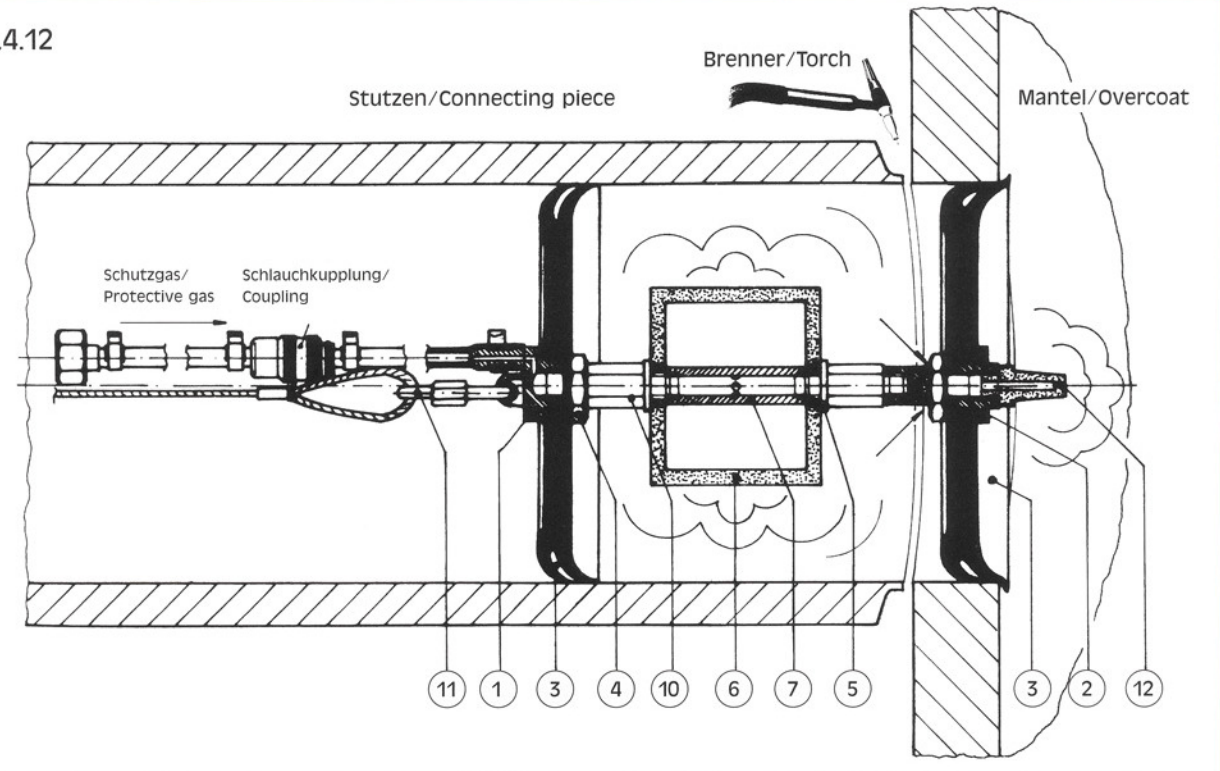
2.4.10


Brenner/Torch
Stutzen/
Connecting
piece
Mantel/Overcoat
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11
1
3
4
10
6
7
5
4
3
2
12

2.4.11

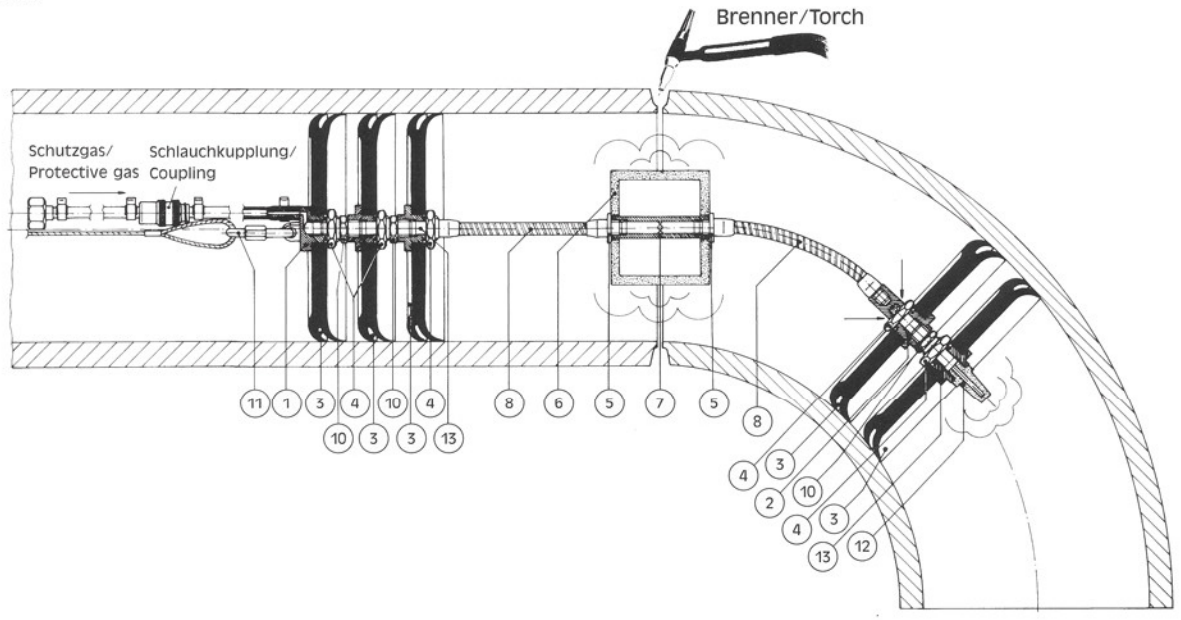



2.4.12

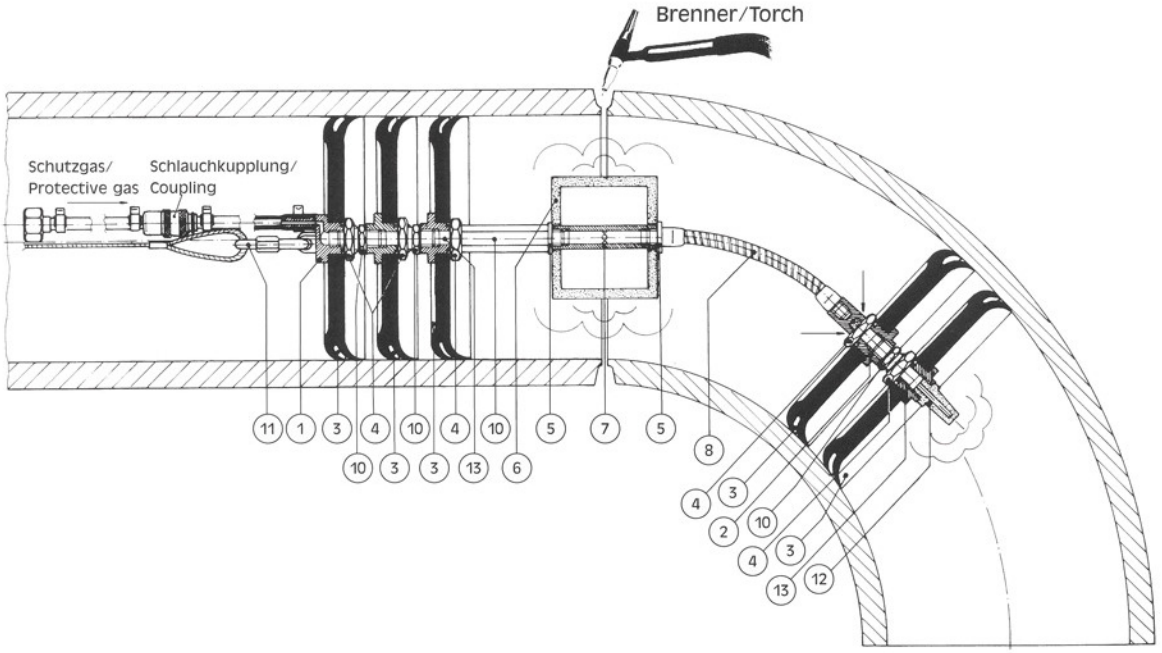



Printed in Germany

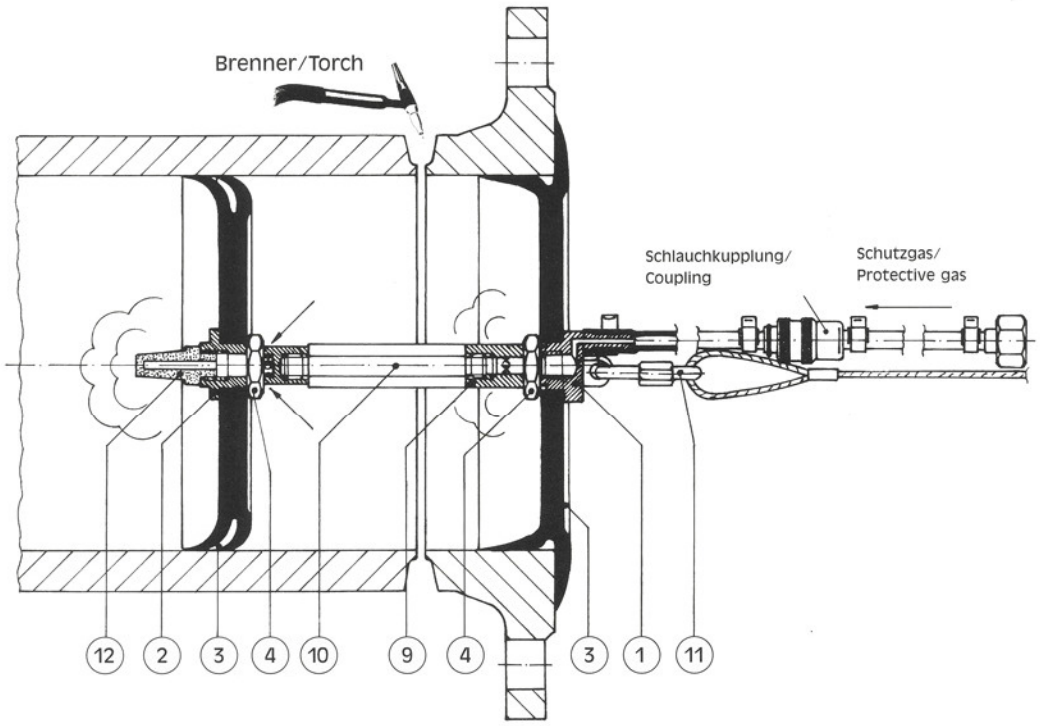
2.4.13


Brenner/Torch
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11 1 3 4 10 4 8 6 5 7 5 8
10 3 3 13
4 3
2 10
4 3
13 12

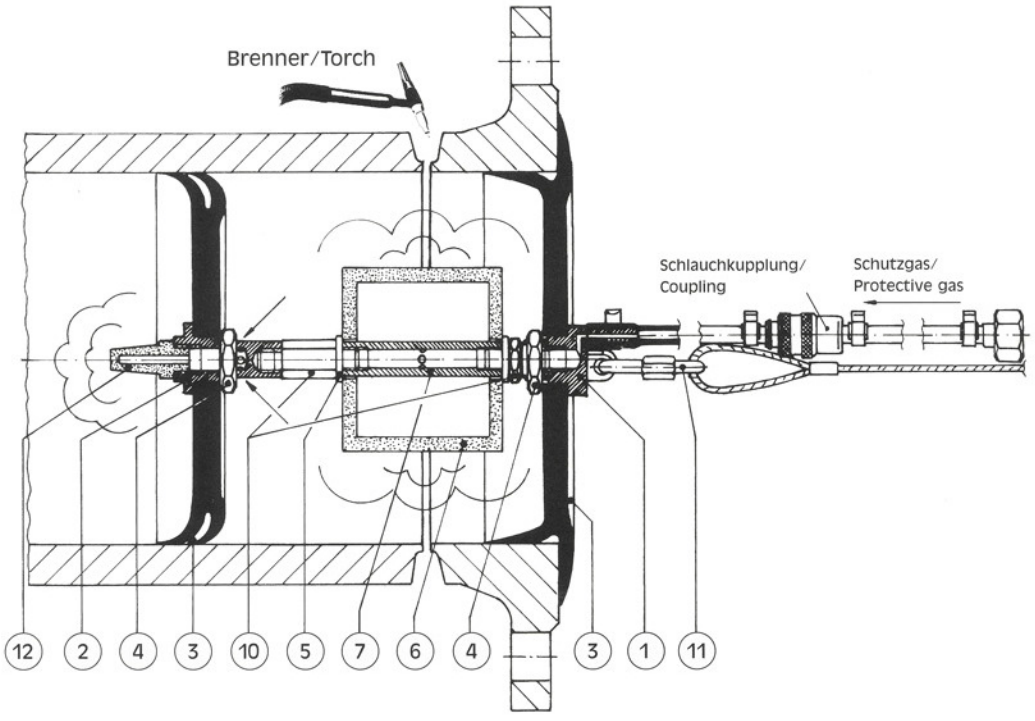
2.4.14


Brenner/Torch
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11 1 3 4 10 4 10 5 7 5 8
10 3 3 13 6
4 3
2 10
4 3
13 12

2.4.15

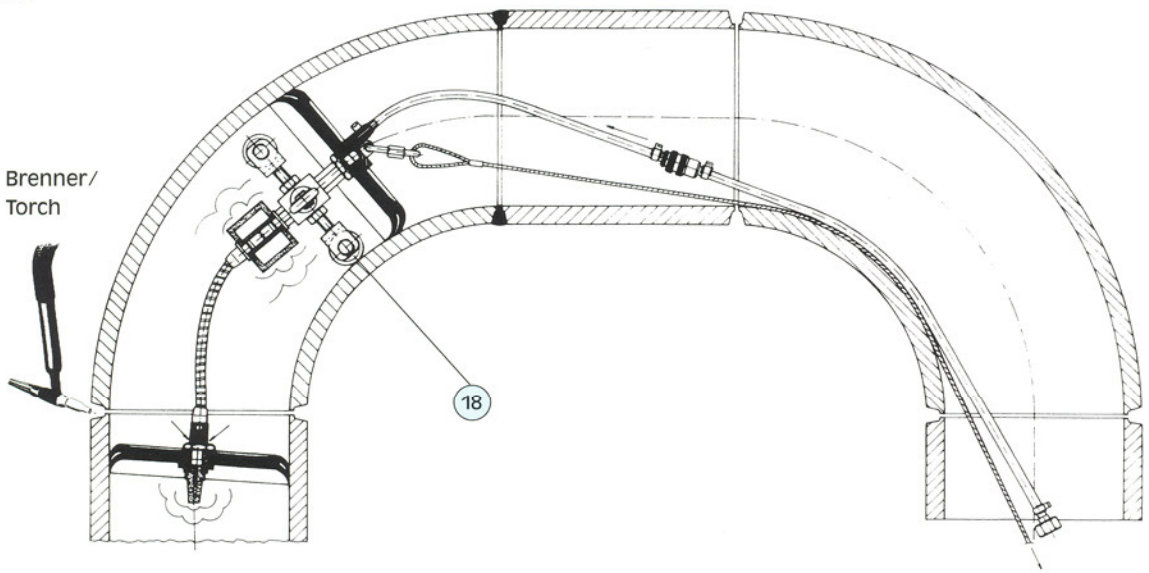



2.4.16

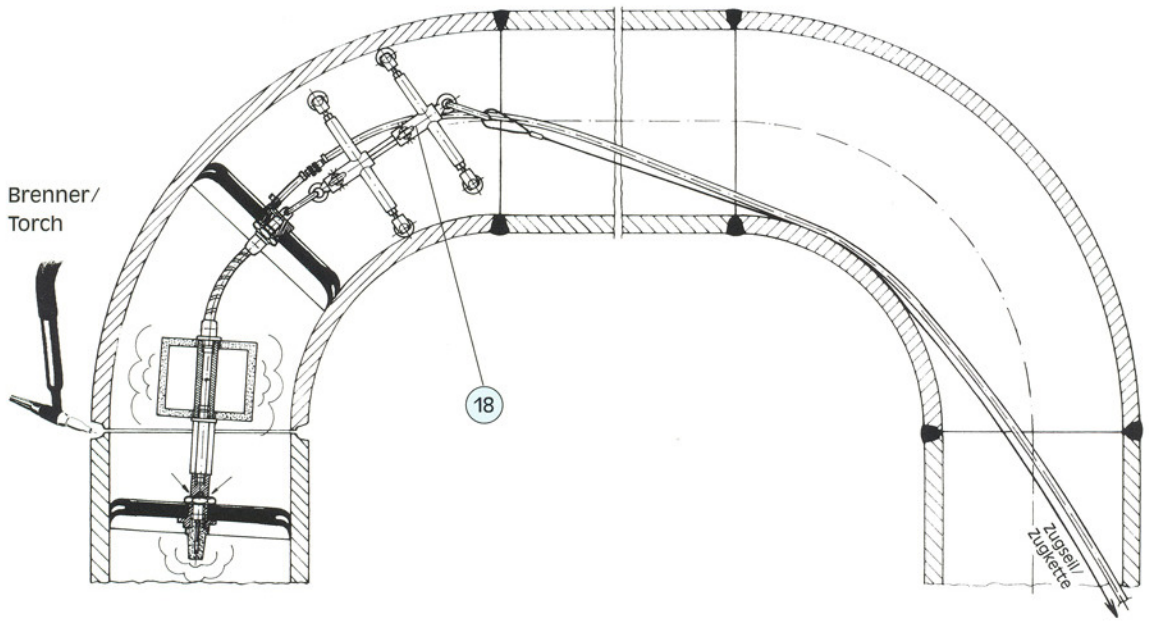



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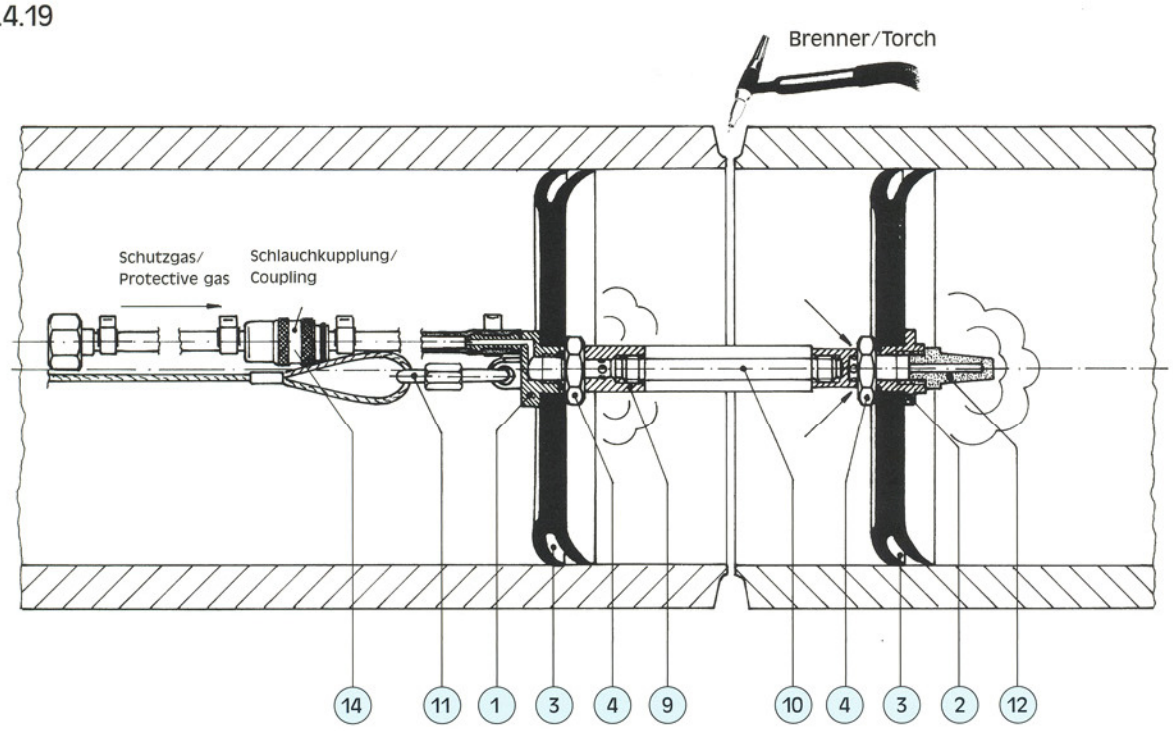
2.4.17



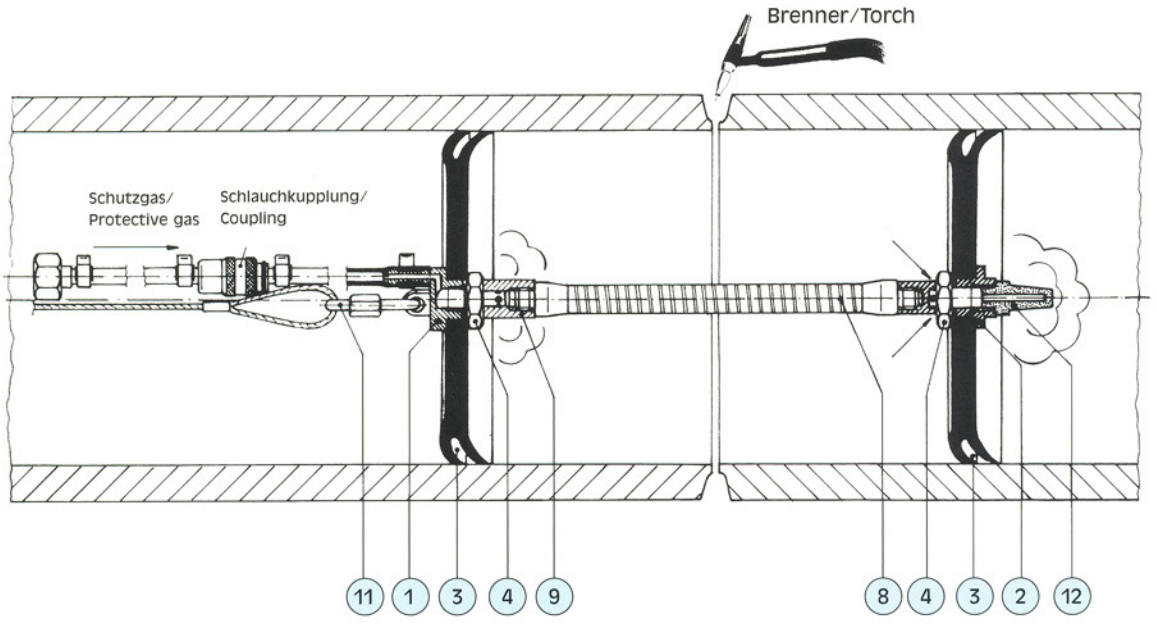

2.4.18



2.4.19

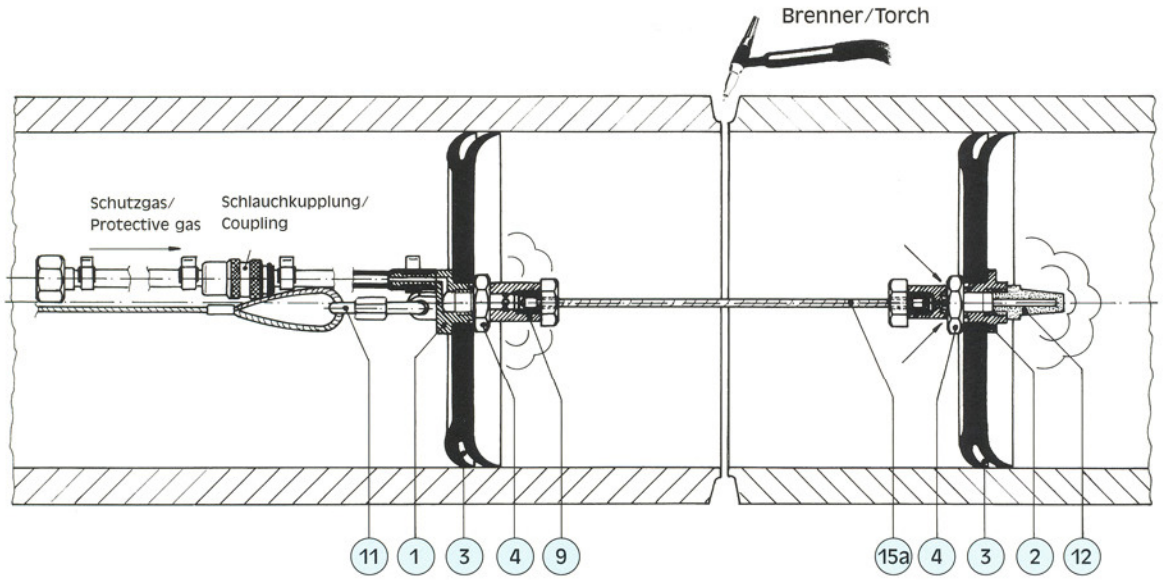



2.4.20

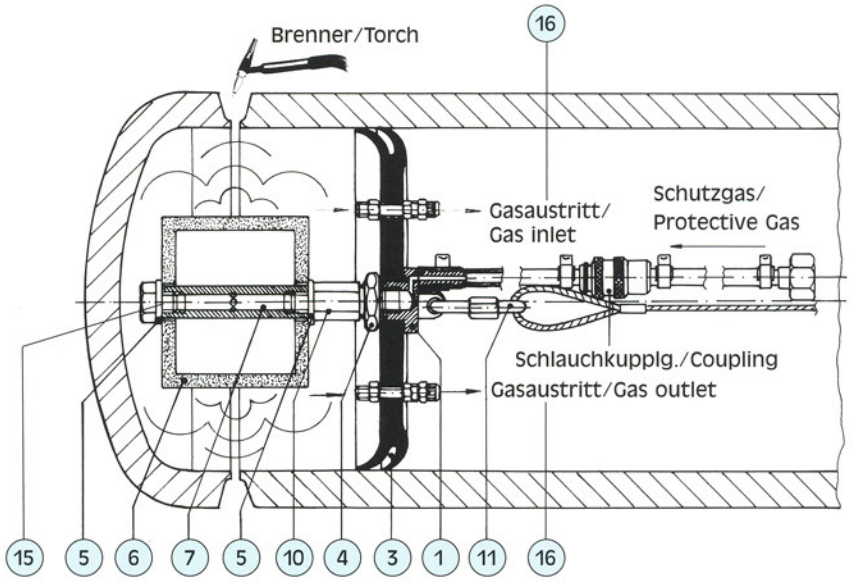



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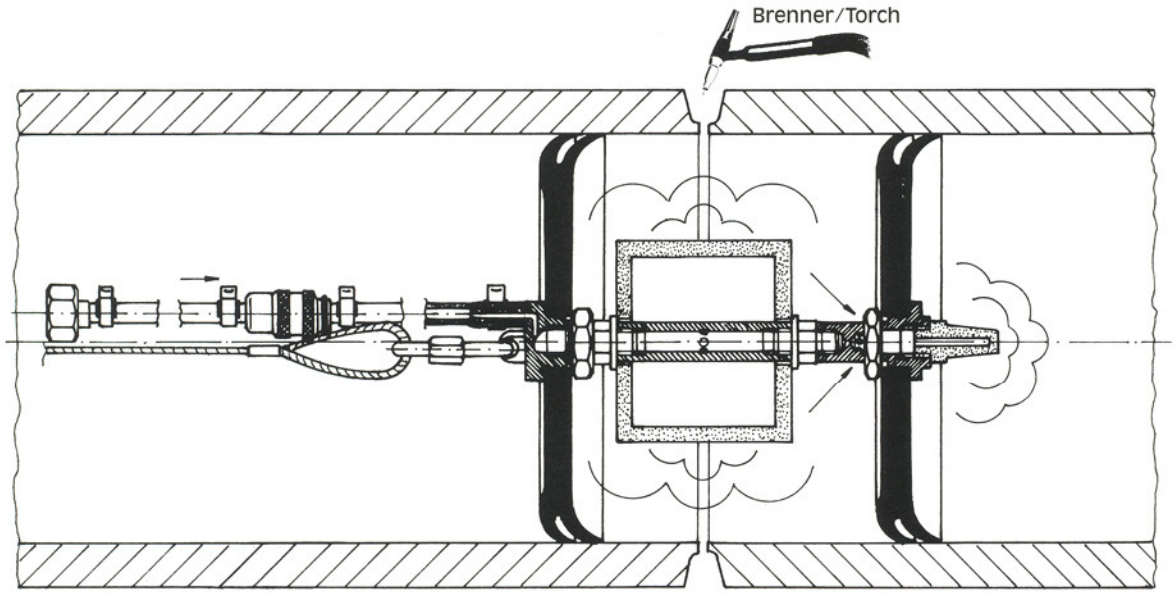
2.4.21


Brenner/Torch
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11
1
3
4
9
15a
4
3
2
12

2.4.22

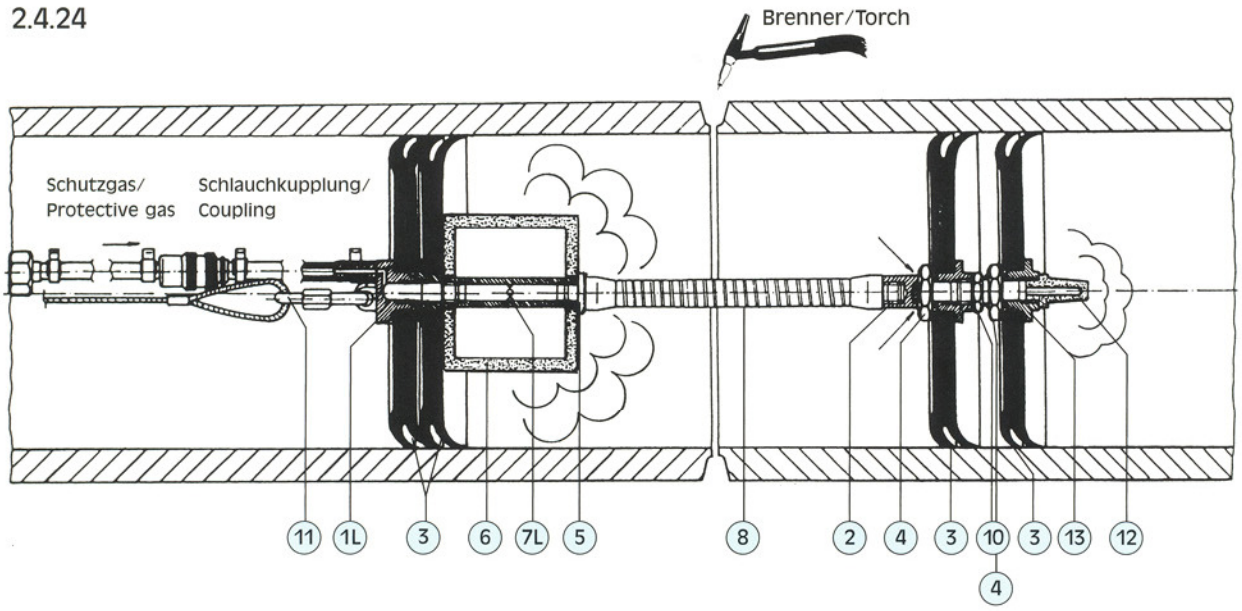

Brenner/Torch
16
Gasaustritt/
Gas inlet
Schutzgas/
Protective Gas
Schlauchkupplg./Coupling
Gasaustritt/Gas outlet
15
5
6
7
5
10
4
3
1
11
16

2.4.23

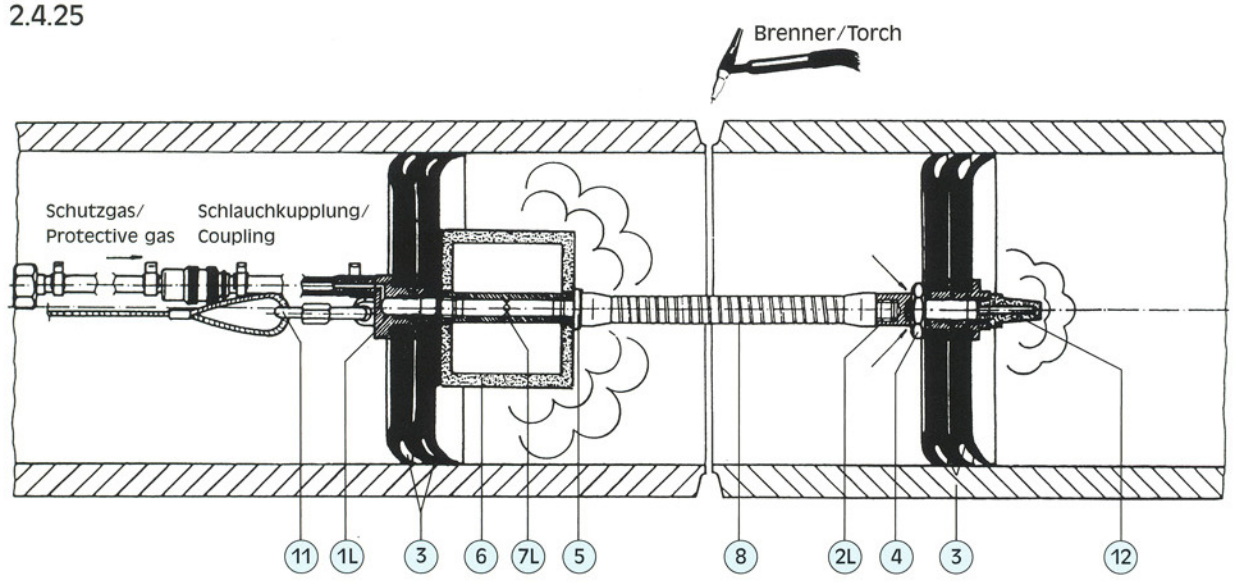



Printed in Germany

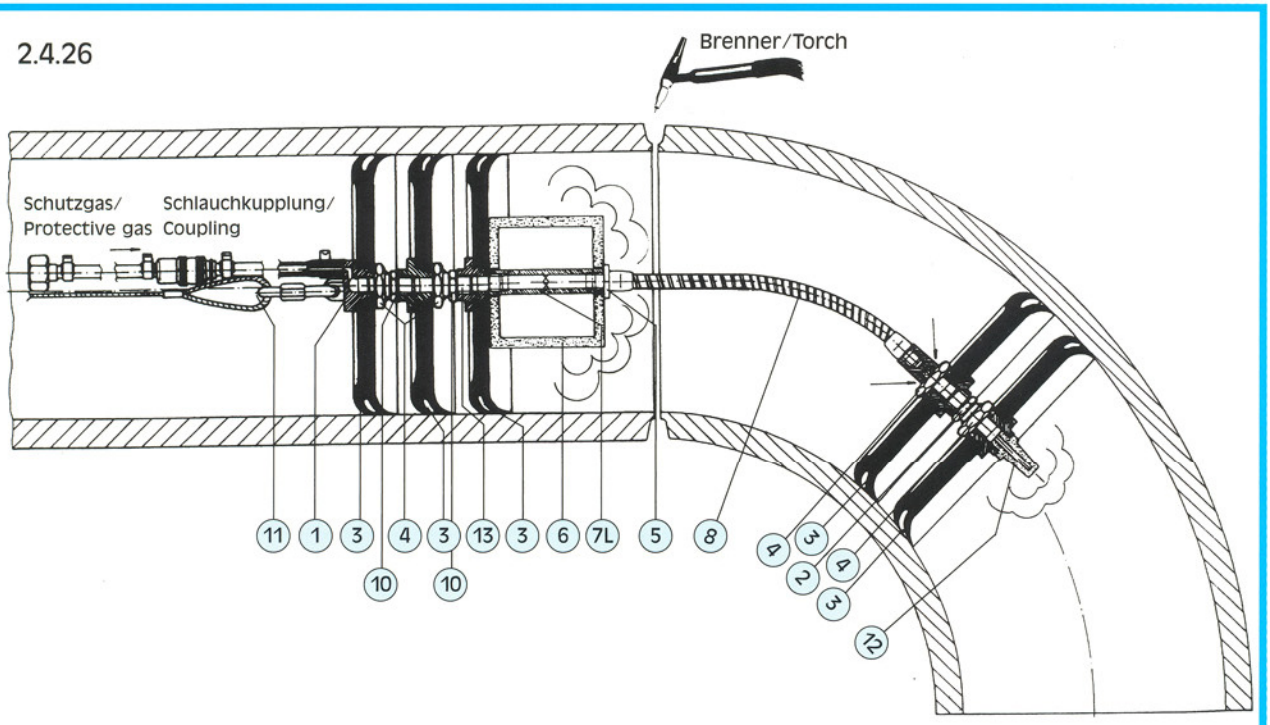
2.4.24


Brenner/Torch
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11
1L
3
6
7L
5
8
2
4
3
10
4
3
13
12

2.4.25


Brenner/Torch
Schutzgas/
Protective gas
Schlauchkupplung/
Coupling
11
1L
3
6
7L
5
8
2L
4
3
12

2.4.26




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# Purging Cylinder
# Universal System

For welding seams on pipes and containers from 38 up to 400 mm ø. The system can be equipped with one, two or four lipped sealing disks. The system can be connected to an oxygen indicator to determine the amount of remaining oxygen.

---




Universal system with ball-and-socket joint




Universal system with flexible arm

When welding authentic Cr-Ni-steel, titanium or zirconium the amount of the remaining oxygen in the used **protective gas should significantly be low than 0,1 %-Vol.-% to safeguard** the quality of the welding seam.

## Oxidation / Tempering colours

Results of a Testing series with material 1.4571/TP 316

Please compare:



Argon 12 Vppm



Argon 80 Vppm



Argon 0,1 Vol.-%

The customary inert and protective gases contain an amount of remaining oxygen of appox. 10 Vol ppm. This amount of remaining oxygen should be the goal. Oxygen indicators serve to determine the amount of remaining oxygen and to ensure a high standard of quality. Please refer to our "Practical recommendations" in our catalogue, category 2.

The Protective Gas Cylinder Universal System ensures a high standard of quality.

The advantages in a glance:

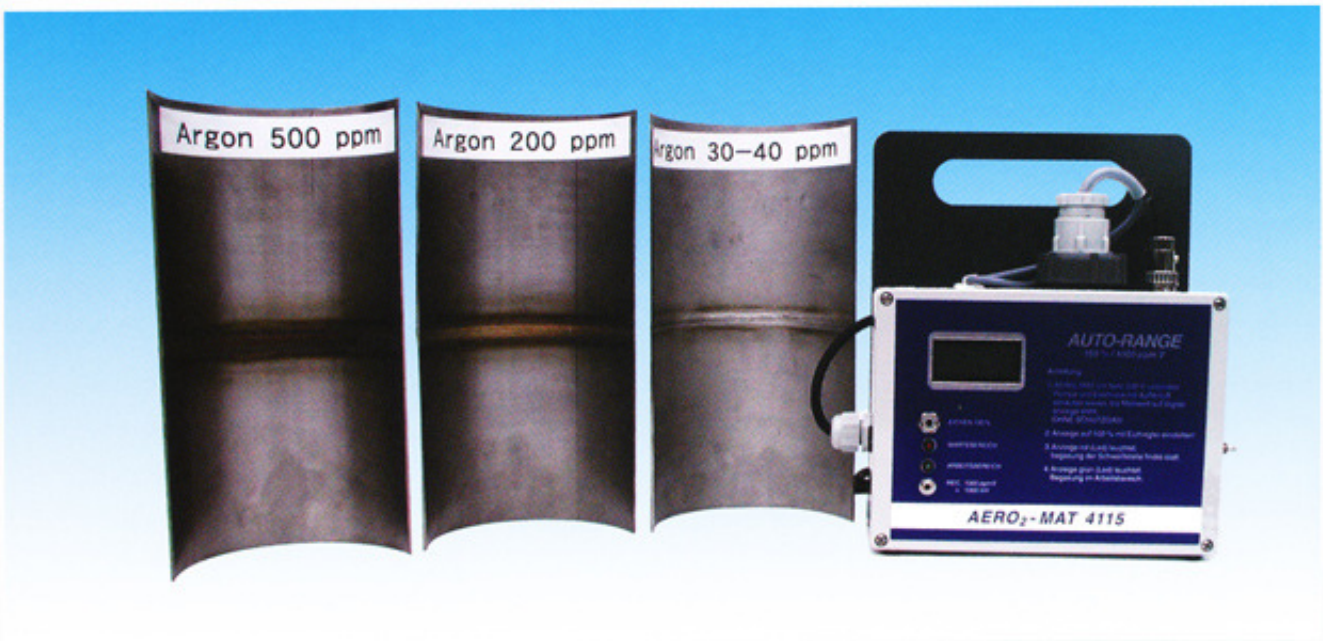
- for all type of welding seams
- for all types of welding methods
- for all types of materials
- highly heat-resistant sealing disks
- the protective gas consumption is effectively reduced by two measures:

  1. the flushing chamber design is so efficient that the flushing volume can be reduced to a minimum

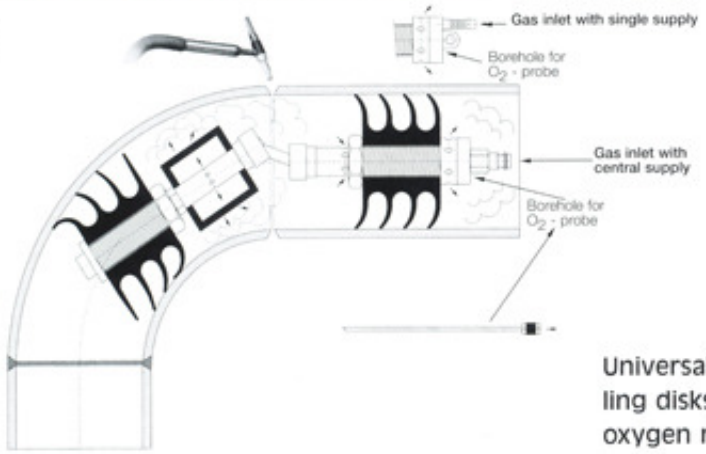
  2. the flushing time can be reduced to only 1-2 minutes

- the system is endurable and therefore suitable also for using in workshops and on-site erection
- this system is being delivered in a premounted status
- The system can be disassembled
- Each Universal System can be produced or supplementary equipped with an oxygen probe Ø 2,5 mm. The quality of a welding seam depends on the remaining oxygen. The amount of the remai ning oxygen can be determined quickly and precisely with our oxygen indica tors.

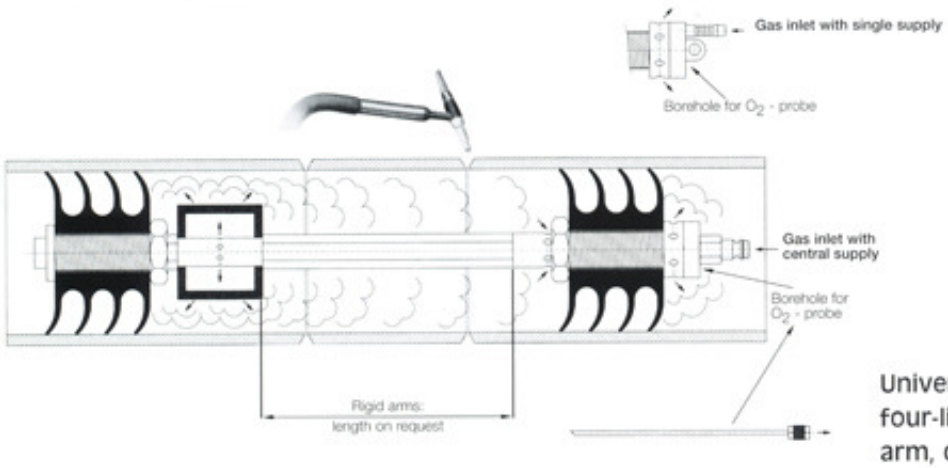
The oxygen indicators serve to determine the remaining amount of oxygene (lowest measurement value 1 ppm Vol.)



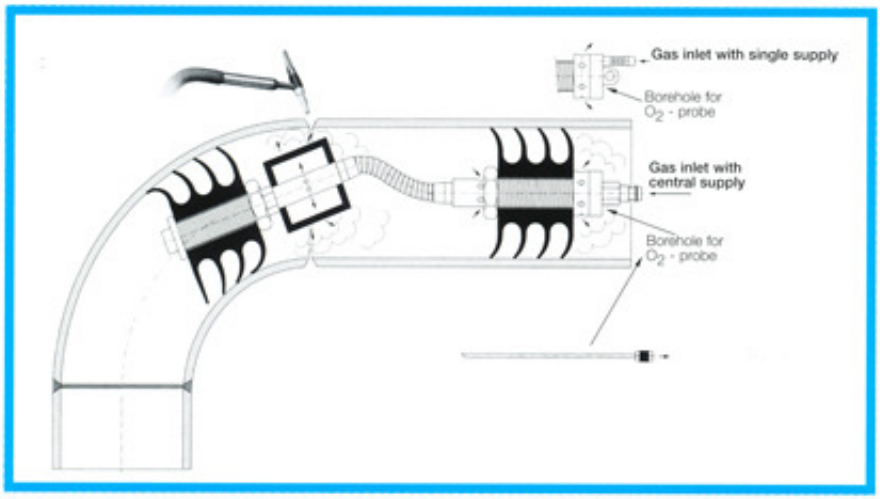

On your requirement we can deliver several different types of oxygen indicators (230 or 115 Volt).



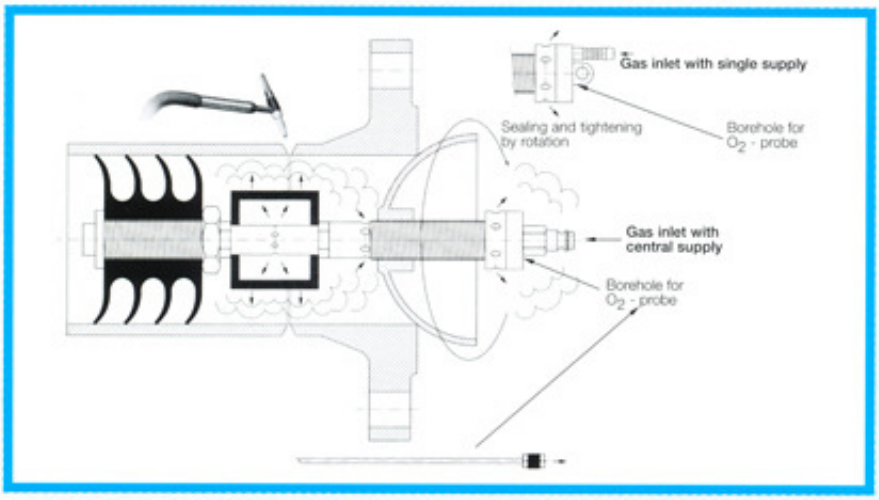

Universal system with two four-lipped sealing disks, ball-and-socket joint, diffuser and oxygen measuring probe



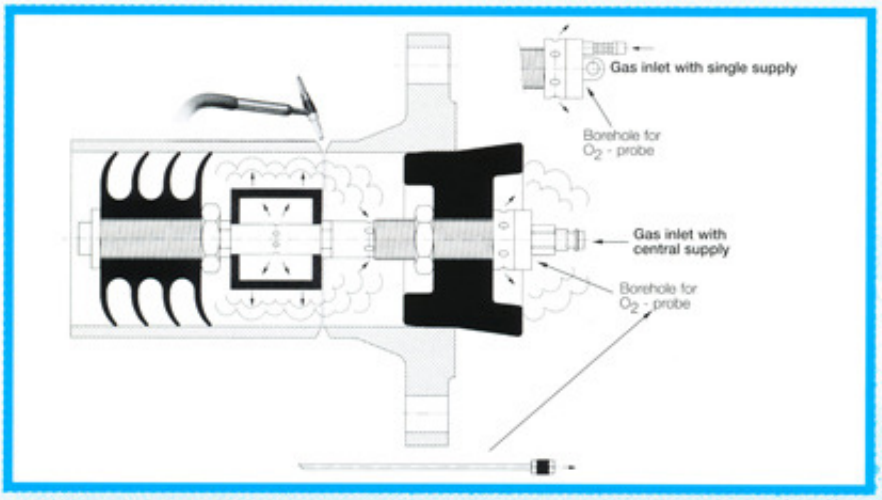

Universal system with two four-lipped sealing disks, rigid arm, diffuser and oxygen measuring probe



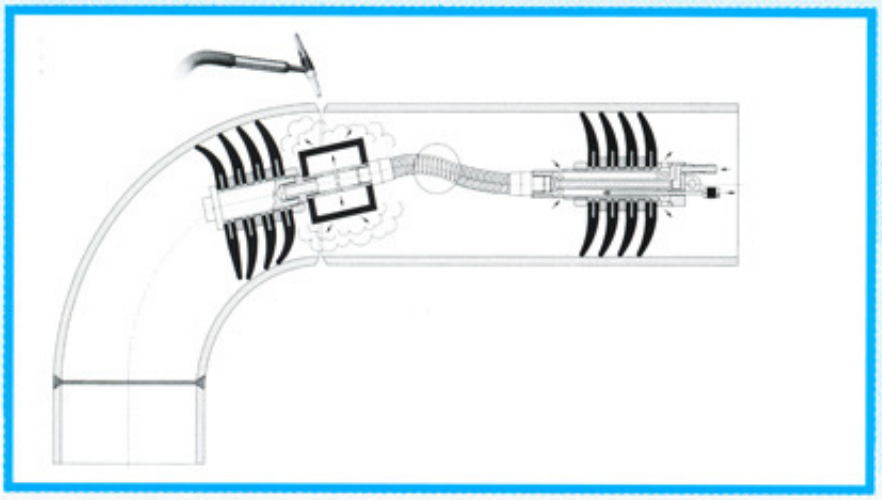

Universal system with two four-lipped sealing disks, highly flexible arm, diffuser and oxygen measuring probe




Universal system with one four-lipped sealing disk, adjustable sealing hemisphere, diffuser and oxygen measuring probe




Universal system with one four-lipped sealing disk, silicone pipe plug, diffuser and oxygen measuring probe

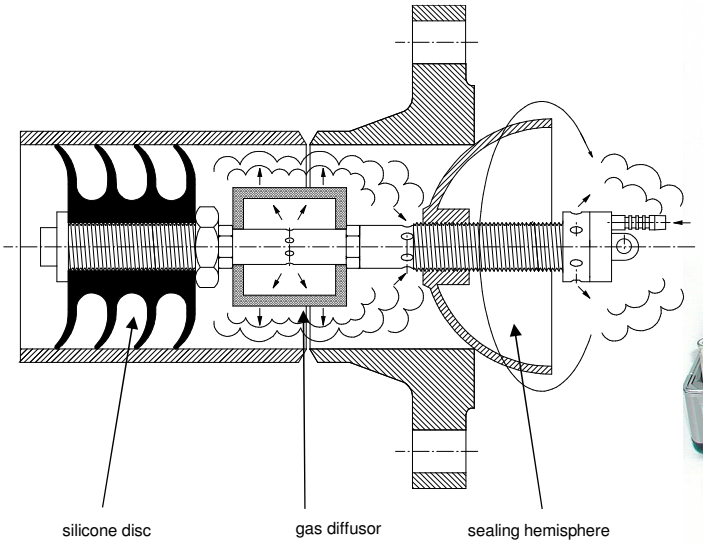


Universal system can be equipped with two one-lipped sealing disks and the required number of distance sleeves up to two four-lipped sealing disks, diffuser and oxygen measuring probe

Printed in Germany

Catalog
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Prices on request

# Basic Equipment including JA® Universal System and screwable sealing hemisphere made from stainless steel for welding, pipe flanges range from DN 15 (1/2") to DN 150 (6")






## Content:

| Item | Quantity | Order-No.: | Description | Item | Quantity | Order-No.: | Description |
|---|---|---|---|---|---|---|---|
| 1 | 2 | | Protective Gas Finger 145 mm lg with thread M 10 and silicone disc mounting Ø 21-51 mm | 21 | 1 | J 02 20 613 | Nut M 18 x 1,5 |
| 2 | 2 | 50330021 | JA-silicone disc Ø 21 x 6 mm suitable for Gas Finger | 22 | 1 | J 02 20 104 | Front sealing hemisphere adapter with thread M 20 x 1,5 |
| 3 | 2 | 50330026 | JA-silicone disc Ø 26 x 6 mm suitable for Gas Finger | 23 | 1 | | sealing hemisphere Ø 136 mm x M 20 x 1,5 |
| 4 | 2 | 50330031 | JA-silicone disc Ø 31 x 6 mm suitable for Gas Finger | 24 | 1 | J 02 10 137 | sealing hemisphere Ø 174 mm x M 20 x 1,5 |
| 5 | 2 | 50330036 | JA-silicone disc Ø36 x 6 mm suitable for Gas Finger | 25 | 1 | J 02 21 004 | JA-4-lips silicone disc Ø 115 mm |
| 6 | 2 | 50330041 | JA-silicone disc Ø41 x 6 mm suitable for Gas Finger | 26 | 1 | J 02 21 005 | JA-4-lips silicone disc Ø 130 mm |
| 7 | 2 | 50330046 | JA-silicone disc Ø 46 x 6 mm suitable for Gas Finger | 27 | 1 | J 02 21 006 | JA-4-lips silicone disc Ø 145 mm |
| 8 | 2 | 50330051 | JA-silicone disc Ø 51 x 6 mm suitable for Gas Finger | 28 | 1 | J 02 21 007 | JA-4-lips silicone disc Ø 160 mm |
| 9 | 1 | | sealing hemisphere Ø 40 mm x M 10 | 29 | 1 | J 02 21 008 | JA-4-lips silicone disc Ø 175 mm |
| 10 | 1 | | sealing hemisphere Ø 60 mm x M 10 | 30 | 1 | J 02 10 107 | Rear silicone disc mounting M 20 x 1,5 for sealing discs Ø 115 mm - Ø 175 mm |
| 11 | 1 | J 02 10 103 | Front sealing hemisphere adapter with thread M 18 x 1,5 | 31 | 1 | 50000004A | Nut M 20 x 1,5 |
| 12 | 1 | J 02 1 0134 | sealing hemisphere Ø 120 mm x M 18 x 1,5 | 32 | 2 | 50060010 | rigid arm SW 14 100 mm long |
| 13 | 1 | J 02 2 1 067 | JA-4-lips silicone disc Ø 50 mm | 33 | 1 | 50100010 | rigid arm SW 14 150 mm long |
| 14 | 1 | J 02 2 1 068 | JA-4-lips silicone disc Ø 55 mm | 34 | 1 | 50150010 | rigid arm SW 14 200 mm long |
| 15 | 1 | J 02 2 1 069 | JA-4-lips silicone disc Ø 60 mm | 35 | 1 | 50027406 | Stainless steel gas diffusor Ø 27 mmx 40 mm lg. |
| 16 | 1 | J 02 2 1 070 | JA-4-lips silicone disc Ø 70 mm | 36 | 1 | 50060606 | Stainless steel gas diffusor Ø 60 mmx 60 mm lg. |
| 17 | 1 | J 02 2 1 071 | JA-4-lips silicone disc Ø 80 mm | 37 | 1 | | Two-ply PVC hose Ø 5 x 8 mm with contacts |
| 18 | 1 | J 02 2 1 072 | JA-4-lips silicone disc Ø 90 mm | 38 | 4 | | short, two-ply PVC hose sections with hose couplings and Oetiker- hose clips |
| 19 | 1 | J 02 2 1 073 | JA-4-lips silicone disc Ø 100 mm | 39 | 1 | 90000101 | JA-Gas indicator (up to 50 liter/minute) |
| 20 | 1 | J 02 10 106 | Rear silicone disc mounting M 18 x 1,5 for sealing discs Ø 50 mm - Ø 100 mm | 40 | 1 | A25025 | Aluminium- Covering Tape 25mm wide x 25m lg |

Catalog
08.12.2011
Prices on request

# Basic equipment including JA®- Protective Gas Fingers from DN 15 (1/2") and JA®- Protective Universal Gas Systems with an accessory residual oxygen measuring mechanism up to DN 150 (6")



## Basic equipment with JA Protective Gas Systems in a box (in accordance with the list below) for established pipe diameters

**Content:**

| Item | Quantity | Order-No.: | Description | Item | Quantity | Order-No.: | Description |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 50010500 | protective-gas-finger Ø 10 mm x 50 mm lang | 23 | 2 | J 02 21 008 | JA-4-lips silicone disk Ø 175 x 20 mm |
| 2 | 1 | 50022500 | protective-gas-finger Ø 22 mm x 50 mm lang | 24 | 1 | J 02 10 104 | Front disc mounting M 20 x 1,5 |
| 3 | 1 | 50330021 | JA-silicone disc Ø 21 x 6 mm suitable for Gas Finger | 25 | 1 | J 02 10 107 | Rear disc mounting M 20 x 1,5 |
| 4 | 1 | 50330026 | JA-silicone disc Ø 26 x 6 mm suitable for Gas Finger | 26 | 2 | 50000004A | Nut M 20 x 1,5 |
| 5 | 1 | 50330031 | JA-silicone disc Ø 31 x 6 mm suitable for Gas Finger | 27 | 1 | 50000011 | hook Ø 4 mm |
| 6 | 1 | 50330036 | JA-silicone disc Ø36 x 6 mm suitable for Gas Finger | 28 | 1 | 50060406 | Stainless steel gas diffusor Ø 60 mmx 40 mm lg. |
| 7 | 1 | 50330041 | JA-silicone disc Ø41 x 6 mm suitable for Gas Finger | 29 | 1 | 50120008 | flexible arm 120 mm long |
| 8 | 1 | 50330046 | JA-silicone disc Ø 46 x 6 mm suitable for Gas Finger | 30 | 1 | 50150008 | flexible arm 150 mm long |
| 9 | 1 | 50330051 | JA-silicone disc Ø 51 x 6 mm suitable for Gas Finger | 31 | 1 | 50200008 | flexible arm 200 mm long |
| 10 | 2 | J 02 21 067 | JA-4-lips silicone disc Ø 50 x 18 mm | 32 | 1 | 50100010 | rigid arm SW 14 100 mm long |
| 11 | 2 | J 02 21 068 | JA-4-lips silicone disc Ø 55 x 18 mm | 33 | 1 | 50150010 | rigid arm SW 14 150 mm long |
| 12 | 2 | J 02 21 069 | JA-4-lips silicone disc Ø 60 x 18 mm | 34 | 1 | 50200010 | rigid arm SW 14 200 mm long |
| 13 | 2 | J 02 21 070 | JA-4-lips silicone disc Ø 70 x 18 mm | 35 | 10 | 50000021 | Two-ply PVC-fabric hose Ø 5 x 8 mm |
| 14 | 2 | J 02 21 071 | JA-4-lips silicone disc Ø 80 x 18 mm | 36 | 4 | 50000023 | Stainless steel hose clip with insert ring Ø 9,5 mm |
| 15 | 2 | J 02 21 073 | JA-4-lips silicone disc Ø 100 x 18 mm | 37. | 2 | 50000024 | Complete coupling DN 5 (brass) with gas closing |
| 16 | 1 | J 02 10 103 | Front disc mounting M 18 x 1,5 | 38 | 2 | 50000025 | Mouthpiece for hose, DN 5 (brass) for coupling |
| 17 | 1 | J 02 10 106 | Rear disc mounting M 18 x 1,5 | 39 | 1 | 50000026 | Nut G 1/4" R w/ mouthpiece DN 5 (brass) for Argon |
| 18 | 2 | J 02 20 613 | Nut M 18 x 1,5 | 40 | 1 | 50210011 | 10 m Stainless steel release cable Ø 2 mm |
| 19 | 1 | 50000011 | hook Ø 4 mm | 41 | 1 | AL25025 | Aluminium - Covering Tape 25 mm width x 25 m long |
| 20 | 1 | 50036406 | Stainless steel gas diffusor Ø 36 mmx 40 mm lg. | 42 | 1 | AL25033 | Aluminium - Covering Tape 33 mm width x 25 m long |
| 21 | 2 | J 02 21 004 | JA-4-lips silicone disk Ø 115 x 20 mm | 43 | 1 | 90000101 | JA-Gas indicator (up to 50 liter/minute) |
| 22 | 2 | J 02 21 006 | JA-4-lips silicone disk Ø 145 x 20 mm | 44 | 1 | | carrying case |

Catalog
08.12.2011
Prices on request

# Protective Gas System- Universal 2.4 A

with an accessory residual oxygen measuring mechanism. For sealing discs with a diameter of 50 mm to 225 mm, the unit is equipped with 2 x 4-lips sealing elements, for sealing discs with a diameter of 230 mm to 420 mm, the unit is equipped with 4 x 1-lip sealing elements, highly heat-resistant and a JA-Gas diffusor
See illustration 2.4A for examples of use

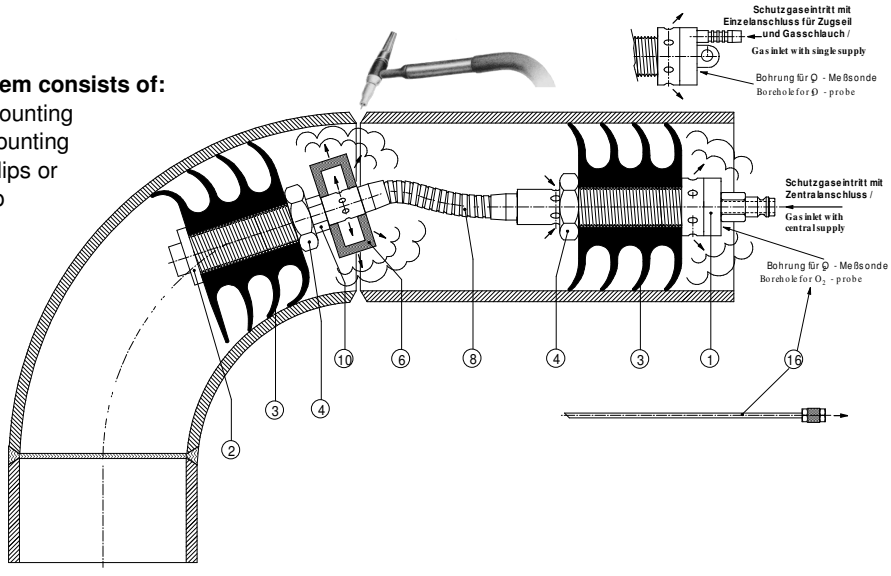
| Order-No.: | heat-resistant sealing discs 2x 4-lippig | VA- dry powdered metal gas diffusor | alternative hose couplings | inside pipe Ø | EUR / piece |
|---|---|---|---|---|---|
| J 02 0 20 03 | Ø 18 x Ø 50 mm | Ø 27 x 40 mm long | **single** hose coupling with 10m gas hose and release cable **or combination of** hose, gas inlet and **central** gas coupling | Ø 43 – 48 mm | |
| J 02 0 20 04 | Ø 18 x Ø 55 mm | Ø 27 x 40 mm long | | Ø 47 – 53 mm | |
| J 02 0 20 05 | Ø 18 x Ø 60 mm | Ø 36 x 40 mm long | | Ø 52 – 58 mm | |
| J 02 0 20 06 | Ø 18 x Ø 70 mm | Ø 36 x 40 mm long | | Ø 58 – 67 mm | |
| J 02 0 20 07 | Ø 18 x Ø 80 mm | Ø 44 x 40 mm long | | Ø 68 – 77 mm | |
| J 02 0 20 08 | Ø 18 x Ø 90 mm | Ø 44 x 40 mm long | | Ø 78 – 87 mm | |
| J 02 0 20 09 | Ø 18 x Ø 100 mm | Ø 44 x 40 mm long | | Ø 85 – 97 mm | |
| | | | | | |
| J 02 0 20 10 | Ø 20 x Ø 115 mm | Ø 44 x 40 mm long | **single** hose coupling with 10m gas hose and **release cable or combination of** hose, gas inlet and **central** gas coupling | Ø 98 –112 mm | |
| J 02 0 20 11 | Ø 20 x Ø 130 mm | Ø 44 x 40 mm long | | Ø 112 –127 mm | |
| J 02 0 20 12 | Ø 20 x Ø 145 mm | Ø 44 x 40 mm long | | Ø 123 –140 mm | |
| J 02 0 20 13 | Ø 20 x Ø 160 mm | Ø 60 x 40 mm long | | Ø 138 –155 mm | |
| J 02 0 20 14 | Ø 20 x Ø 175 mm | Ø 60 x 40 mm long | | Ø 152 –170 mm | |
| J 02 0 20 15 | Ø 20 x Ø 190 mm | Ø 60 x 40 mm long | | Ø 166 –185 mm | |
| J 02 0 20 16 | Ø 20 x Ø 210 mm | Ø 60 x 40 mm long | | Ø 184 –203 mm | |
| J 02 0 20 17 | Ø 20 x Ø 225 mm | Ø 60 x 40 mm long | | Ø 198 –218 mm | |
| **Order-No.:** | **heat-resistant sealing discs 4x 1-lippig** | **VA- dry powdered metal gas diffusor** | **alternative hose couplings** | **inside pipe Ø** | **EUR / piece** |
| J 02 0 20 18 | Ø 20 x Ø 230 mm | Ø 60 x 60 mm long | **single** hose coupling with 10m gas hose and release cable **or combination of** hose, gas inlet and **central** gas coupling | Ø 195 – 220 mm | |
| J 02 0 20 19 | Ø 20 x Ø 250 mm | Ø 60 x 60 mm long | | Ø 215 – 240 mm | |
| J 02 0 20 20 | Ø 20 x Ø 270 mm | Ø 60 x 60 mm long | | Ø 235 – 260 mm | |
| J 02 0 20 21 | Ø 20 x Ø 290 mm | Ø 60 x 60 mm long | | Ø 255 – 280 mm | |
| J 02 0 20 22 | Ø 20 x Ø 310 mm | Ø 75 x 60 mm long | | Ø 275 – 300 mm | |
| J 02 0 20 23 | Ø 20 x Ø 330 mm | Ø100x100 mm long | | Ø 290 – 320 mm | |
| J 02 0 20 24 | Ø 20 x Ø 350 mm | Ø100x100 mm long | | Ø 310 – 340 mm | |
| J 02 0 20 25 | Ø 20 x Ø 365 mm | Ø100x100 mm long | | Ø 325 – 355 mm | |
| J 02 0 20 26 | Ø 20 x Ø 385 mm | Ø100x100 mm long | | Ø 345 – 375 mm | |
| J 02 0 20 27 | Ø 20 x Ø 400 mm | Ø100x100 mm long | | Ø 360 – 390 mm | |
| J 02 0 20 28 | Ø 20 x Ø 420 mm | Ø100x100 mm long | | Ø 380 – 410 mm | |

**Surcharge** for single hose coupling with 10 m gas hose and release cable **EUR**

**Surcharge** for a 10 m *combination* of hose, gas inlet and central gas coupling **EUR**

**The complete universal system consists of:**

(1) Front sealing element, mounting
(2) Rear sealing element, mounting
(3) 2 pc. sealing element, 4-lips or 4 pc sealing element, 1-lip
(4) 2 nuts
(6) JA-Gas diffusor
(8) flexible arm
(10) rigid arm SW 14
(16) optional: $O_2$ - probe



## Hochhitzebeständige, vierlippige Dichtelemente für Schutzgaszylinder-Universal **2.4 A**

## Highly heat-resistant sealing discs with 4 lips for the Protective Gas Cylinder - Universal System

| **Bestell-Nr.** | **Hochhitzebeständige Dichtscheibe** | **Rohrinnen Ø** | **EUR/Stück** |
|---|---|---|---|
| **Order-No.** | **Heat-resistant sealing discs** | **Inside pipe Ø** | **EUR/piece** |
| J 02 2 10 67 | 18 x Ø 50 mm | Ø 43 – 49 mm | |
| J 02 2 10 68 | 18 x Ø 55 mm | Ø 47 – 54 mm | |
| J 02 2 10 69 | 18 x Ø 60 mm | Ø 51 – 59 mm | |
| J 02 2 10 70 | 18 x Ø 70 mm | Ø 57 – 68 mm | |
| J 02 2 10 71 | 18 x Ø 80 mm | Ø 66 – 78 mm | |
| J 02 2 10 72 | 18 x Ø 90 mm | Ø 77 – 88 mm | |
| J 02 2 10 73 | 18 x Ø 100 mm | Ø 82 – 98 mm | |
| J 02 2 10 04 | 20 x Ø 115 mm | Ø 90 – 112 mm | |
| J 02 2 10 05 | 20 x Ø 130 mm | Ø 110 – 127 mm | |
| J 02 2 10 06 | 20 x Ø 145 mm | Ø 120 – 141 mm | |
| J 02 2 10 07 | 20 x Ø 160 mm | Ø 135 – 156 mm | |
| J 02 2 10 08 | 20 x Ø 175 mm | Ø 150 – 170 mm | |
| J 02 2 10 09 | 20 x Ø 190 mm | Ø 160 – 185 mm | |
| J 02 2 10 10 | 20 x Ø 210 mm | Ø 175 – 203 mm | |
| J 02 2 10 11 | 20 x Ø 225 mm | Ø 195 – 218 mm | |

## Schraubbare Dichtungshalbkugel aus Edelstahl für Schutzgaszylinder-Universal **2.4 B**

## Screwable sealing hemisphere made from stainless steel for all Protective Gas Cylinder - Universal Systems

| **Bestell-Nr.** | **Dichtungshalbkugel** | **Rohrinnen Ø** | **EUR/Stück** |
|---|---|---|---|
| **Order-No.** | **sealing hemissphere** | **Inside pipe Ø** | **EUR/piece** |
| J 02 1 01 30 | M 18 x Ø 50 mm | Ø 35 - 45 mm | |
| J 02 1 01 31 | M 18 x Ø 70 mm | Ø 40 - 65 mm | |
| J 02 1 01 32 | M 18 x Ø 98 mm | Ø 50 - 90 mm | |
| J 02 1 01 33 | M 18 x Ø 113 mm | Ø 50 - 100 mm | |
| J 02 1 01 34 | M 18 x Ø 121 mm | Ø 50 - 110 mm | |
| J 02 1 01 35 | M 18 x Ø 137 mm | Ø 70 - 120 mm | |
| J 02 1 01 36 | M 20 x Ø 150 mm | Ø 80 - 130 mm | |
| J 02 1 01 37 | M 20 x Ø 174 mm | Ø 80 - 150 mm | |
| J 02 1 01 38 | M 20 x Ø 201 mm | Ø 100 - 175 mm | |
| J 02 1 01 39 | M 20 x Ø 224 mm | Ø 100 - 200 mm | |
| J 02 1 01 40 | M 20 x Ø 254 mm | Ø 150 - 225 mm | |
| J 02 1 01 41 | M 20 x Ø 269 mm | Ø 150 - 250 mm | |
| J 02 1 01 42 | M 20 x Ø 294 mm | Ø 150 - 275 mm | |

Catalog
08.12.2011
Prices on request

# Protective Gas System-Universal 2.4 B
# with a screwable stainless steel sealing hemisphere

with an accessory residual oxygen measuring mechanism
Complete unit with 2 x 4-lips sealing discs, highly heat-resistant, and a JA-Gas diffusor
See illustration 2.4B for examples of use

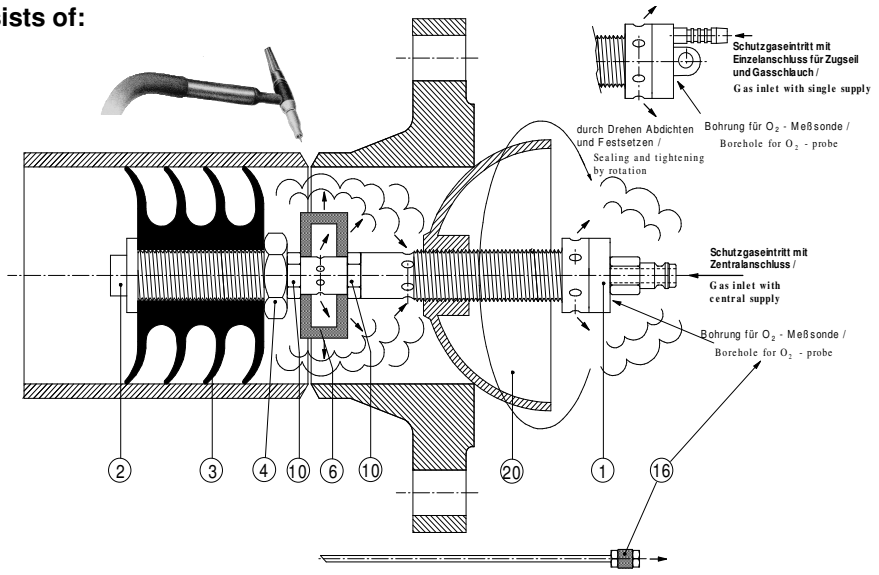
| Order-No.: | Highly heat-resistant sealing discs | Alternative hose couplings | inside pipe Ø | EUR/piece |
|---|---|---|---|---|
| J 02 0 21 03 | Ø 18 x Ø 50 mm | **Single** hose coupling with 10 m gas hose and release cable **or combination of** hose, gas inlet and **central** gas coupling | Ø 43 – 48 mm | |
| J 02 0 21 04 | Ø 18 x Ø 55 mm | | Ø 47 – 53 mm | |
| J 02 0 21 05 | Ø 18 x Ø 60 mm | | Ø 52 – 58 mm | |
| J 02 0 21 06 | Ø 18 x Ø 70 mm | | Ø 58 – 67 mm | |
| J 02 0 21 07 | Ø 18 x Ø 80 mm | | Ø 68 – 77 mm | |
| J 02 0 21 08 | Ø 18 x Ø 90 mm | | Ø 78 – 87 mm | |
| J 02 0 21 09 | Ø 18 x Ø 100 mm | | Ø 85 – 97 mm | |
| | | | | |
| J 02 0 21 10 | Ø 20 x Ø 115 mm | **Single** hose coupling with 10 m gas hose and release cable or **combination** of hose, gas inlet and **central** gas coupling | Ø 98 -112 mm | |
| J 02 0 21 11 | Ø 20 x Ø 130 mm | | Ø 112 -127 mm | |
| J 02 0 21 12 | Ø 20 x Ø 145 mm | | Ø 123 -140 mm | |
| J 02 0 21 13 | Ø 20 x Ø 160 mm | | Ø 138 -155 mm | |
| J 02 0 21 14 | Ø 20 x Ø 175 mm | | Ø 152 -170 mm | |
| J 02 0 21 15 | Ø 20 x Ø 190 mm | | Ø 166 -185 mm | |
| J 02 0 21 16 | Ø 20 x Ø 210 mm | | Ø 184 -203 mm | |
| J 02 0 21 17 | Ø 20 x Ø 225 mm | | Ø 198 -218 mm | |

**Surcharge** for single hose coupling with 10 m gas hose and release cable:

**Surcharge** for a 10 m combination of hose, gas inlet and central gas coupling:

**The complete Universal system consists of:**

(1) Front sealing element mounting
(2) Rear sealing element mounting
(3) 1 pc. Sealing element, 4 - lips
(4) Nut
(6) JA – gas diffuser
(10) Rigid arm SW 14
(20) sealing hemisphere stainless steel
(16) optional: O2 - probe



Catalog
08.12.2011
Prices on request

# Protective Gas System- Universal with silicone plugs 2.4 D

with an accessory residual oxygen measuring mechanism
Complete unit with one 4-lips sealing disc, highly heat-resistant, and a JA-Gas diffusor
See illustration 2.4D for examples of use

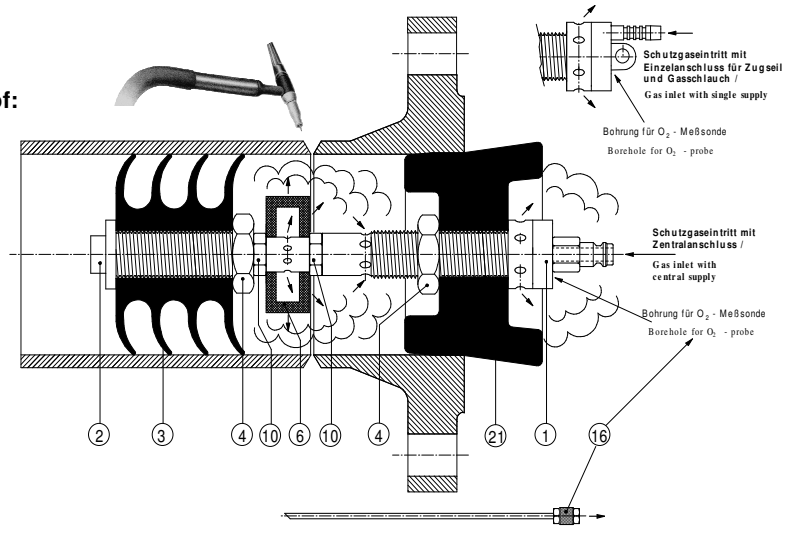
| Order-No.: | Highly heat-resistant sealing discs | Inside pipe Ø | Alternative hose couplings | lower plug Ø | upper plug Ø | EUR/ pc. |
|---|---|---|---|---|---|---|
| J 02 0 21 33 | Ø 18 x Ø 50 mm | Ø 43 – 49 mm | **Single** hose coupling with 10 m gas hose and release cable **or combination of** hose, gas inlet and **central** gas coupling | Ø 40 mm | Ø 50 mm | |
| J 02 0 21 34 | Ø 18 x Ø 55 mm | Ø 47 – 54 mm | | Ø 46 mm | Ø 55 mm | |
| J 02 0 21 35 | Ø 18 x Ø 60 mm | Ø 51 – 59 mm | | Ø 50 mm | Ø 60 mm | |
| J 02 0 21 36 | Ø 18 x Ø 70 mm | Ø 57 – 68 mm | | Ø 55 mm | Ø 67 mm | |
| J 02 0 21 37 | Ø 18 x Ø 80 mm | Ø 66 – 78 mm | | Ø 66 mm | Ø 80 mm | |
| J 02 0 21 38 | Ø 18 x Ø 90 mm | Ø 77 – 88 mm | | Ø 73 mm | Ø 87 mm | |
| J 02 0 21 39 | Ø 18 x Ø 100 mm | Ø 82 – 98 mm | | Ø 87 mm | Ø 105 mm | |
| | | | | | | |
| J 02 0 21 40 | Ø 20 x Ø 115 mm | Ø 90-112 mm | **Single** hose coupling with 10 m gas hose and release cable or **combination** of hose, gas inlet and **central** gas coupling | Ø 93 mm | Ø 115 mm | |
| J 02 0 21 41 | Ø 20 x Ø 130 mm | Ø 110-127 mm | | Ø110 mm | Ø 130 mm | |
| J 02 0 21 42 | Ø 20 x Ø 145 mm | Ø 120-141 mm | | Ø120 mm | Ø 170 mm | |
| J 02 0 21 43 | Ø 20 x Ø 160 mm | Ø 135-156 mm | | Ø120 mm | Ø 170 mm | |
| J 02 0 21 44 | Ø 20 x Ø 175 mm | Ø 150-170 mm | | Ø120 mm | Ø 170 mm | |

**Surcharge:** for single hose coupling with 10 m gas hose and release cable:

**Surcharge:** for a 10 m *combination* of hose, gas inlet and central gas coupling:

**The complete universal system consists of:**

(1) Front sealing element mounting
(2) Rear sealing element mounting
(3) 1 pc. Sealing element, 4 - lips
(4) 2 nuts
(6) JA – gas diffuser
(10) 2 pc. Rigid arms SW 14
(20) Stainless steel sealing hemisphere
(16) optional: O2 - probe



Catalog
08.12.2011
Prices on request

# Accessories for the Protective Gas System (Universal)

| Item | Order-No.: | Description: | EUR/pc |
|---|---|---|---|
| 1 | J 02 1 01 03 | Front disc mounting M18 x 1,5 for sealing discs from Ø 50 mm to Ø 100 mm | |
| 1 | J 02 1 01 04 | Front disc mounting M20 x 1,5 for sealing discs from Ø 115 mm | |
| 2 | J 02 1 01 06 | Rear disc mounting M18 x 1,5 for sealing discs from Ø 50 mm to Ø 100 mm | |
| 2 | J 02 1 01 07 | Rear disc mounting M20 x 1,5 for sealing discs from Ø 115 mm | |
| 4 | J 02 2 06 13 | nut M 18 x 1,5 | |
| 4 | 50000004A | nut M 20 x 1,5 | |
| 6A | 50027406 | Stainless Steel - protective-gas-Diffusor - Ø 27 x 40 mm lg. , M10x1 | |
| 6A | 50036406 | Stainless Steel - protective-gas-Diffusor - Ø 36 x 40 mm lg. , M10x1 | |
| 6A | 50044406 | Stainless Steel - protective-gas-Diffusor - Ø 44 x 40 mm lg. , M10x1 | |
| 6A | 50060406 | Stainless Steel - protective-gas-Diffusor - Ø 60 x 40 mm lg. , M10x1 | |
| 6A | 50060606 | Stainless Steel - protective-gas-Diffusor - Ø 60 x 60 mm lg. , M10x1 | |
| 6A | 50075606 | Stainless Steel - protective-gas-Diffusor - Ø 75 x 60 mm lg. , M10x1 | |
| 6A | 50075106 | Stainless Steel - protective-gas-Diffusor - Ø 75 x 100 mm lg. , M10x1 | |
| 6A | 50100106 | Stainless Steel - protective-gas-Diffusor - Ø 100 x 100 mm lg. , M10x1 | |
| 6A | 50150106 | Stainless Steel - protective-gas-Diffusor - Ø 150 x 100 mm lg. , M10x1 | |
| 6A | 50200106 | Stainless Steel - protective-gas-Diffusor - Ø 200 x 100 mm lg. , M10x1 | |
| 6A | 50250106 | Stainless Steel - protective-gas-Diffusor - Ø 250 x 100 mm lg. , M10x1 | Different lengths and diameters available from our own production |
| 8 | 50120008 | flexibel arms 120 mm long, external thread M10x1 | |
| 8 | 50150008 | flexibel arms 150 mm long, external thread M10x1 | |
| 8 | 50200008 | flexibel arms 200 mm long, external thread M10x1 | |
| 8 | 50300008 | flexibel arms 300 mm long, external thread M10x1 | |
| 8 | 50400008 | flexibel arms 400 mm long, external thread M10x1 | |
| 8A | 50070008A | Stainless Steel - Metal Gas hose / Highly flexible , 70 mm long , M10x1 | |
| 8A | 50080008A | Stainless Steel - Metal Gas hose / Highly flexible , 80 mm long , M10x1 | |
| 8A | 50090008A | Stainless Steel - Metal Gas hose / Highly flexible , 90 mm long , M10x1 | |
| 8A | 50100008A | Stainless Steel - Metal Gas hose / Highly flexible , 100 mm long , M10x1 | |
| 8A | 50120008A | Stainless Steel - Metal Gas hose / Highly flexible , 120 mm long , M10x1 | |
| 8A | 50150008A | Stainless Steel - Metal Gas hose / Highly flexible , 150 mm long , M10x1 | |
| 8A | 50200008A | Stainless Steel - Metal Gas hose / Highly flexible , 200 mm long , M10x1 | different lengths available |
| 9 | 50000009 | gas diffuser nozzle SW 14 | |
| 10 | 50005010 | rigid pipe SW 14 5 mm long, external thread M10x1 | |
| 10 | 50010010 | rigid pipe SW 14 10 mm long, external thread M10x1 | |
| 10 | 50020010 | rigid pipe SW 14 20 mm long, external thread M10x1 | |
| 10 | 50040010 | rigid pipe SW 14 40 mm long, external thread M10x1 | |
| 10 | 50050010 | rigid pipe SW 14 50 mm long, external thread M10x1 | |
| 10 | 50060010 | rigid pipe SW 14 60 mm long, external thread M10x1 | |
| 10 | 50100010 | rigid pipe SW 14 100 mm long, external thread M10x1 | |
| 10 | 50150010 | rigid pipe SW 14 150 mm long, external thread M10x1 | |
| 10 | 50200010 | rigid pipe SW 14 200 mm long, external thread M10x1 | |
| 10 | 50300010 | rigid pipe SW 14 300 mm long, external thread M10x1 | |
| 10 | 50400010 | rigid pipe SW 14 400 mm long, external thread M10x1 | different lengths available |
| 11 | 50000011 | screwable chain link Ø 4 mm | |
| 11 | 50210011 | 10 m release cable Ø 2 mm | |
| 11 | 50220011 | 20 m release cable Ø 2 mm | |
| 11 | 50310011 | 10 m release cable Ø 3 mm | |
| 11 | 50320011 | 20 m release cable Ø 3 mm | |
| 11 | 50210011P | 10 m release cable Ø 2 mm PVC coated (white) | |
| 11 | 50220011P | 20 m release cable Ø 2 mm PVC coated (white) | different lengths available |

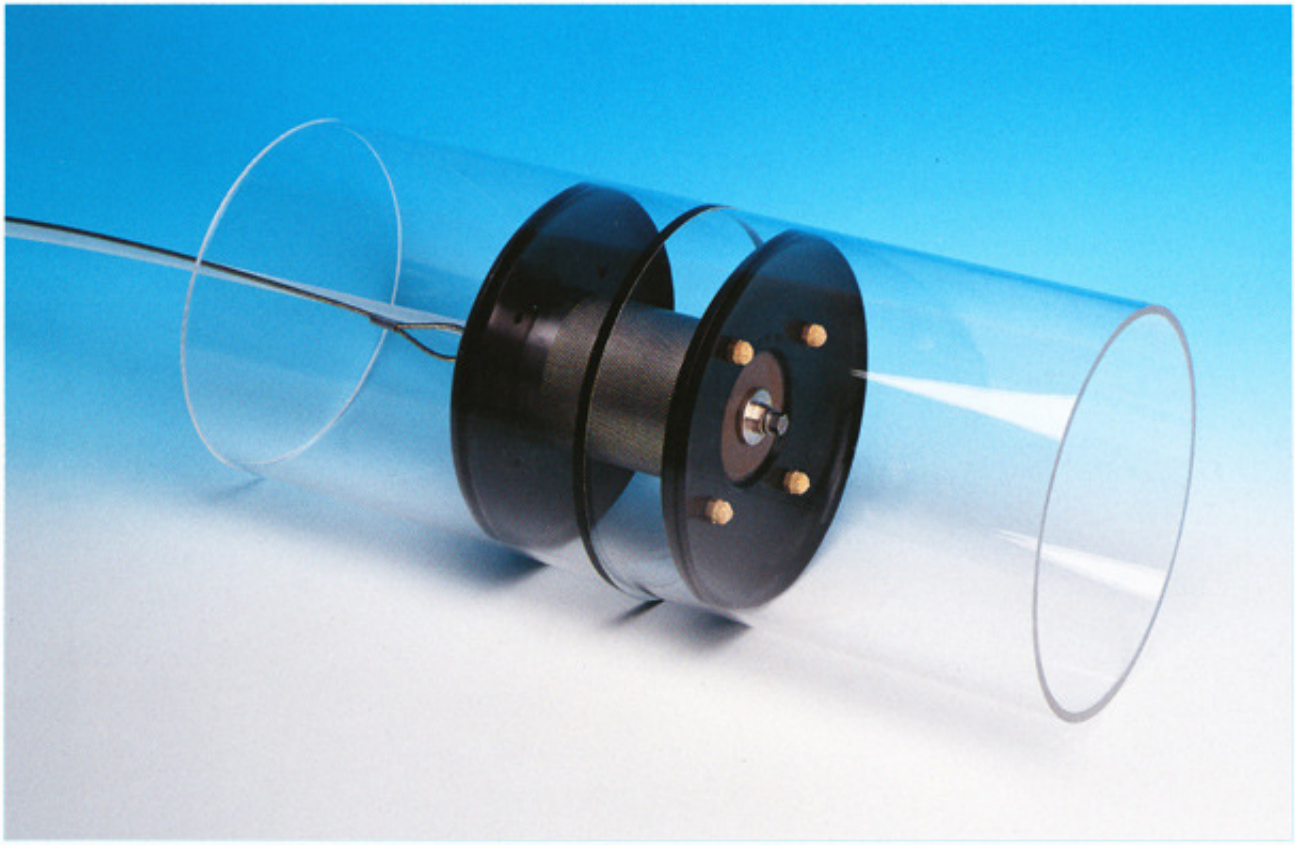
# Additional accessories for the Protective Gas System (Universal)

| Order-No.: | Description: | EUR /pc/m |
|---|---|---|
| 50000021 | two-ply PVC-hose 5x8 mm Ø | |
| 50000022 | largely oxygen diffusion-proof hose 5x8 mm Ø | |
| 50000046 | largely oxygen diffusion-proof hose, plaited with stainless steel, 5x8 mm Ø | |
| 50000047 | largely oxygen diffusion-proof hose, plaited with stainless steel, 6x8 mm Ø | |
| J 09 2 06 01 | VA helix hose DN 6, not plaited | |
| J 09 2 06 02 | VA helix hose DN 6, plaited with stainless steel | |
| 50000023 | stainless steel hose clip with insert ring 9.5 mm Ø | |
| 50000024 | Complete coupling DN5 (brasss) with gas closing | |
| 50000025 | Mouthpiece for hose, DN5 (brass) for coupling | |
| 50000026 | Nut G 1/4" R with mouthpiece DN5 (brass), suitable for Argon pressure reducer | |
| 50000027 | Nut G 3/8" L with mouthpiece DN5 (brass), suitable for protective gas pressure reducer | |
| 50000028 | oxygen-measuring hose, 5x3 mm Ø | |
| 50000030 | Stopper M 10 x 1 | |
| 50000031 | stainless steel chain, short-linked, Ø 4 mm | |
| 50000032 | iron chain, galvanized, Ø 4 mm | |
| J 09 1 01 06 A | Oxygen measuring probe, tube Ø 2,5 mm, 135 mm lg. M 7 x 0,75 | |
| J 09 1 01 06 B | Oxygen measuring probe, tube Ø 1,5 mm, 135 mm lg. M 7 x 0,75 | |

# Protective Gas Cylinder Compact-System for pipe and container seams

## with diameters from 100 mm up to 400 mm highly heat-resistant

Patented



When welding authentic Cr-Ni-steel, titanium or zirconium the amount of the remaining oxygen in the used **protective gas should significantly be low than 0,1 %-Vol.-% to safeguard** the quality of the welding seam.

## Oxidation / Tempering colours

Results of a Testing series with material 1.4571/TP 316

Please compare:



Argon 12 Vppm



Argon 80 Vppm



Argon 0,1 Vol.-%

The customary inert and protective gases contain an amount of remaining oxygen of appox. 10 Vol ppm. This amount of remaining oxygen should be the goal. Oxygen indicators serve to determine the amount of remaining oxygen and to ensure a high standard of quality. Please refer to our "Practical recommendations" in our catalogue, category 2.

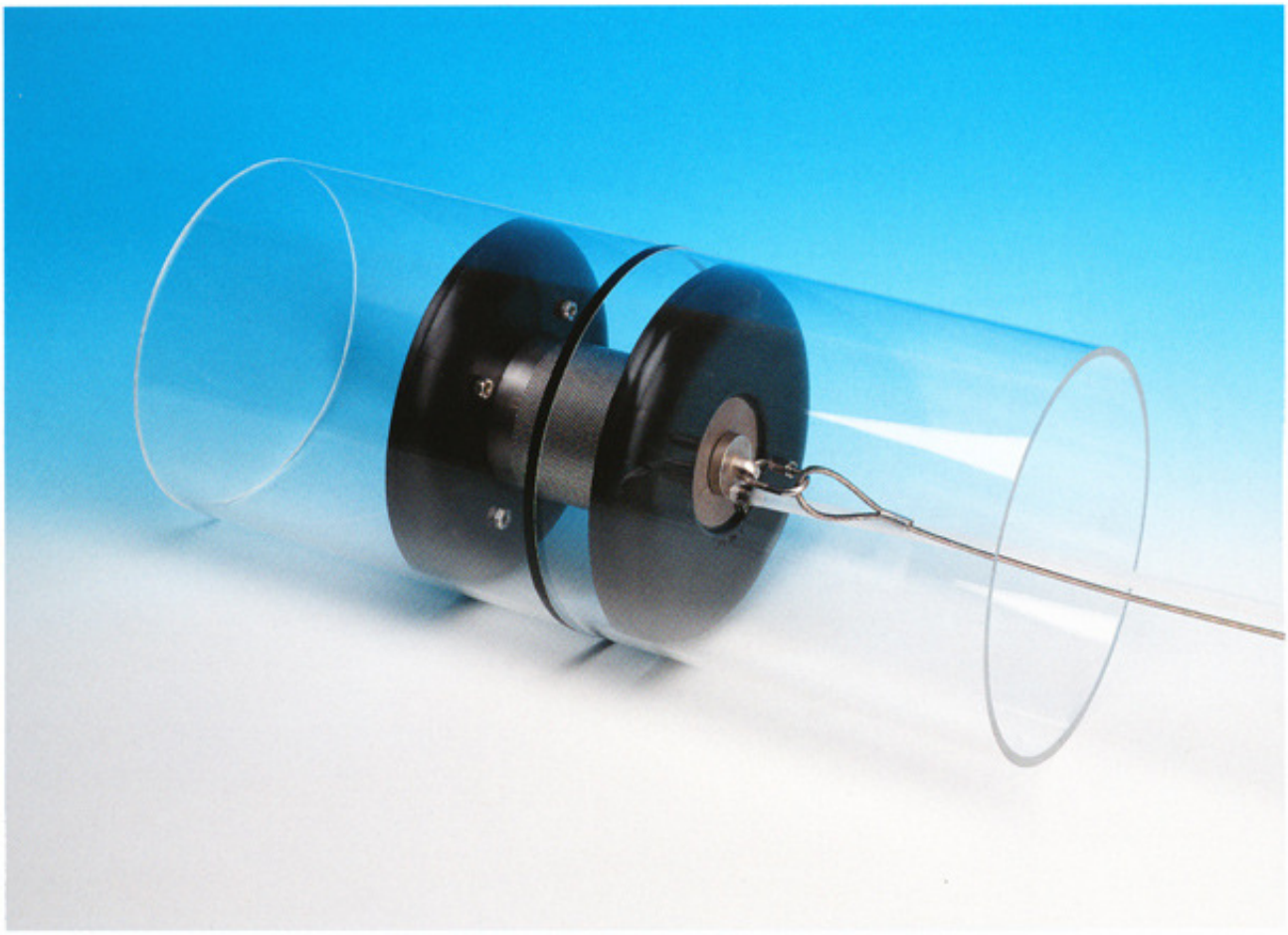
The Protective Gas Cylinder Compact System ensures a high standard of quality.

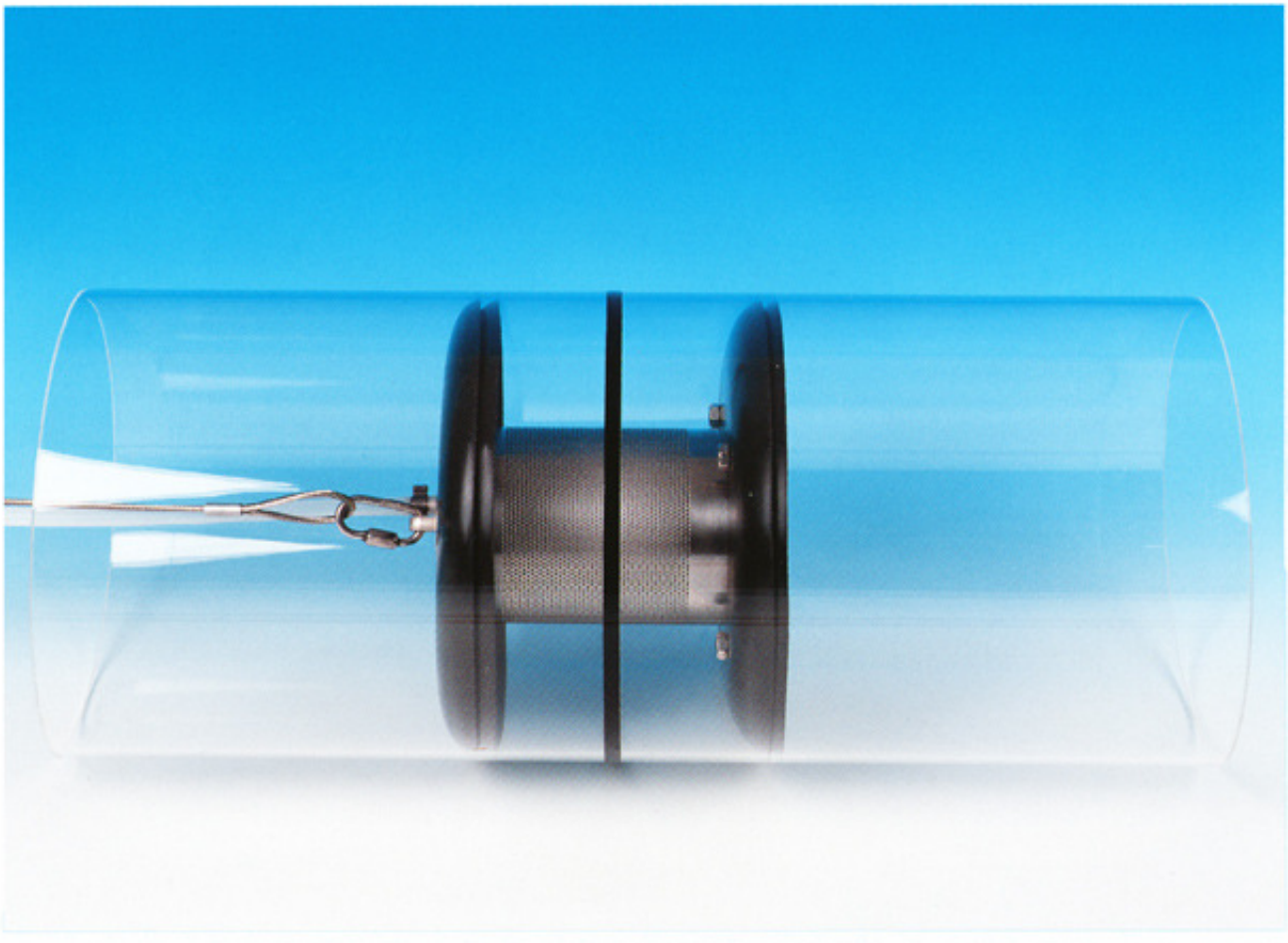
The advantages in a glance:

- for all type of welding seams
- for all types of welding methods
- for all types of materials
- highly heat-resistant sealing disks
- the protective gas consumption is effectively reduced by two measures:

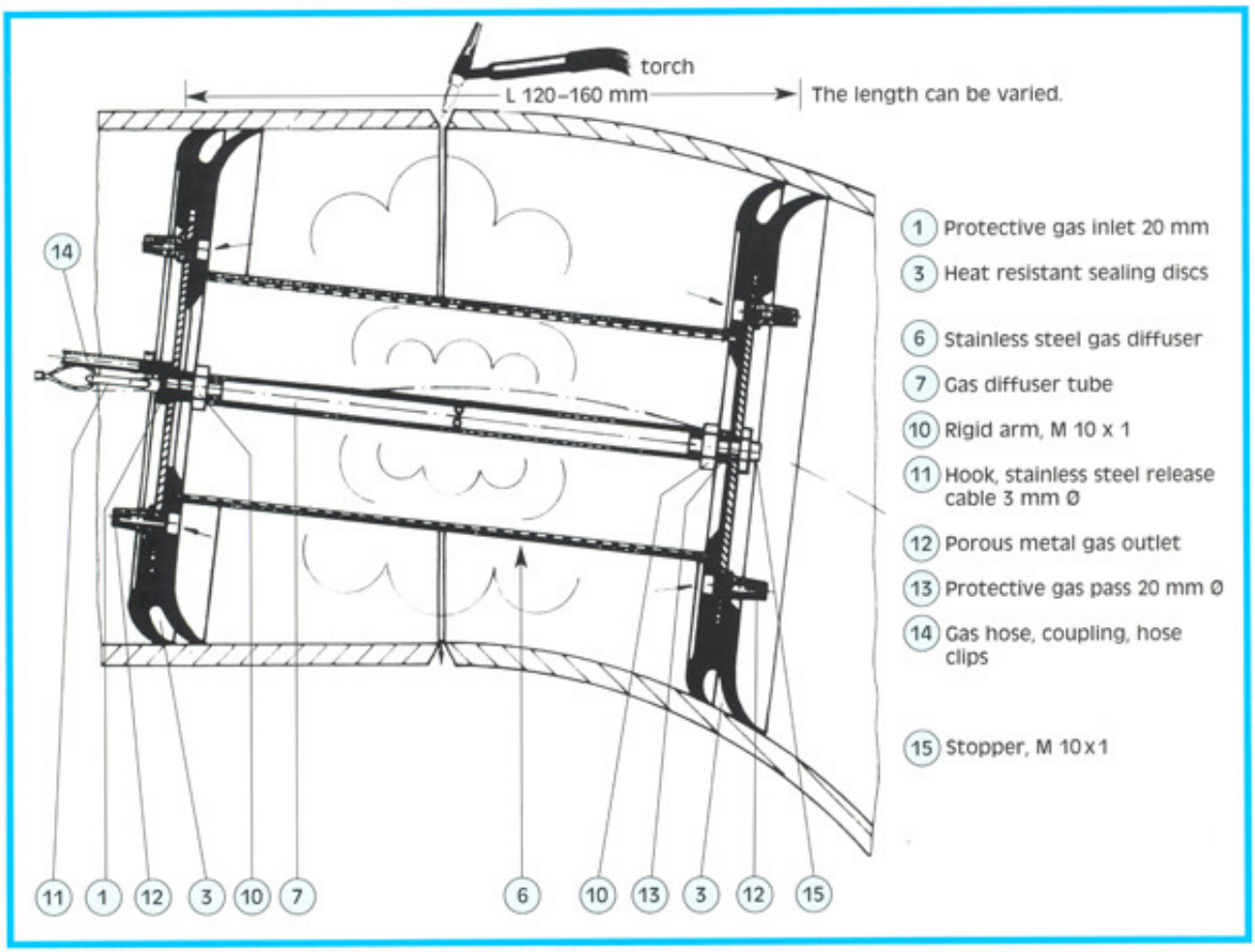
  1. the flushing chamber design is so efficient that the flushing volume can be reduced to a minimum

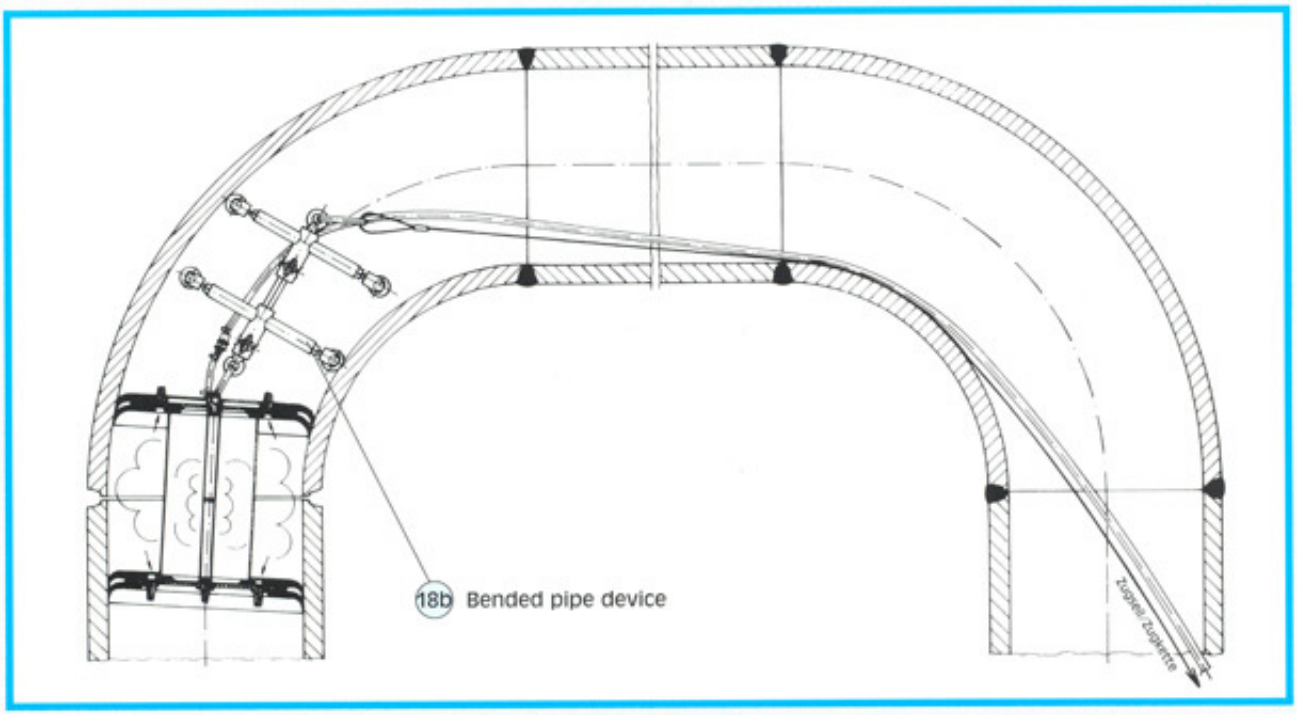
  2. the flushing time can be reduced to only 1-2 minutes
- the system is endurable and therefore suitable also for using in workshops and on-site erection
- this system is being delivered in a premounted status
- standard length 120, 160 and 300 mm (other length on request)
- The system can be disassembled
- Each Compact System can be produced or supplementary equipped with an oxygen probe. The quality of a welding seam depends on the remaining oxygen. The amount of the remaining oxygen can be determined quickly and precisely with our oxygen indicators.
- Additional devices for bended pipes assist the smooth working in pipes and bends.





Protective Gas Cylinder Compact-System for pipe and container seams with diameters from 100 mm up to 400 mm




**Please note that we intend to continually improve our products. We therefore reserve the right to modify products without prior notice.**
**We can be held liable for damages arising out of the inappropriate use of the product.**

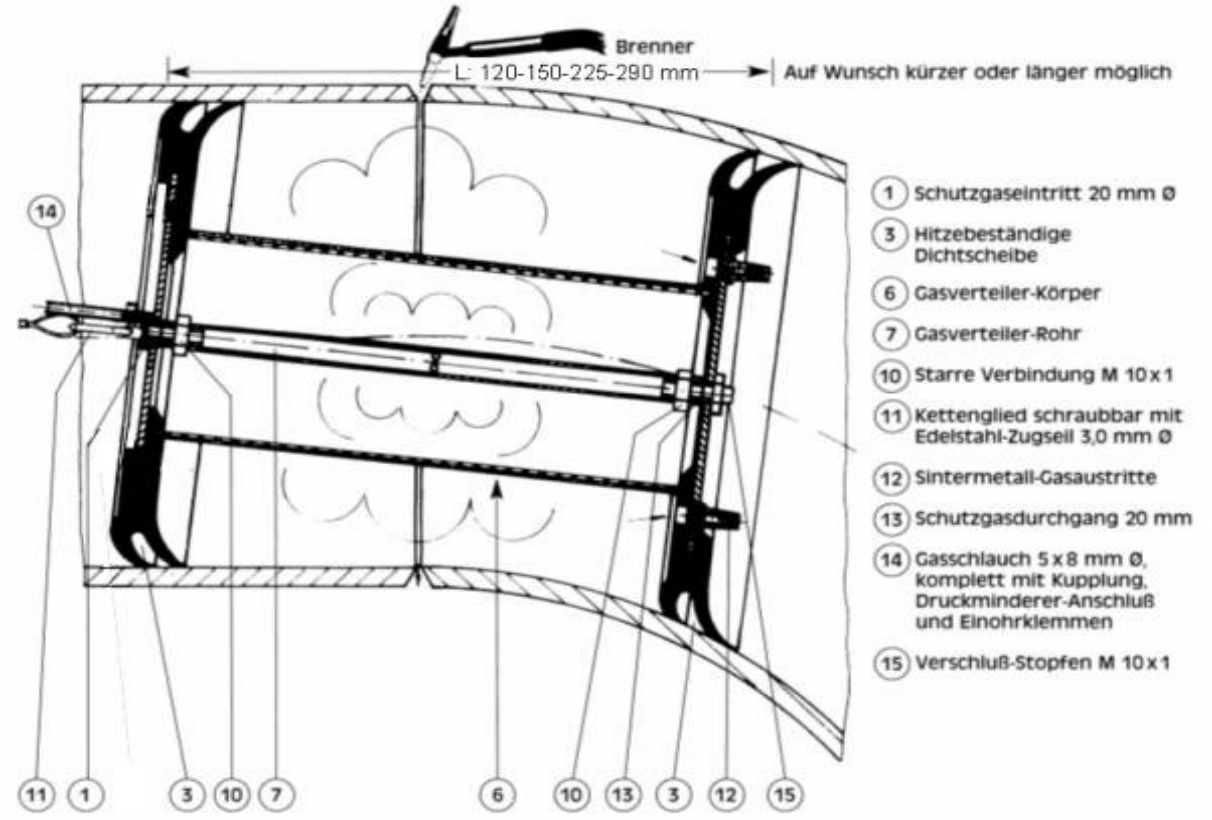
Printed in Germany

# Protective Gas Cylinder - Compact System

**2.5**

highly heat-resistant
Prices include an oxygen test port,
10 m release cable and 10 m gas-supply pipe

| Order-No. | Inside pipe-Ø | EUR / piece |
|---|---|---|
| K50330115 | Ø 100- 112 mm | |
| K50330125 | Ø 105- 120 mm | |
| K50330137 | Ø 117- 132 mm | |
| K50330145 | Ø 125- 140 mm | |
| K50330160 | Ø 140- 155 mm | |
| K50330167 | Ø 147- 162 mm | |
| K50330175 | Ø 150- 165 mm | |
| K50330190 | Ø 160- 180 mm | |
| K50330210 | Ø 175- 200 mm | |
| K50330230 | Ø 195- 220 mm | |
| K50330250 | Ø 215- 240 mm | |
| K50330270 | Ø 235- 260 mm | |
| K50330290 | Ø 255- 280 mm | |
| K50330310 | Ø 275- 300 mm | |
| K50330330 | Ø 290- 320 mm | |
| K50330350 | Ø 310- 340 mm | |
| K50380365 | Ø 325- 355 mm | |
| K50330385 | Ø 345- 375 mm | |
| K50330400 | Ø 360- 390 mm | |
| K50330420 | Ø 380- 410 mm | |



Catalog
08.12.2011
Prices on request

# Protective Gas Cylinder- Compact System 2.5

## Heat-resistant sealing discs, 2 lips

| Discs without protective gas outlet Order-No. | Dimensions | Inside pipe diameter | EUR / piece |
|---|---|---|---|
| 50330115 | Ø 20 x Ø 115 mm | Ø 100 -112 mm | |
| 50330125 | Ø 20 x Ø 125 mm | Ø 105 -120 mm | |
| 50330137 | Ø 20 x Ø 137 mm | Ø 118 -132 mm | |
| 50330145 | Ø 20 x Ø 145 mm | Ø 120 -140 mm | |
| 50330160 | Ø 20 x Ø 160 mm | Ø 135 -155 mm | |
| 50330175 | Ø 20 x Ø 175 mm | Ø 145 -165 mm | |
| 50330190 | Ø 20 x Ø 190 mm | Ø 160 -180 mm | |
| 50330210 | Ø 20 x Ø 210 mm | Ø 175 -200 mm | |
| 50330230 | Ø 20 x Ø 230 mm | Ø 195 -220 mm | |
| 50330250 | Ø 20 x Ø 250 mm | Ø 215 -240 mm | |
| 50330270 | Ø 20 x Ø 270 mm | Ø 235 -260 mm | |
| 50330290 | Ø 20 x Ø 290 mm | Ø 255 -280 mm | |
| 50330310 | Ø 20 x Ø 310 mm | Ø 275 -300 mm | |
| 50330330 | Ø 20 x Ø 330 mm | Ø 290 -320 mm | |
| 50330350 | Ø 20 x Ø 350 mm | Ø 310 -340 mm | |
| 50330365 | Ø 20 x Ø 365 mm | Ø 325 -355 mm | |
| 50330385 | Ø 20 x Ø 385 mm | Ø 345 -375 mm | |
| 50330400 | Ø 20 x Ø 400 mm | Ø 360 -390 mm | |
| 50330420 | Ø 20 x Ø 420 mm | Ø 380 -410 mm | |

Using this system, we recommend the installation of 4 protective gas outlets on a minimum of one sealing disc to prevent the buildup of any internal pressure in the Compact System. The installation of one protective gas outlet additionally costs  EUR / piece.

## JA - Protective Gas - Diffusor

**The JA-Protective Gas-Diffusor (Item 6 a), (laminar gas diffusor) is available up to 290 mm lenght. Other, shorter lenght on request.**

| Order-No | Standard length | EUR / piece |
|---|---|---|
| K50000115SK | Ø 50 mm x 120 mm Lg. | |
| K50000125SK | Ø 53 mm x 120 mm Lg. | |
| K50000137SK | Ø 53 mm x 120 mm Lg. | |
| K50000145SK | Ø 53 mm x 120 mm Lg. | |
| K50000160SK | Ø 58 mm x 120 mm Lg. | |
| K50000175SK | Ø 58 mm x 120 mm Lg. | |
| K50000190SK | Ø 68 mm x 120 mm Lg. | |
| K50000210SK | Ø 68 mm x 120 mm Lg. | |
| K50000230SK | Ø 71 mm x 150 mm Lg. | |
| K50000250SK | Ø 91 mm x 150 mm Lg. | |
| K50000270SK | Ø 109 mm x 150 mm Lg. | |
| K50000290SK | Ø 129 mm x 150 mm Lg. | |
| K50000310SK | Ø 148 mm x 225 mm Lg. | |
| K50000330SK | Ø 168 mm x 225 mm Lg. | |
| K50000350SK | Ø 188 mm x 225 mm Lg. | |
| K50000365SK | Ø 203 mm x 225 mm Lg. | |
| K50000385SK | Ø 223 mm x 225 mm Lg. | |
| K50000400SK | Ø 238 mm x 225 mm Lg. | |
| K50000420SK | Ø 258 mm x 225 mm Lg. | |

**Price for support body with 290 mm length, all diameters: EUR / piece**

# Protective Gas Cylinders - Compact System
# Accessories 2.5

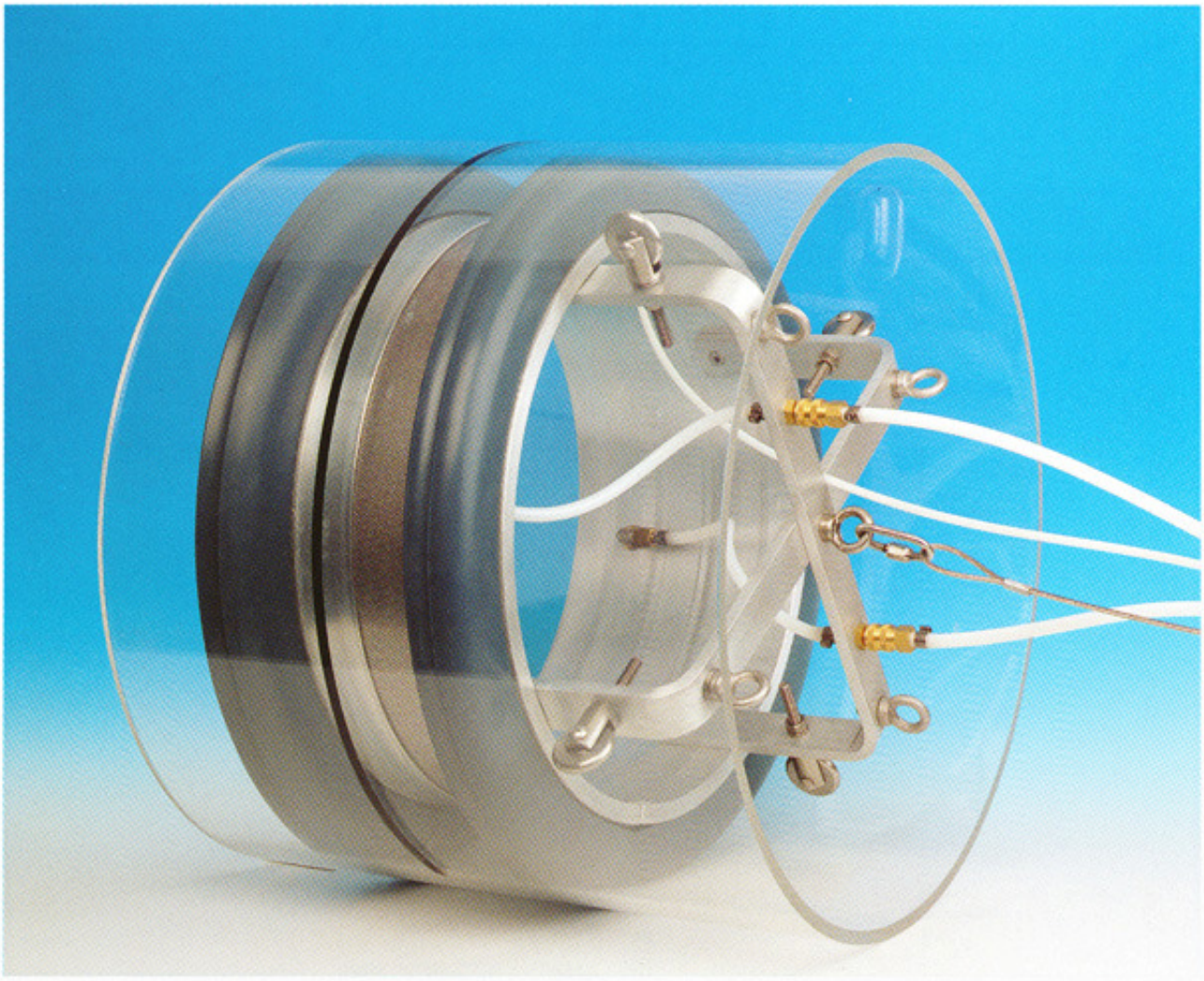
| Item | Order-No. | Describtion | EUR/piece EUR/ m |
|---|---|---|---|
| 1 | 50020001A | Protective Gas Inlet 20 mm Ø with thread M 20 x 1,5 | |
| 4 | 50000004A | Nut M 20 x 1,5 without illustration | |
| 7 | 50013307 | Gasdiffuser - Tube fitting for porous metal diffuser 13 mm Ø x 30 mm | |
| 7 | 50013357 | Gasdiffuser - Tube fitting for porous metal diffuser 13 mm Ø x 35 mm | |
| 7 | 50013507 | Gasdiffuser - Tube fitting for porous metal diffuser 13 mm Ø x 50 mm | |
| 7 | 50013107 | Gasdiffuser - Tube fitting for porous metal diffuser 13 mm Ø x 100 mm | |
| | 50070007 | Gasdiffuser-Hexagonal-Pipe 70 mm | |
| | 50100007 | Gasdiffuser-Hexagonal-Pipe 100 mm | |
| | 50020000 | MS-Double nipple SW 14 Internal thread M 10 x 1, 20 mm long | |
| 10 | 50005010 | rigid arms SW 14 5 mm long | |
| 10 | 50010010 | rigid arms SW 14 10 mm long | |
| 10 | 50020010 | rigid arms SW 14 20 mm long | |
| 10 | 50040010 | rigid arms SW 14 40 mm long | |
| 10 | 50050010 | rigid arms SW 14 50 mm long | |
| 10 | 50060010 | rigid arms SW 14 60 mm long | |
| 10 | 50100010 | rigid arms SW 14 100 mm long | |
| | | **and longer available** | |
| 11 | 50000011 | Hook 4 mm Ø | |
| 11 | 50210011 | 10 m VA release cable 2 mm Ø | |
| 11 | 50220011 | 20 m VA release cable 2 mm Ø | |
| 11 | 50310011 | 10 m VA release cable 3 mm Ø | |
| 11 | 50320011 | 20 m VA release cable 3 mm Ø | |
| 11 | 50210011P | 10 m VA release cable 2 mm Ø PVC-coated (white) | |
| 11 | 50220011P | 20 m VA release cable 2 mm Ø PVC-coated (white) | |
| 11 | | **and longer available** | |
| 12 | 50000012B | Porous metal gas outlet with nut M 6 x 35<br>for sealing discs 115 mm - 420 mm Ø | |
| 13 | 50020013A | Protective gas pass 20 mm Ø with thread M 20 x 1,5 | |
| 14 | 50000021 | 2-layer PVC-hose with fabric 5 x 8 mm Ø | |
| 14 | 50000022 | Oxygen diffusion proof hose 5 x 8 mm Ø | |
| | | | |
| 14 | 50000023 | Stainless steel hose clip with insert ring 9,5 mm Ø | |
| 14 | 50000024 | Complete coupling DN 5 (brass) with pressure reducer | |
| | 50000025 | Mouthpiece for hose, DN 5 (brass) for coupling | |
| | 50000026 | Nut G 1/4“ R with mouthpiece DN 5 (brass)<br>suitable for Argon pressure reducer | |
| | 50000027 | Nut G 3/8“ L with mouthpiece DN 5 (brass)<br>suitable for protective gas pressure reducer | |
| 15 | 50000030 | Stopper M 10 x 1 | |
| 16 | 50000029 | Oxygen measuring probe M 5 x 23 mm with nut<br>for PA - oxygen measuring hose 5 x 3 mm Ø | |
| 17 | 50000028 | Oxygen measuring hose, 5 x 3 mm Ø | |
| | 50000031 | Stainless steel chain, short-linked, 4 mmØ | |
| | 50000032 | Iron chain, galvanized, 4 mmØ | |

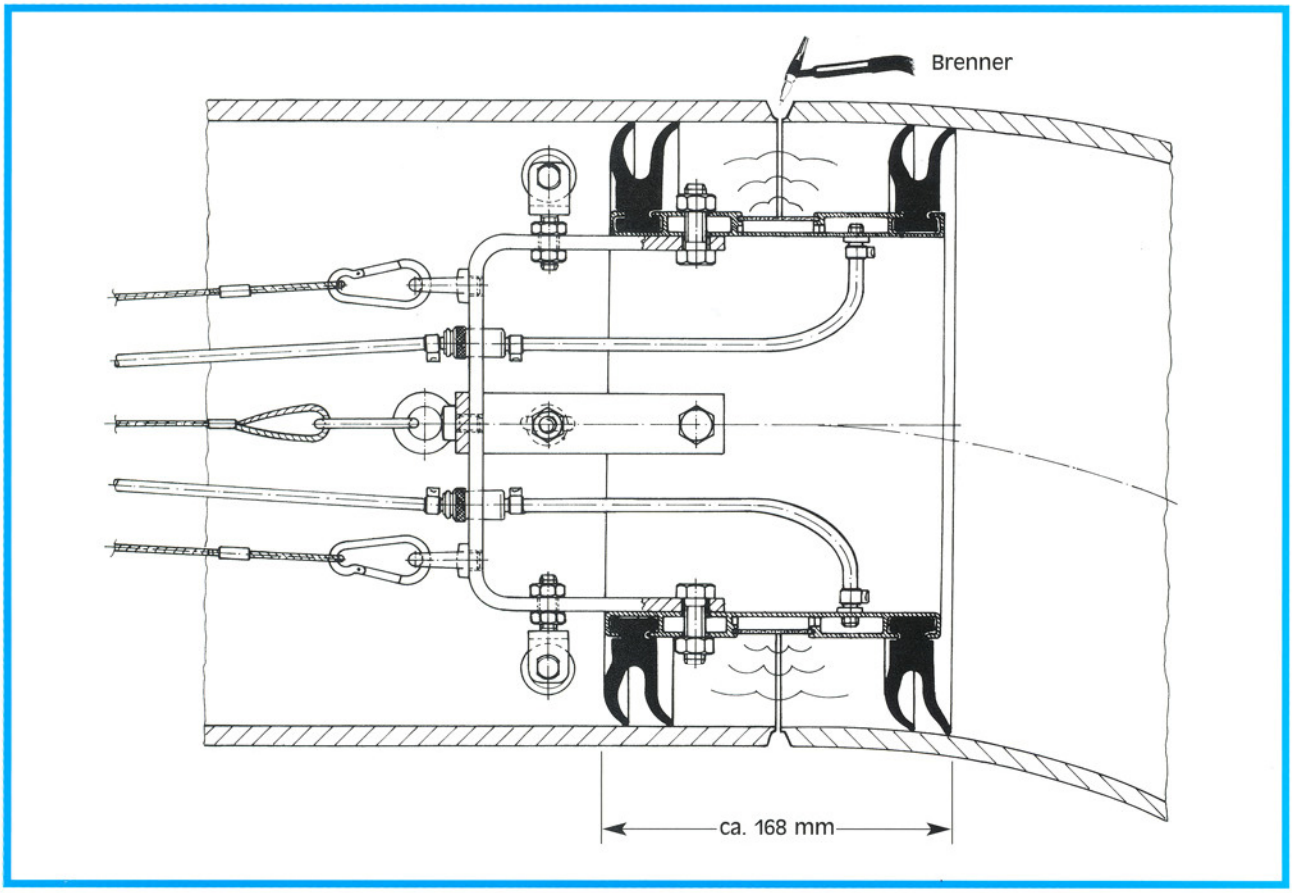
# Schutzgasring bis 300 °C

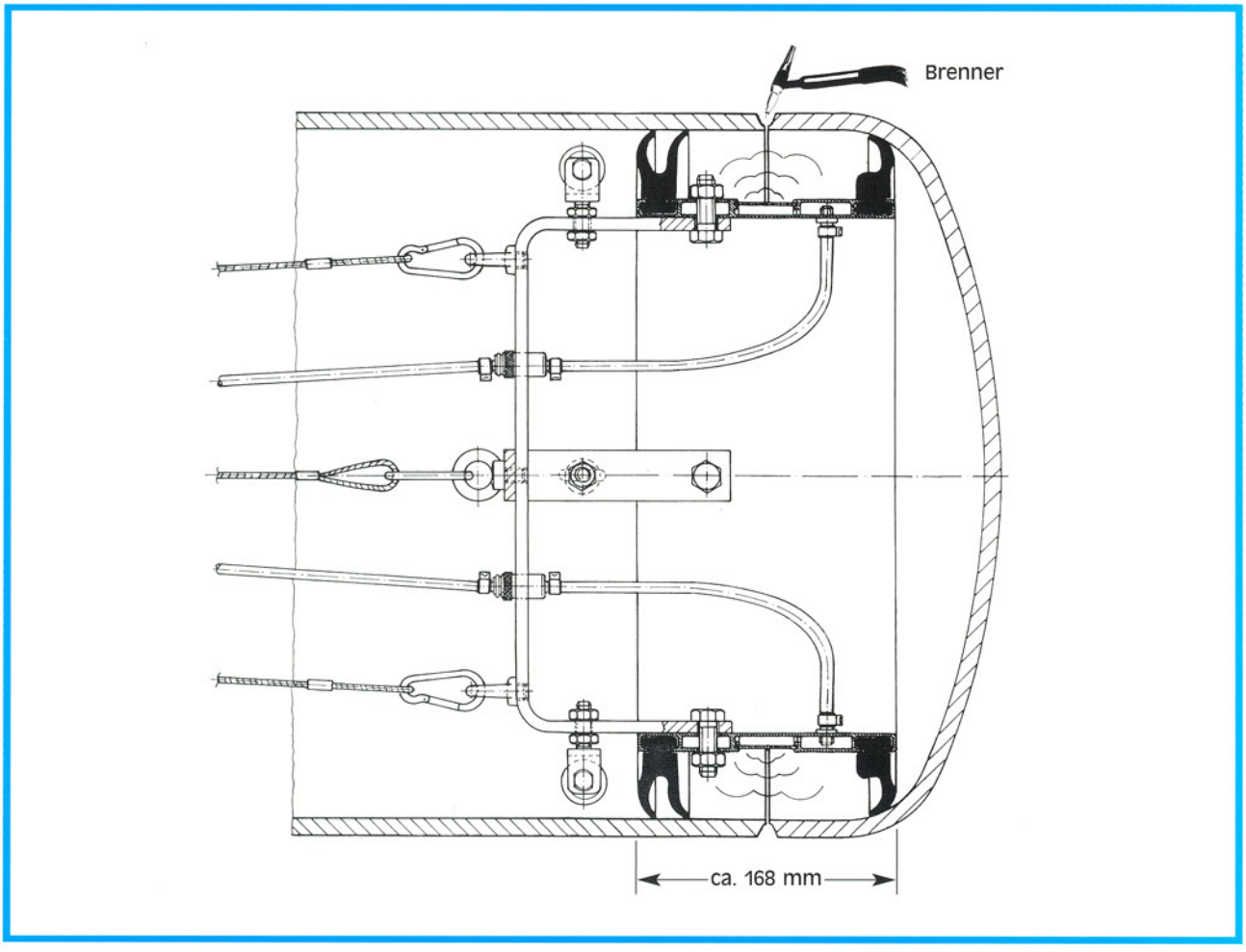
EP-Patent 0519201
US-Patent 5.235.152



Für Rohr- und Behälterschweißnähte von 380 mm Di und größer.
Dieses System wird einteilig als stabiler, geschlossener Ring
mit Rohrbogen-Laufvorrichtung oder zwei- und mehrteilig
aus einzelnen Segmenten bestehend geliefert.




Brenner
ca. 168 mm


Brenner
ca. 168 mm

Catalog
08.12.2011
Prices on request

# Protective Gas Ring for pipes larger than Ø 300 mm

## Bended pipe device with 4 adjustable rollers

complete with release cable, gas hose, gas connection, oxygen probe connector

| Item | Order-No. | Pipe inside Ø | | EUR / pc. | Silicone ring €/pc | Second, rear bended pipe device |
|---|---|---|---|---|---|---|
| 1 | SR00335 | Ø 300-320 mm | one Gas connection | | | |
| 2 | SR00360 | Ø 320-345 mm | | | | |
| 3 | SR00390 | Ø 345-375 mm | | | | |
| 4 | SR00420 | Ø 375-405 mm | | | | |
| | | | | | | |
| 5 | SR00450 | Ø 405-435 mm | Two Gas connections | | | |
| 6 | SR00475 | Ø 430-455 mm | | | | |
| 7 | SR00500 | Ø 455-480 mm | | | | |
| 8 | SR00525 | Ø 480-505 mm | | | | |
| 9 | SR00545 | Ø 500-525 mm | | | | |
| 10 | SR00570 | Ø 525-550 mm | | | | |
| 11 | SR00595 | Ø 550-575 mm | | | | |
| 12 | SR00620 | Ø 575-605 mm | | | | |
| 13 | SR00650 | Ø 600-630 mm | | | | |
| 14 | SR00720 | Ø 670-700 mm | | | | |
| 15 | SR00750 | Ø 700-730 mm | | | | |
| 16 | SR00760 | Ø 710-740 mm | | | | |
| 17 | SR00790 | Ø 740-770 mm | | | | |
| 18 | SR00820 | Ø 770-800 mm | | | | |

| | | | | | Silicone profile €/meter | |
|---|---|---|---|---|---|---|
| 19 | SR00900 | Ø 900 mm | 2 Gas connections | | | |
| 20 | SR01000 | Ø 1000 mm | | | | |
| 21 | SR01100 | Ø 1100 mm | | | | |

**Up to Ø 3000 mm**

**Please state the exact pipe inside diameter, especially if it exceeds 800 mm!**

1.) This system is available with a rigid push- or release aid (picture) as a one-piece, stable, closed ring with bended



# User's Manual (please read carefully)

## Protective Gas Ring with Bend Pursuit Device

## Application

In welding the JA®-Protective Gas Ring is used to avoid corrosion and to protect the lower weld seam when welding pipes with an internal diameter of more than 300 mm and larger vessels.
The Protective Gas Ring with the silicon profile should be chosen in its diameter to be approx. 15-20 mm larger than the internal diameter of the pipe in order to achieve optimum sealing.
The silicon seals will withstand an ambient temperature of up to 300°C. The chamber profile is applicable as closed ring, segmented ring (for circular welds) or as rectangular chamber (for longitudinal welds).
The width of the profile is approx. 168 mm respectively approx. 180mm (depending on the type) with a height of the sealing lips of approx. 60 mm respectively approx. 75 mm (depending on the type). This extremely small volume to be filled with protective gas guarantees highest welding quality at lowest protective gas consumption.
The gas is distributed through the circular chamber system. The laminar protective gas distribution through a porous metal below the weld seam replaces the unwanted oxygen.
Flushing times of 0.5 to 2 minutes are sufficient.

**Sequence:**
1. Optimal sealing
2. Adjustment to slight ovalities of the pipe
3. Avoidance of sliding of the ring in a vertical pipe because of lack of support

## Questions regarding the flush time

The flush time is defined as follows:
The flush time is the amount of time required to bring a certain amount of protective gas to the weld seam in order to minimize the remaining oxygen to an acceptable level

When using the JA-protective gas system, flush times of 0.5 to 2 minutes are sufficient under good conditions. This data is not binding, however, because requirements depend on the actual welding parameters.
In order to find reliable values the user should consult our "Practical Recommendations" and take notice of critical points which are necessary to achieve quality criteria:

1. Which requirements of manufacturing quality and welding specifications have to be fulfilled regarding the weld seam and its weld seam zones? In other words, which manufacturing quality shall be achieved with which welding specifications regarding
2. What is the surface quality of the parts to be welded?
3. Which protective gas is used under consideration of the materials used?
4. How are the welding gaps chosen and prepared?
5. Do you weld with or without air gap?
6. Can the air gaps be protected against draft and upwind (for instance by using aluminium foil adhesive tape or protective tape)?
7. Is the welding position of high importance?
8. Do you weld with or without preheating (preheating supports the unwanted upwind)?
9. Can draft be avoided?
10. How high is the relative humidity in the ambient air?

***As with all of our protective gas systems, we remind you that flammable protective gases should not be used! Gas compositions containing more than 8 % hydrogen (H2) are flammable! There is a danger of fire and explosion!***

The materials used in our products withstand a temperature of 300oC. However, they could be damaged when exposed directly to open flames.

## Routeing for the JA®-Protective Gas Ring with bend pursuit device

1. Insert the Protective Gas Ring by hand into the pipe to be welded. It is recommended to insert the ring in such a way that the silicon lips are positioned in the direction in which you want to pull it. If the Protective Gas Ring shall be pulled through a bended pipe section, the fastening cross with the eye bolts and the guide rollers shall be turned into a position which is tilted 45o towards the longitudinal axle
2. During mounting pull the gas hose (when using bigger dimensions it could be several hoses) and the pulling device (stainless steel cord) through the part to be welded and connect it.
   Please proceed as folllows:

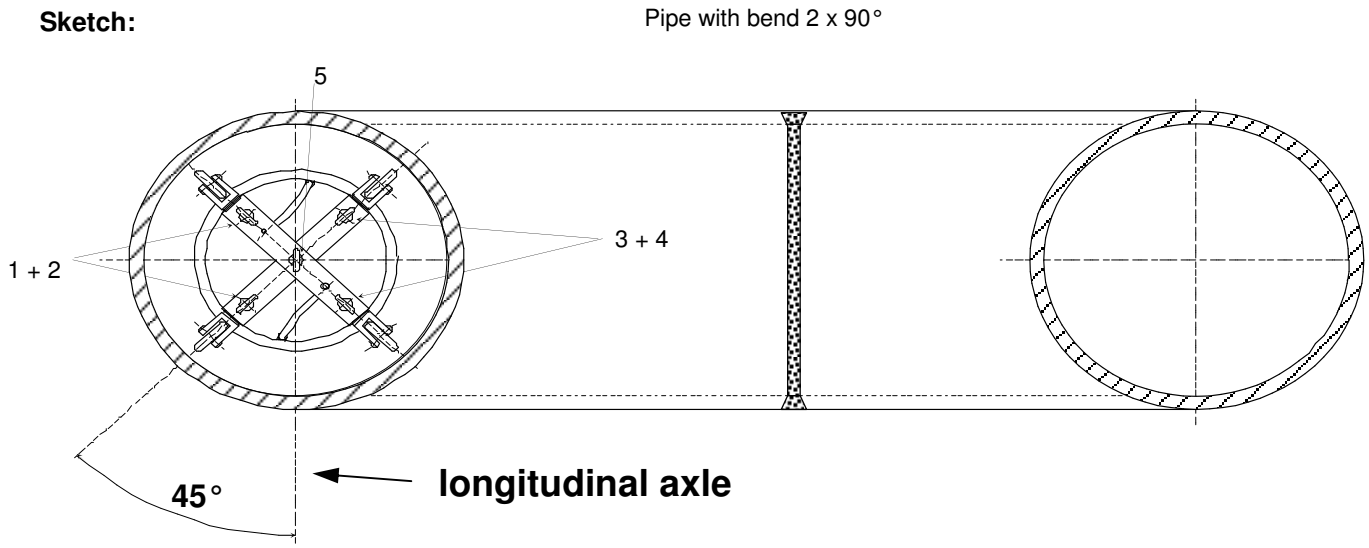
### Application I:

Installation of the Protective Gas Ring into a pipe without bend.
The pulling device (stainless steel cord) will be installed so that each of the four short cords (standard delivery) are fixed at one end to the eye bolt by means of a quick-snap chain lock (please see arrows pos.1,2,3,4 in the sketch) and at the other end to the long cord (10 m stainless steel cord, standard delivery) also by means of the quick-snap chain lock. Another way is to fix the 10 m cord directly to the center eye bolt, again by means of the quick-snap chain lock (please see arrow pos.5 in the sketch).

### Application II:

Installation of the Protective Gas Ring into a pipe with bend.
The pulling device (preferably stainless steel chain, otherwise stainless steel cord) shall be applied in such a way that each of the four short stainless steel chains (respectively stainless steel cords) are fixed at one end to the eye bolt by means of a quick-snap chain lock (please see arrows pos.1,2,3,4 in the sketch). Then the two loose ends of the chains (cords) which are fixed to the eye bolts on pos.1 and 2 are fixed to a 10 m chain (cord) by means of a quick-snap chain lock and the two loose ends of the chains (cords) which are fixed to the eye bolts on pos.3 and 4 are fixed to another 10 m chain (cord) also by means of the quick-snap chain lock.
Thus two pulling strings are created of which one (bundle of chains (cords) connected to pos.1 and 2) will follow the outer bend and the other one (bundle of chains (cords) connected to pos.3 and 4) will follow the inner bend.
A prerequisite for a trouble-free pulling of the Protective Gas Ring through a bend is the correct installation of the ring with the fastening cross being turned into a position which is tilted 45o towards the longitudinal axle (see sketch). After a correct installation the Protective Gas Ring can be pulled through the bends by means of the two separate pulling chains (cords).

**Sketch:**



3. Preposition and center the weld seam.
4. Position the gas ring in the center of the weld seam.
5. Seal the outer side of the weld seam (for instance by means of aluminium foil adhesive tape or protective tape) to avoid unwanted influx of oxygen. Please note that the greatest influx of oxygen happens through air gaps before welding.
6. The preheating depends on the steel quality.
7. Provide for protective gas before the tack weld (protective gas flush of approx. 30-40 litres). The flushing time will be approx. 1 – 2 minutes.
8. The amount of protective gas at weld start is 0.5 – 1 litre per centimetre.

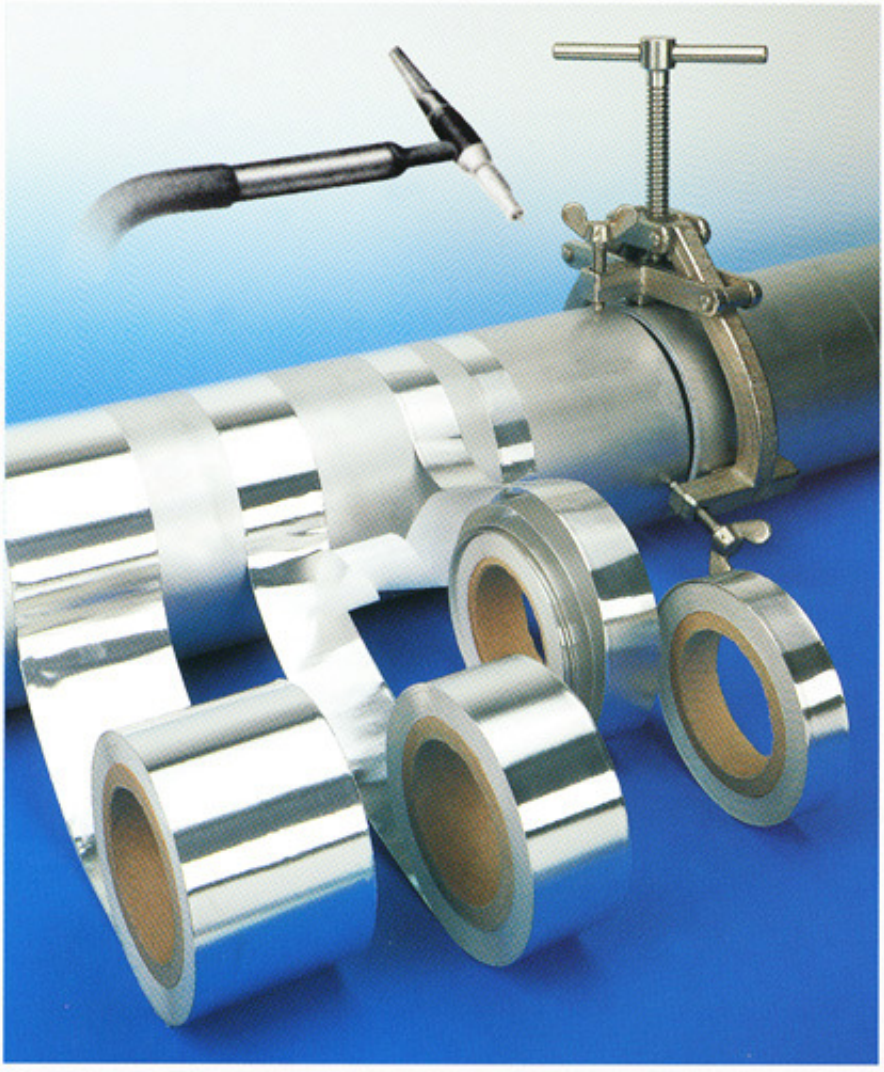
***Example:*** $\frac{\text{Nominal Width } 500}{10} \times 0.75 \text{ litres} = 37.5 \text{ litres / minute at weld start}$

This data is only a recommendation and can vary in accordance with the quality requirements. The existence of remaining oxygen in the lower seam region can be measured under permanent visual control of the root surface as follows: Lighten up the air gap by means of special lamp or constant measuring with the oxygen meter SMG4, Aero2-Mat 4115 or 4120. Stainless steel should only be welded with remaining oxygen of less than 70 Vppm.

9. The partial welds (tack welds) should be applied under protective gas in the required amount (under visual internal control).
10. Welding start: With increasing length of the completed root weld the unwanted influx of oxygen decreases. Result: When welding the root layer the amount of gas has to be reduced. The amount of gas as calculated as per Item 8 can be therefore substantially reduced which saves cost.
11. When welding a material with wall thickness of up to 10 mm the root protection should remain until completion of the whole seam including cover layer.
12. When welding a material with wall thickness of more than 12 mm the over welding does not interfere with the interior side (however, only when using manual metal arc and TIG welding, not when using submerged arc welding).

# Aluminum - Covering Tape

## Self - adhesive and heat - resistant up to 300 °C (short-therm)



Reduces the intake of air oxygen by covering the welding gap.

**Aluminum - Covering Tape, self-adhesive, for the welding industry**

Length: 25 m

| Width: | 25 mm | 33 mm | 50 mm | 75 mm | 100 mm |
|---|---|---|---|---|---|
| Units per package: | 4 rolls | 3 rolls | 2 rolls | 1 roll | 1 roll |

Thickness of aluminum foil: 0,1 mm (100 µ) + adhesive and internal foil

Printed in Germany

Catalog
08.12.2011
Prices on request

# Aluminium Masking-Tape

Self-adhesive with heat-resistant glue

| Order-No. | Dimensions/Roll | Rolls per package | Euro / Roll |
|---|---|---|---|
| AL25025 | 25 M length x 25 mm width | 4 | |
| AL25033 | 25 M length x 33 mm width | 3 | |
| AL25050 | 25 M length x 50 mm width | 2 | |
| AL25075 | 25 M length x 75 mm width | 1 | |
| AL250100 | 25 M length x 100 mm width | 1 | |

Minimum order quantity is one packing unit !

**Description:** self-adhesive pure aluminium foil, silver glossy, hardly flammable

**Physical properties:** Thickness (aluminium foil) 0.1 mm, corresponds to 100µ

**Temperature resistance: (after adhesion)**

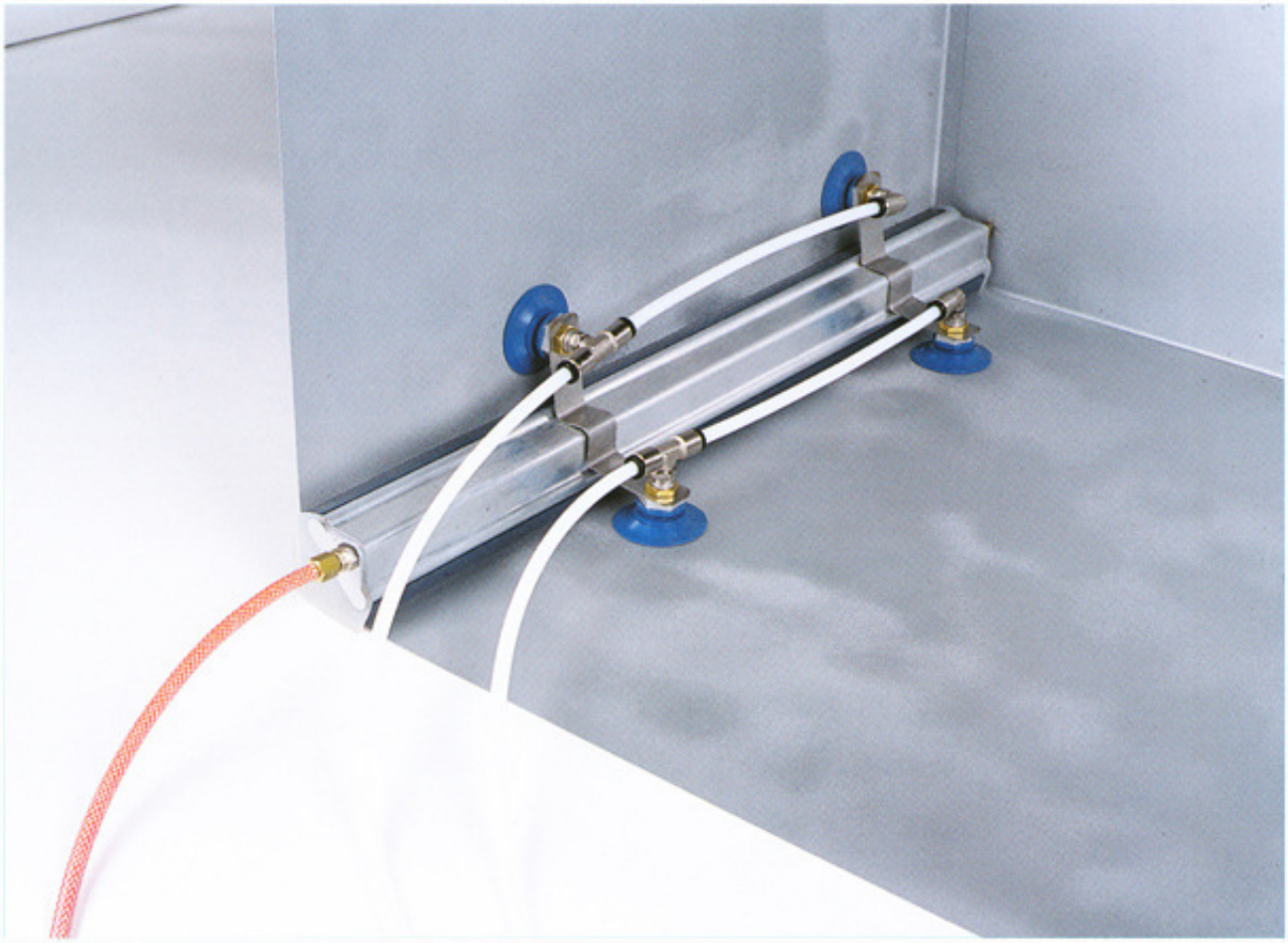
| | |
|---|---|
| Minimum | -30° C |
| Maximum (short-term) | +300° C |
| Maximum (long-term) | +110° C |

**Vapour diffusion permeability:** water-vapour-proof

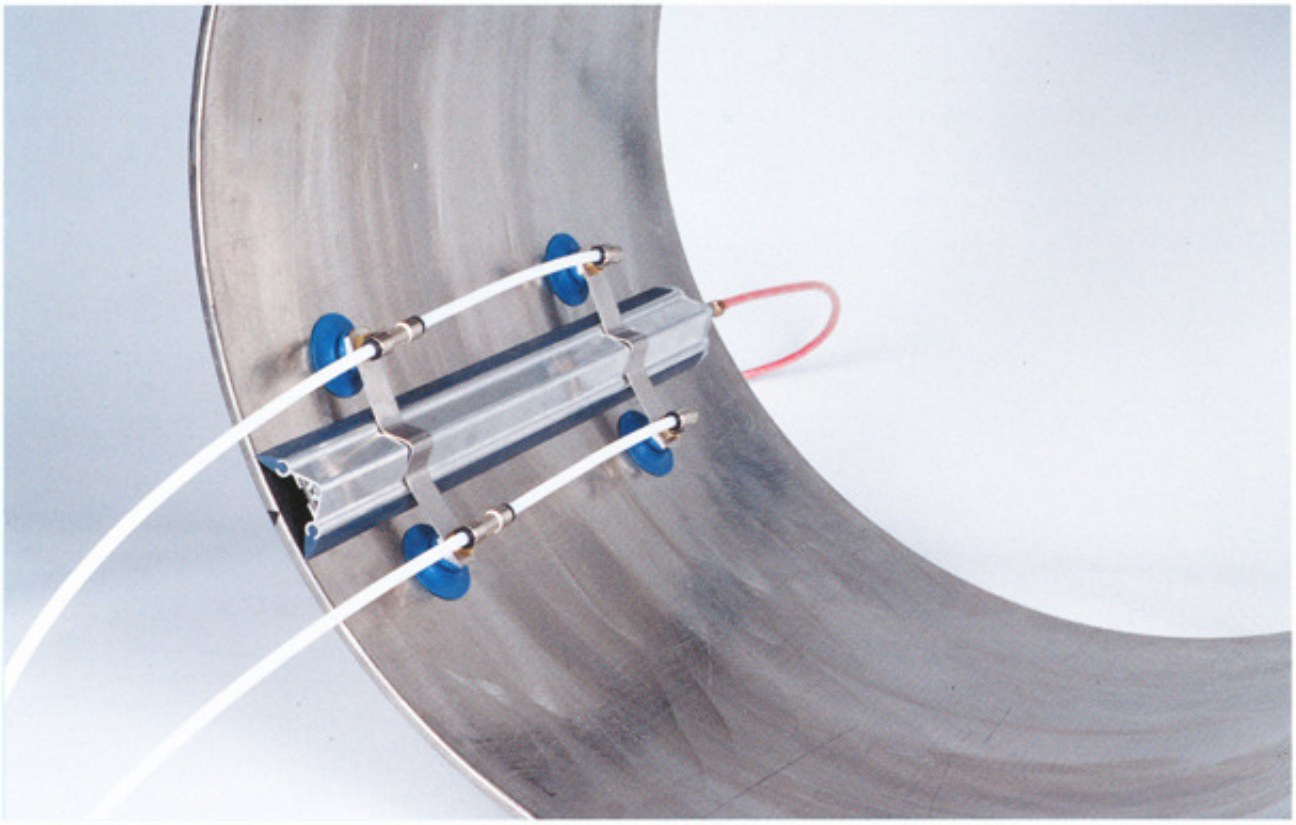
**Interlayer:** a recyclable paper-strip serves as an interlayer between the different layers of the aluminium masking-tape to facilitate the unrolling of the aluminium foil

# Protective Gas Angular Profile up to 300 °C

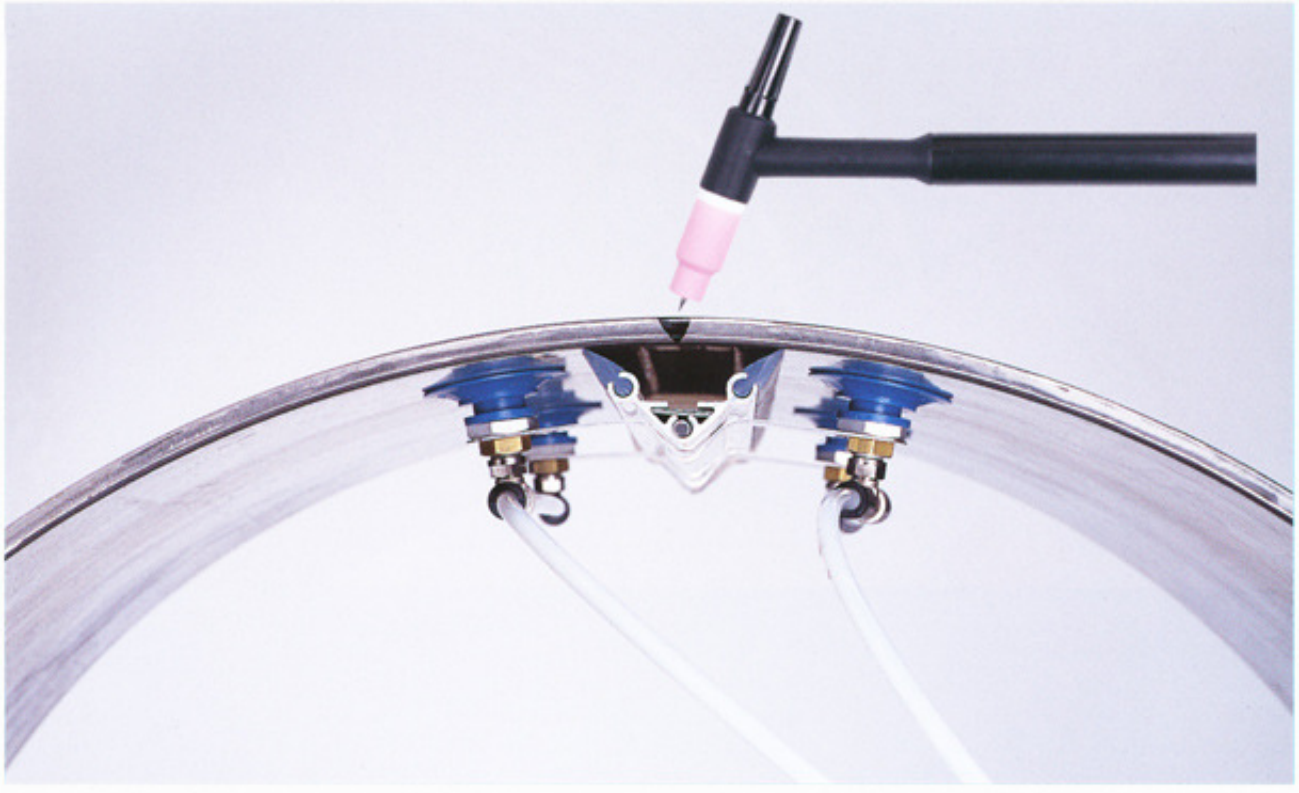
For longitudinal and corner seams.
The profile will be applied before the welding by means of vacuum or magnetic connection.



cormer seam



longitudinal seam



Printed in Germany

Catalog
08.12.2011
Prices on request

# Protective Gas Angular Profile

**für longitudinal welding seams (butt seam welding and corner joint welding)**
**up to 3000 mm length**

| Description | Dimension | EUR/Meter |
|---|---|---|
| Angular Profile with Gas Connector G1/8“ for butt seam | 1000 mm long | |
| Additional 2 head pieces for butt seam | | |
| **Complete:** | | |

| | | |
|---|---|---|
| Angular Profile with Gas Connector G1/8“ for corner joint | 1000 mm long | |
| Additional 2 head pieces for corner joint | | |
| **Complete:** | | |

**Example**: 750 mm Angular-Profile (€ x 0,75) + 2x € for the Head Pieces = €

| Description | Dimension | EUR |
|---|---|---|
| Angular Profile with Gas Connector G1/8“ for butt seam | up to 300 mm | |
| Angular Profile with Gas Connector G1/8“ for corner joint | up to 300 mm | |

| Order-No. | Description | EUR/Meter |
|---|---|---|
| 50000021 | 2-layer PVC-hose with fabric 5 x 8 mmØ | |
| 50000022 | nearly oxygen proof hose 5 x 8 mmØ | |
| 50000023 | Stainless steel hose clip with insert ring 9,5 mmØ | |
| 50000024 | Coupling DN 5 (brass) with gas closing | |
| 50000025 | Mouthpiece for hose DN 5 (brass) for coupling | |
| 50000026 | Nut G ¼“ R with mouthpiece DN 5 (brass)<br>suitable for argon pressure reducer | |
| 50000027 | Nut G 3/8“ L with mouthpiece DN 5 (brass)<br>suitable for protective gas reducer | |

| | **Spare parts for angular profile** | | |
|---|---|---|---|
| J0220801 | Alu-Profile | 1000 mm | |
| J0221061 | Silicone-Profile | 1000 mm | |
| J0220411 | SS-Sintered metal | 1000 x 21 x 1mm | |
| J0220606 | SS-perforated sheet | 1000 x 21 x 1mm | |
| J0220604 | SS-helix, gas diffuser | 6 mmØ x 1000 mm | |
| J0221060 | Silicone, flate, to seal<br>the head pieces | 1000 x 240 x 3 mm | |

| | **Additional parts** | |
|---|---|---|
| J0210101 | Magnets | |
| J0210102 | suction cap, holding device, suction pipe | |
| J0202501 | Vacuum pump | |

# Rohrendstopfen aus den Werkstoffen Naturkautschuk oder Silikonkautschuk

Geeignet für Rohrdurchmesser ab 4,0 mm bis ca. 225 mm

Die Einsatzbereiche im Rohrleitungsbau sind vielfältig:

① Zum Abdichten der Rohrenden bei gleichzeitiger Schutzgaszuführung mit diversen Schutzgasfingern (siehe 2.3) während des Schweißens zur Vermeidung von Korrosion.

② Zum Abdichten gegen unerwünschte Zugluft/Kaminwirkung.

③ Beim Vorwärmen, Schweißen und während der Wärmebehandlung.

④ Zum Schutz der angearbeiteten Rohrschweißenden.

⑤ Zum Abdichten gegen Verunreinigung/Flugrost während des Transports und der Lagerung.

⑥ Die Stopfen sind mit einer äußerst geringen Schräge versehen, um ein selbsttätiges Hinausgleiten aus dem Rohrende zu vermeiden.

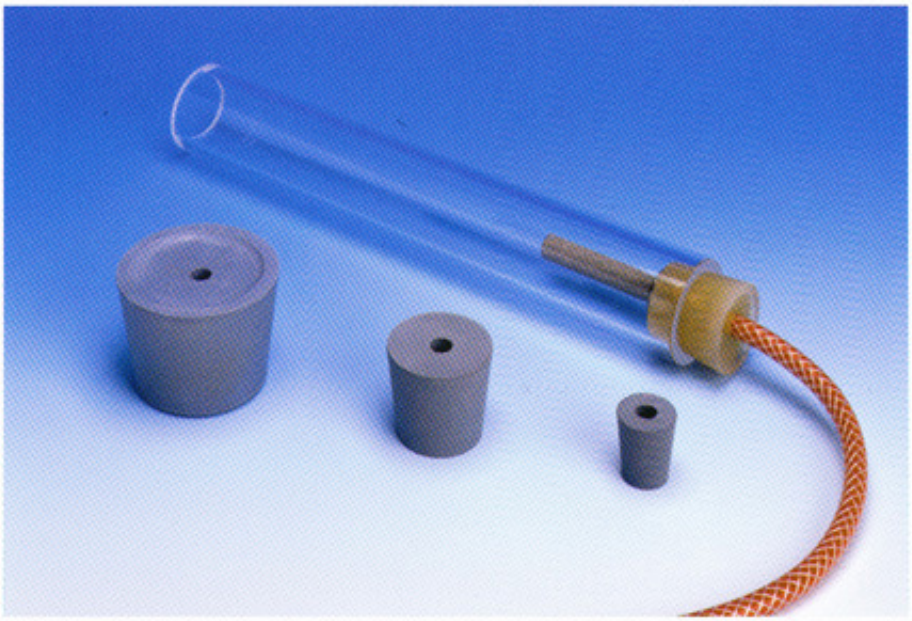




Stopfen für Rohrdurchmesser von 4 mm bis 225 mm



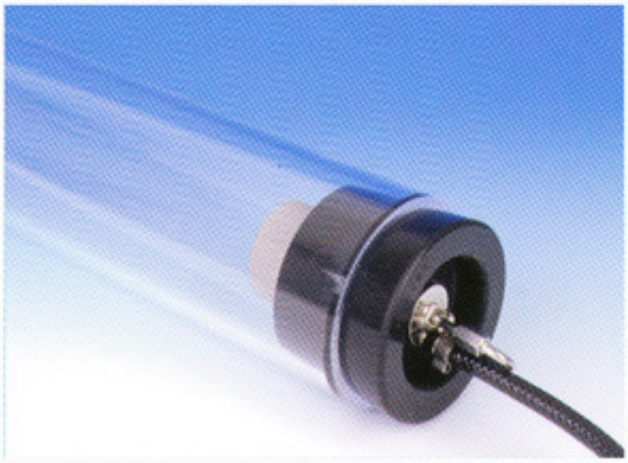
Stopfen mit Schutzgasfinger Ø 22 mm x 50 mm Länge



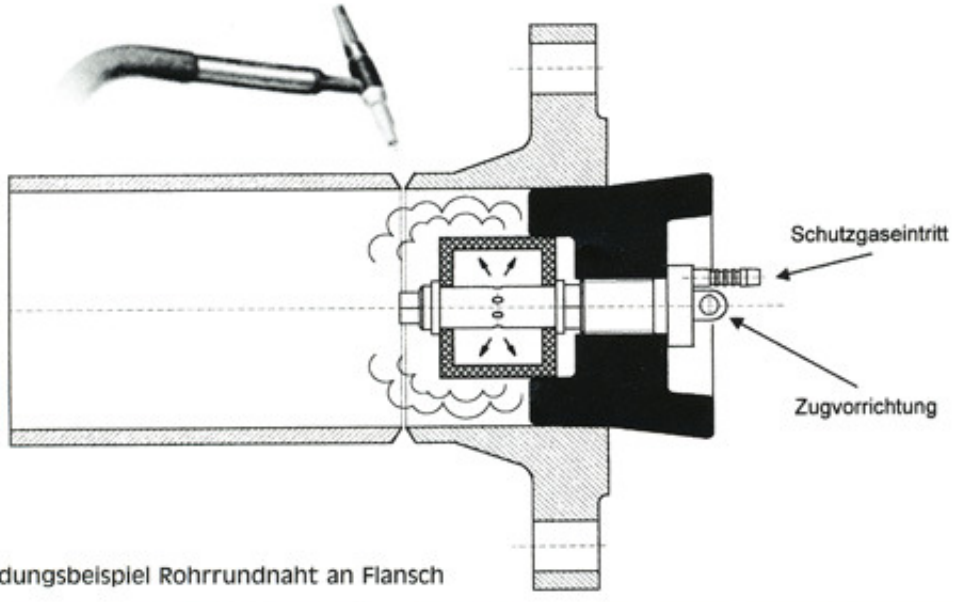
Stopfen mit Schutzgasfhger Ø 10 mm x 50 mm lang
Lochdurchmesser nach Ihren Angaben



Stopfen mit Schutzgasfhger Ø 60 mm x 50 mm lang



Stopfen mit Schutzgasfhger Ø 60 mm x 50 mm lang




Anwendungsbeispiel Rohrrundnaht an Flansch

Catalog
08.12.2011
Prices on request

# ***Rubber pipe plugs***

**Surcharge per borehole: 35 cent**

| Order-No. | lower Ø mm | upper Ø mm | Height in mm | EUR/pc |
|---|---|---|---|---|
| NS003006 | 3,5 | 6,5 | 15 | |
| NS004008 | 4 | 8 | 20 | |
| NS005009 | 5 | 9 | 20 | |
| NS006010 | 6 | 10 | 20 | |
| NS009013 | 9 | 13 | 20 | |
| NS011015 | 11 | 15 | 20 | |
| NS012017 | 12 | 17 | 25 | |
| NS012016 | 12,5 | 16,5 | 20 | |
| NS014018 | 14 | 18 | 20 | |
| NS016021 | 16 | 21 | 25 | |
| NS017023 | 17 | 23 | 30 | |
| NS019024 | 19 | 24 | 25 | |
| NS022027 | 22 | 27 | 25 | |
| NS025031 | 25 | 31 | 30 | |
| NS028034 | 28 | 34 | 30 | |
| NS031038 | 31 | 38 | 35 | |
| NS034041 | 34 | 41 | 35 | |
| NS035044 | 35 | 44 | 40 | |
| NS038045 | 38 | 45 | 35 | |
| NS042049 | 42 | 49 | 35 | |
| NS046054 | 46 | 54 | 40 | |
| NS050060 | 50 | 60 | 45 | |
| NS050061 | 50 | 60 | 50 | |
| NS055065 | 55 | 65 | 50 | |
| NS063073 | 63 | 73 | 50 | |
| NS065075 | 65 | 75 | 50 | |
| NS070090 | 70 | 90 | 50 | |
| NS078092 | 78 | 92 | 50 | |
| NS085095 | 85 | 95 | 50 | |
| NS087100 | 87 | 100 | 65 | |
| NS094107 | 94 | 107 | 65 | |
| NS095105 | 95 | 105 | 50 | |
| NS093102 | 93 | 102 | 88 | |
| NS095125 | 95 | 125 | 80 | |
| NS105125 | 105 | 125 | 50 | |
| NS120170 | 120 | 170 | 130 | |
| NS160220 | 160 | 220 | 160 | |
| NS200260 | 200 | 260 | 160 | |

Temperature-resistant - 20ºC up to 90 º C
Hardness: 40°Shore  Colour: grey

Pipe plugs are usually delivered without any boreholes.
For a small surcharge, pipe plugs can be equipped with boreholes,
if the smallest diameter allows for any boreholes.
Please state the desired diameter of the borehole!!!

# Silicone pipe plugs

| Order-No. | lower Ø mm | upper Ø mm | Height in mm | EUR/pc |
|---|---|---|---|---|
| SI004008R | 4 | 8 | 20 | |
| SI006010R | 6 | 10 | 20 | |
| SI009013R | 9 | 13 | 20 | |
| SI011015R | 11 | 15 | 20 | |
| SI014018R | 14 | 18 | 20 | |
| SI016021R | 17 | 22 | 25 | |
| SI019024R | 19 | 24 | 25 | |
| SI022027K | 22 | 27 | 25 | |
| SI024032K | 24 | 32 | 30 | |
| SI027034K | 27 | 34 | 30 | |
| SI032038K | 32 | 38 | 30 | |
| SI034040K | 34 | 40 | 30 | |
| SI038046K | 38 | 46 | 35 | |
| SI040050K | 40 | 50 | 40 | |
| SI046055K | 46 | 55 | 40 | |
| SI050060K | 50 | 60 | 45 | |
| SI055066G | 55 | 66 | 45 | |
| SI060073G | 60 | 73 | 50 | |
| SI066080G | 66 | 80 | 60 | |
| SI073087G | 73 | 87 | 60 | |
| SI080093G | 80 | 93 | 60 | |
| SI087105G | 87 | 105 | 72 | |
| SI093115G | 93 | 115 | 90 | |
| SI110130G | 110 | 130 | 90 | |
| SI120170R | 120 | 170 | 130 | |

**Surcharge per borehole:**

Temperature-resistant from -60°C up to 260°C
Hardness: 50° Shore Colour: transparent or black

Pipe plugs are usually delivered without any boreholes.
For a small surcharge, pipe plugs can be equipped with boreholes,
if the smallest diameter allows for any boreholes.
Please state the desired diameter of the borehole!!!

Catalog
08.12.2011
Prices on request

# Sintered metals and stainless steel protective gas diffusors

| Order-No.: | Description | EUR / pc. |
|---|---|---|
| | **Protective Gas Finger** | |
| 50006300 | Sintered metal gas finger, Ø 6 mm x 30,0 mm lg., hose coupling | |
| 50010125 | Sintered metal gas finger, Ø 10mm x 12,5 mm lg., hose coupling | |
| 50010250 | Sintered metal gas finger, Ø 10mm x 25,0 mm lg., hose coupling | |
| 50010500 | Sintered metal gas finger, Ø 10mm x 50,0 mm lg., hose coupling | |
| 50011200 | Sintered metal gas finger, Ø 10mm x 120,0 mm lg., hose coupling | |
| 50022250 | Sintered metal gas finger, Ø 22mm x 25,0 mm lg., hose coupling | |
| 50022500 | Sintered metal gas finger, Ø 22mm x 25,0 mm lg., hose coupling | |
| 50036500 | Sintered metal gas finger, Ø 36mm x 50,0 mm lg., hose coupling | |
| | **Protective Gas Modular System and Protective Gas Universal System** | |
| 50027406 | sintered metal gas diffuser Ø 27 x 40 mm lg., M10x1 internal thread | |
| 50036406 | sintered metal gas diffuser Ø 36 x 40 mm lg., M10x1 internal thread | |
| 50044406 | sintered metal gas diffuser Ø 44 x 40 mm lg., M10x1 internal thread | |
| 50060406 | sintered metal gas diffuser Ø 60 x 40 mm lg., M10x1 internal thread | |
| 50060606 | sintered metal gas diffuser Ø 60 x 60 mm lg., M10x1 internal thread | |
| 50075606 | sintered metal gas diffuser Ø 75 x 60 mm lg., M10x1 internal thread | |
| 50075106 | sintered metal gas diffuser Ø 75 x 100 mm lg., M10x1 internal thread | |
| 50100106 | sintered metal gas diffuser Ø 100 x 100 mm lg., M10x1 internal thread | |
| 50150106 | sintered metal gas diffuser Ø 150 x 100 mm lg., M10x1 internal thread | |
| 50200106 | sintered metal gas diffuser Ø 200 x 100 mm lg., M10x1 internal thread | |
| 50250106 | sintered metal gas diffuser Ø 250 x 100 mm lg., M10x1 internal thread | |
| | **Protective Gas Modular System and Protective Gas Universal System** | |
| J 02 1 01 51 | sintered metal gas hose diffuser Ø 14 mm x 120 mm lg., M10x1 external thread | |
| J 02 1 01 52 | sintered metal gas hose diffuser Ø 14 mm x 150 mm lg., M10x1 external thread | |
| J 02 1 01 53 | sintered metal gas hose diffuser Ø 14 mm x 200 mm lg., M10x1 external thread | |
| J 02 1 01 54 | sintered metal gas hose diffuser Ø 14 mm x 250 mm lg., M10x1 external thread | |
| | **Protective Gas Modular System** | |
| 50027306 | sintered metal gas distributor Ø 27 x 30 mm lg., M10x1 internal thread | |
| 50036356 | sintered metal gas distributor Ø 36 x 35 mm lg., M10x1 internal thread | |
| 50044356 | sintered metal gas distributor Ø 44 x 35 mm lg., M10x1 internal thread | |
| 50065506 | sintered metal gas distributor Ø 65 x 50 mm lg., M10x1 internal thread | |
| 50075506 | sintered metal gas distributor Ø 75 x 50 mm lg., M10x1 internal thread | |
| 50096106 | sintered metal gas distributor Ø 96 x 100 mm lg., M10x1 internal thread | |
| 50149106 | sintered metal gas distributor Ø 149 x 100 mm lg., M10x1 internal thread | |
| 50195106 | sintered metal gas distributor Ø 195 x 100 mm lg., M10x1 internal thread | |
| 50244106 | sintered metal gas distributor Ø 244 x 100 mm lg., M10x1 internal thread | |

***Different lengths and diameters available from our own production***

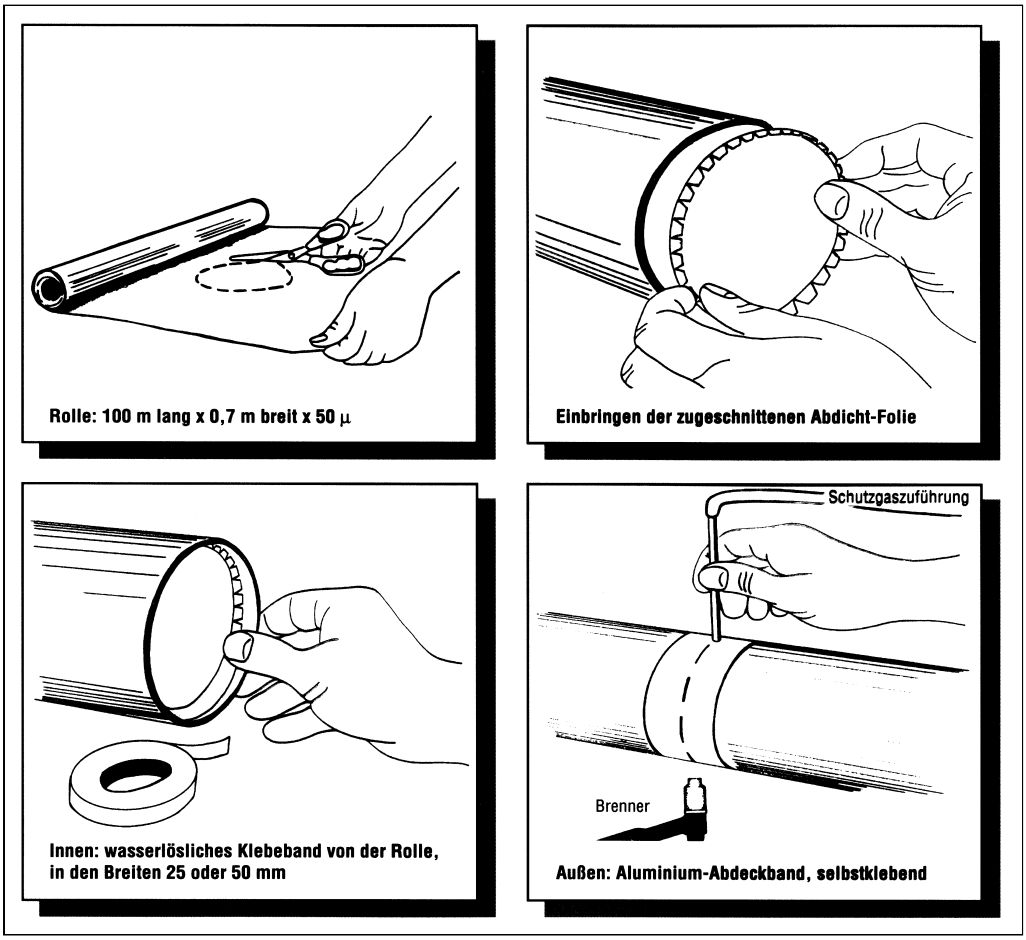
# Additional sintered metals made off stainless steel

| Order-No.: | Description | EUR / m² |
|---|---|---|
| J 02 2 04 01 | sintered metal fleece, rough<br>1180 x 1500 x 1 mm or custom-made | |
| J 02 2 04 02 | sintered metal fleece, fine<br>1180 x 1500 x 1 mm or custom-made | |
| | | **EUR / piece** |
| J 02 2 04 05 | sintered metal plate, 300 x 200 x 2 mm (max. size)<br>ductile and weldable | |
| J 02 2 04 06 | sintered metal plate, 300 x 200 x 3 mm (max. size)<br>ductile and weldable | |

***Additional sintered metal qualities and dimensions upon request***

Catalog
08.12.2011
Prices on request

# Water soluble foil and water soluble paper

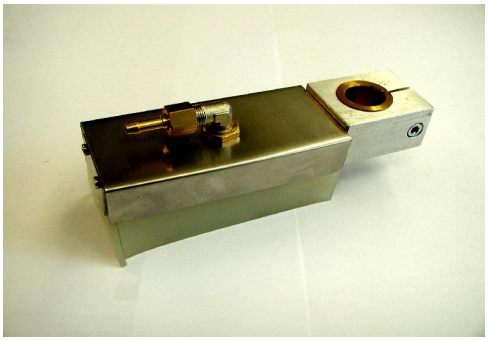



| Order-Nr. | Description | EUR/roll EUR/piece |
|---|---|---|
| | **Water soluble foil** | |
| WF700050 | Roll: 700mm x 50 Meter long x 0,05mm | |
| | **Water soluble adhesive tape** | |
| WK259150 | Roll: 25mm x 91,50 Meter long x 0,13 mm | |
| WK509150 | Roll: 50mm x 91,50 Meter long x 0,13 mm | |
| | **Water soluble paper** | |
| WP7805460 | Roll: 78cm x 50 Meter long, WLD 60 x 0,2mm | |
| WP3905460 | Roll: 39cm x 50 Meter long, WLD 60 x 0,2mm | |
| WP3905435 | Roll: 39cm x 50 Meter long, WLD 35 x 0,08mm | |
| WP5205040 | Roll: 52 cm x 50 Meter long, WLD 40C x 0,13 mm | |
| WB2103535 | Sheet: 21cm x 35cm, WLD 35 x 0,08mm | |
| WB3905435 | Sheet: 39cm x 54cm, WLD 35 x 0,08mm | |
| WB3905460 | Sheet: 39cm x 54cm, WLD 60 x 0,2mm | |

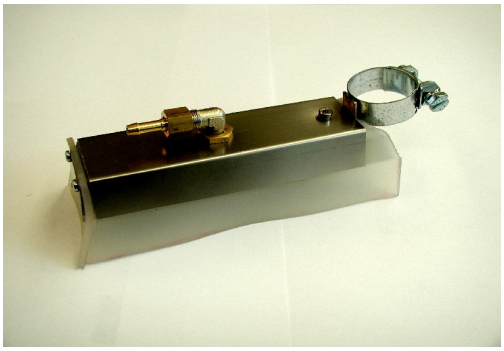
Catalog
08.12.2011
Prices on request

# Trailing shield

Type 1 with silicone sealing



Type 2 with silicone sealing



| Order-No.: | Description | EUR/pc |
|---|---|---|
| J02 02 40 1 | trailing shield Typ 1, straight, 170 mm | |
| J02 02 40 2 | trailing shield Typ 1, straight, 170 mm, with silicone sealing on the side | |
| | | |
| J02 02 40 5 | trailing shield Typ 1, straight, (< 170 mm) shorter model | |
| J02 02 40 6 | trailing shield Typ 1, straight, (< 170 mm) shorter model, with silicone sealing on the side | |
| J02 02 40 3 | trailing shield Typ 2, straight, 180 mm long | |
| J02 02 40 4 | trailing shield Typ 2, straight, 180 mm long, with silicone sealing on the side | |
| J02 02 40 7 | trailing shield Typ 2, straight, (< 180 mm) shorter model | |
| J02 02 40 8 | trailing shield Typ 2, straight, (< 180 mm) shorter model, with silicone sealing on the side | |
| J02 02 40 9 | | |

Please always state the outer nozzle diameter of all trailing shields.

The following questions should be clarified:

1. Which shape of a weld ?
2. longitudinal, round or corner seam?
3. If round joint, please state the diameter!
4. Which welding process?
5. Which welding speed?
6. Which welding torch?

Catalog
12.12.2011
Prices on request

# Tungsten electrode cutting machine

for tungsten electrodes from Ø 1,0 to 8,0 mm
Length separation accuracy ± 0,1 mm



| Order No.: | Description | EUR/pc. |
|---|---|---|
| J0300050 | JA - Tungsten electrode cutting machine ( 230 Volt ) | |
| J0300051 | JA - Tungsten electrode cutting machine ( 115 Volt ) | |
| J0310154 | Diamond cutting-off wheel Ø 150 mm x 1 mm width | |

| Other dimensions on request | | |
|---|---|---|
| 90000167 | steel cupboard with drawer (dust absorbing device incl.) | |
| 90000168 | vacuum-cleaner type 2 M, tested and approved, dust specification medium | |
| 90000170 | vacuum-cleaner type 2 H, tested and approved, dust specification high | |

**Made in Germany**

# Tungsten-Electrode-Grinder

For tungsten electrodes with diameter from 1,0 up to 5,0 mm (0.040-1/5˝)

Quality

Made in Germany

Own Production,
with Diamond Grinding Disc



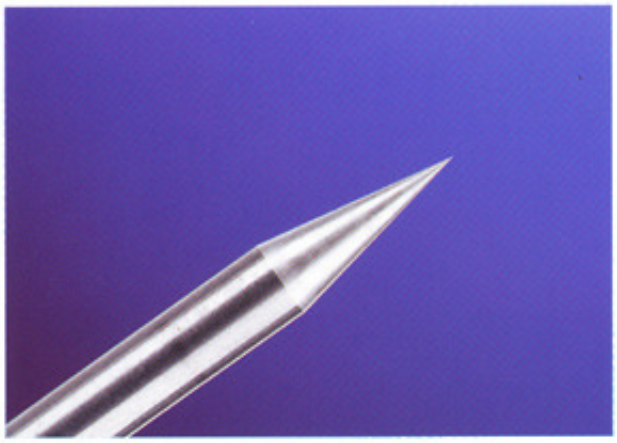


Optimal
Welding
and
Cutting
Quality
by means of
longitudinal
grinding

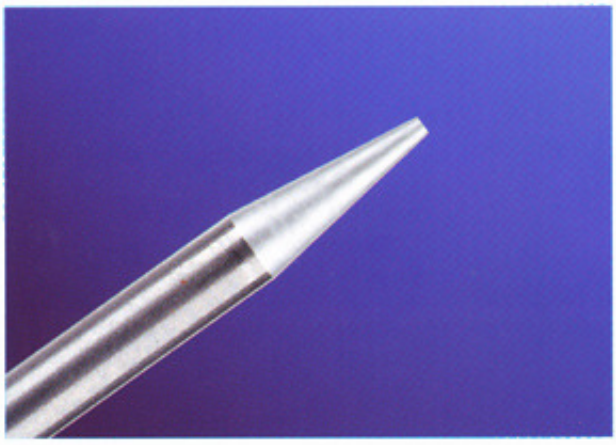
Model TIG 10/175

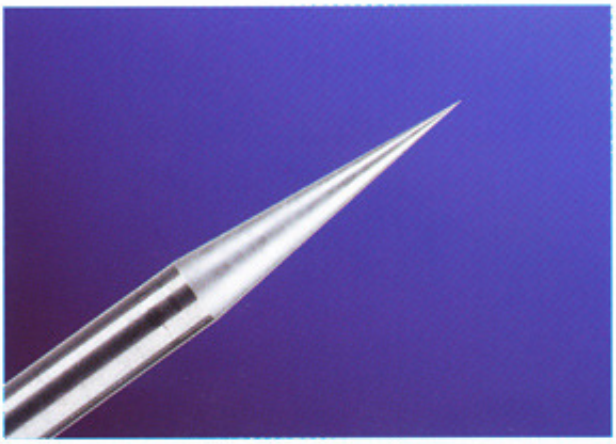
Made in Germany

# Designed by Welding Experts for the Welding Industry



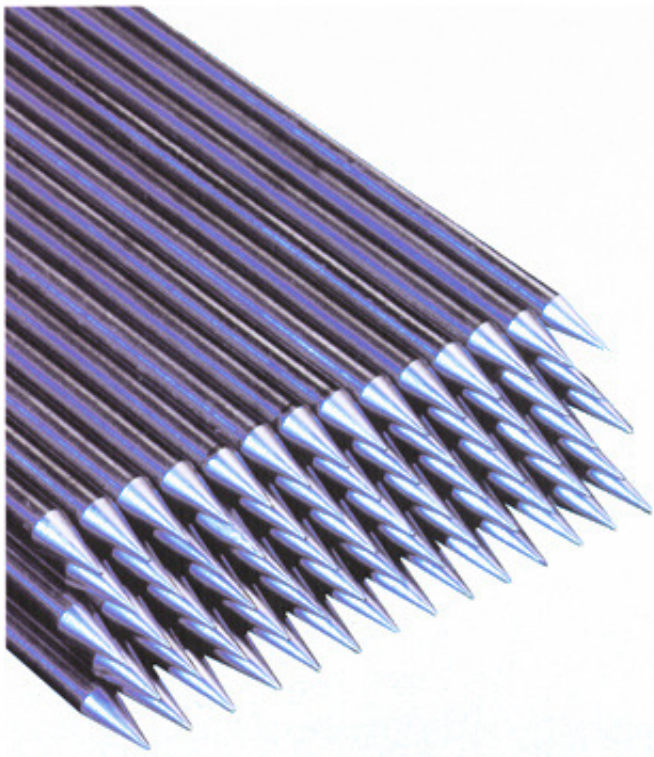






## Advantages at a glance

- Cutting and grinding can be done with the same diamond grinding disc
- Optimal welding and cutting results by means of centrical longitudinal grinding
- Grinding angle can be chosen free and direct from 0–90°
- No warped grinding – even not with used electrodes
- Excellent contact-free ignition quality even after hundreds of ignitions
- Stable arc with best weld seam quality by means of controlled melting zones when orbital and hand welding is used
- Exact repeatability of the grinding angle to guarantee your welding parameter
- For tungsten electrodes with diameter from 1,0-5,0 mm (0.040-1/5") and lengths from 10-175 mm (0.4-7") in an accuracy of ± 0,01 mm (0.0004") (with additional dial gauge).
- Easy handling



# Tried and Tested:
# JA Tungsten Electrode Grinder:

## The complete system:

- Certified and approved vacuum cleaner with 115 V or 230 V
- Efficient and low-maintenance motor
- Steel-cupboard with working pad and dedusting device
- Flexible halogen lamp
- Diamond grinding disc for dry grinding
- Suitable for every tungsten electrode and surface condition

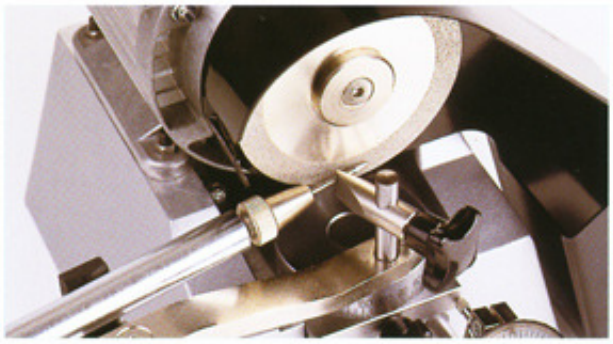
  Grain 64 "very fine" for grinding 1,0 mm (0.040") and polishing

  Grain 76 "middling fine" for grinding 1,0-2,4 mm (0.040-3/32")

  Grain 126 "fine" for grinding 1,0-5,0 mm (0.040-1/5")

  Grain 151 "coarse" for rough-grinding
- Shortening of electrodes in a few seconds can be done by means of notching at the same disc and splitter-free breaking.

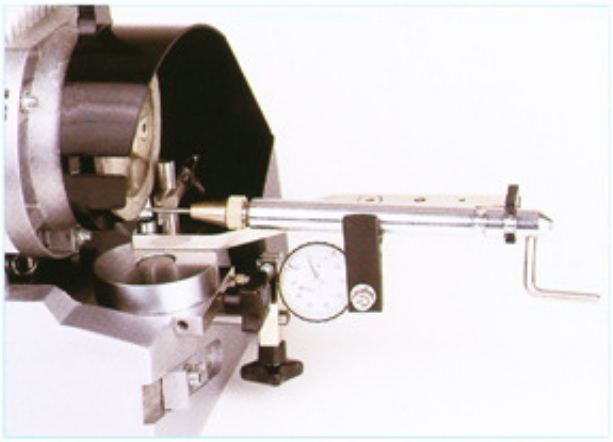
  This also applies to damaged or polluted electrodes.



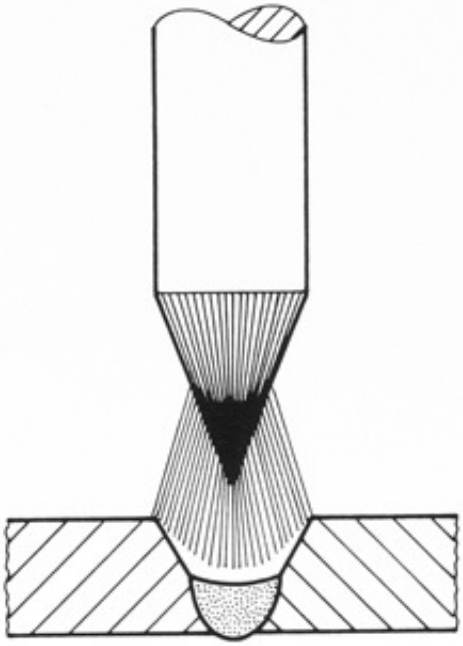


Caution: For safety reasons always pull the plug before touching the disc.
Wear a safety glove when touching the disc.
Wear eye protection and respirator while grinding or breaking electrodes.

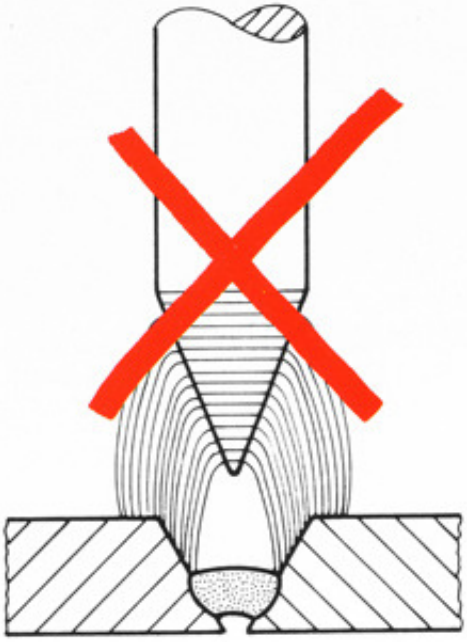


# The right grinding of your tungsten electrodes:

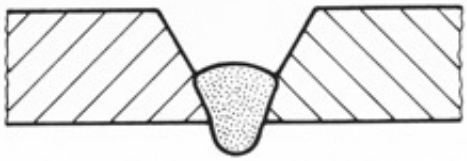


Longitudinal grinding:
advantageous narrow melt zone



Circular grinding:
disadvantageous heat effects into flanks

The precise longitudinal grinding of tungsten electrodes is a precondition for an optimal welding quality.
By means of maximum surface conditions of the tungsten electrode tips the exact repeatability of the welding parameter can be granted.



**EP-Patent 03 85 069 · US-Patent 5.001.868**

Your supplier:

Technical data:

| | |
|---|---|
| Motor: | 230 V~, 50 Hz, 2800 r.p.m., 0,18 KW, protection degree IP 55 or 115 V~, 50 Hz, 2720 r.p.m., 0,18 KW, protection degree IP 55 |
| Diamond disc: | Ø 90 mm (3,54") |
| Grinding range: | Electrode diameter 1,0-5,0 mm (0.040-1/5") Electrode length 10 up to 175 mm (0.4-7") |
| Grinding angle: | 0-90° infinitely variable |
| Weight: | 10,1 kg, without cupboard 53,0 kg, with cupboard and vacuum-cleaner |

CE cerificated. Please note that we permanently improve our products. We therefore reserve the right to change products without prior notice. We are not liable for damages arising out of the use of the product. Printed in Germany.

# Wolfram-Elektroden-Schleifmaschine

für Wolfram-Elektroden von 1,0 bis 8,0 mm

Qualität

Made in Germany

Eigene Fertigung
mit Diamantschleifscheibe



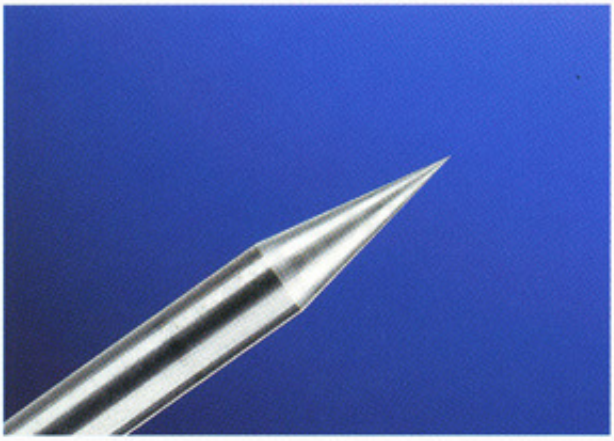


Optimale
Schweiß-
und Schneid-
qualität
durch
Längsschliff

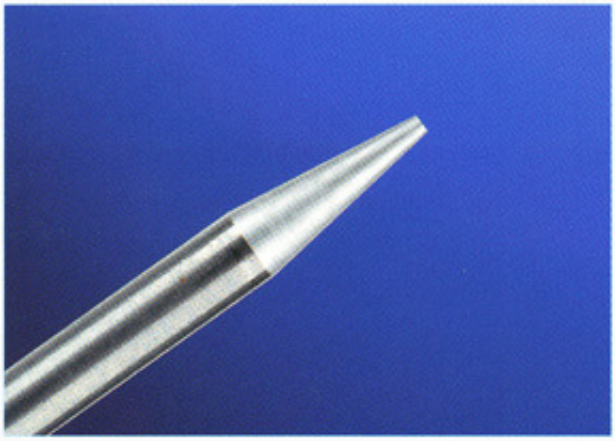
Modell WIG 20/175

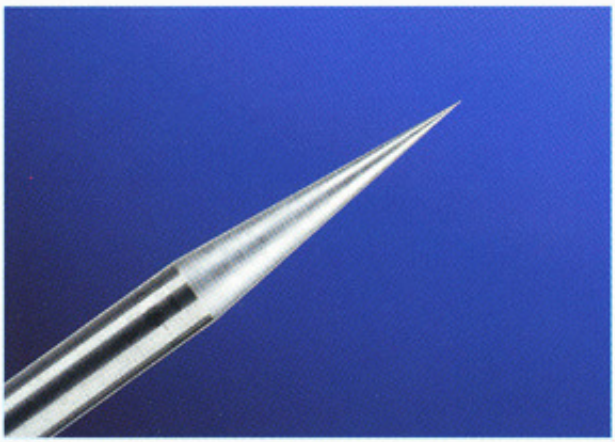
Made in Germany

# Von Schweißexperten für die Schweißtechnik entwickelt



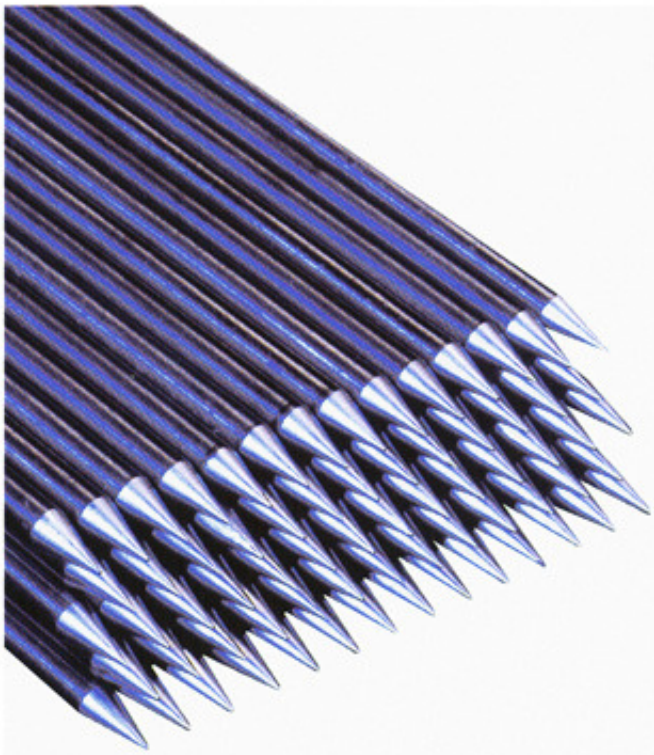






## Die Vorteile auf einen Blick:

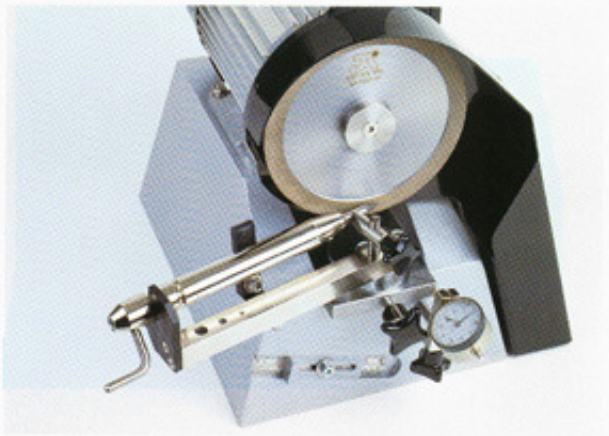
- Kürzen, trennen und schleifen erfolgt mit nur einer Diamantscheibe
- Optimale Schweiß- und Schneidergebnisse durch zentrischen Längsschliff
- Beliebig und stufenlos einstellbarer Schleifwinkel von 0 bis 90°
- Kein Wellenschliff – auch bei gebrauchten Elektroden
- Hervorragende Zündeigenschaften bei kontaktlosem Zünden, auch nach mehreren hundert Zündungen
- Stabiler Lichtbogen bei bester Schweißnahtqualität durch beeinflußbare Schmelzzonen beim Orbital- und Handschweißen
- Exakte Wiederholbarkeit des Anschleifwinkels, damit Ihr Schweißparameter stimmt
- Für Wolfram-Elektroden von 1,0 - 8,0 mm Ø bei Elektrodenlängen von 30 mm (abhängig vom Elektrodendurchmesser und Anschleifwinkel) bis 175 mm mit einer Genauigkeit von ± 0,01 mm (mit zusätzlicher Messuhr)
- Einfache Handhabung

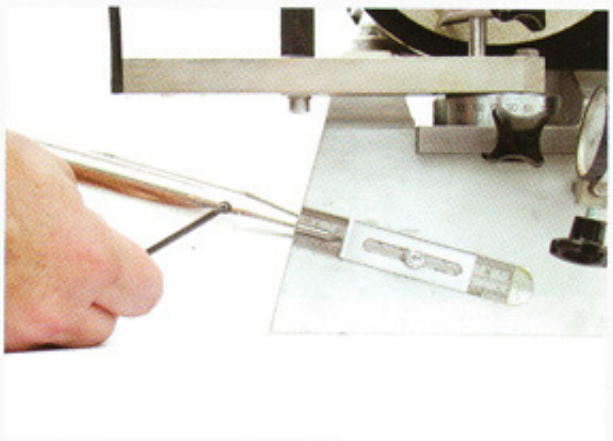


# 1000-fach bewährt: JA Wolfram-Elektroden-Schleifmaschine:

## Das Komplettsystem:

- Geprüfter und BG-zugelassener Staubsauger in 115-V- und 230-V-Ausführung
- Leistungsstarker und wartungsarmer Motor
- Stahlschrank mit Arbeitsplatte und Absaugvorrichtung
- Flexible Halogen-Schwenkleuchte
- Diamantschleifscheibe für Trockenschliff
- Diamantscheibe Ø 150 mm mit Körnung 151 in galvanischer Bindung oder metallgebunden
- Kürzen der Wolfram-Elektroden durch Kerben an der gleichen Diamantscheibe mit anschließendem, splitterfreiem Brechen in Sekundenschnelle. Das gilt auch für beschädigte oder mit Schweißzusatzwerkstoffen behaftete Elektroden.

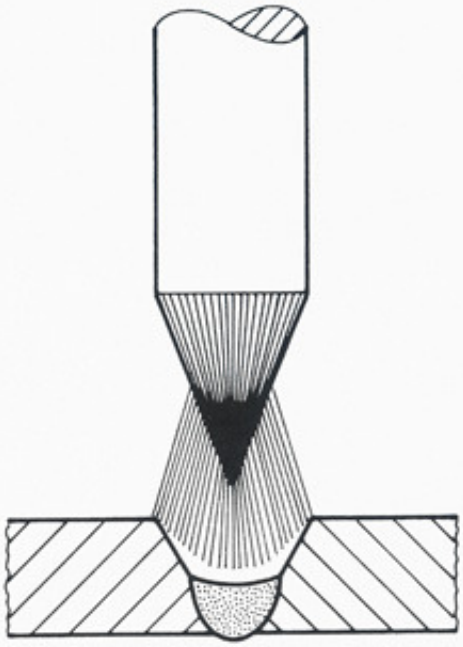




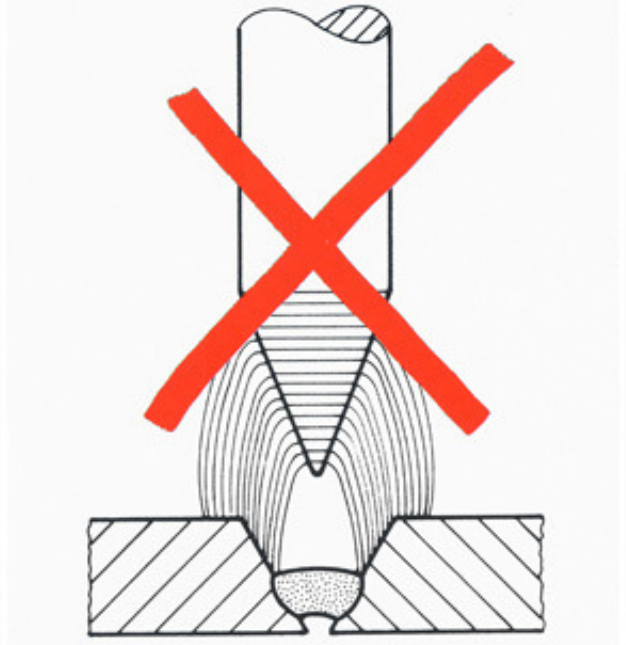





# Der richtige Schliff
# für Ihre Wolfram-Elektroden:



Längsschliff: günstige schmale Schmelzzone



Rundschliff: ungünstige,
in die Flanken verlaufende Wärmewirkung

Der präzise Längsschliff bei Wolfram-Elektroden ist Voraussetzung für eine optimale Schweißqualität. Durch höchste Oberflächenqualität der Wolfram-Elektroden-Spitzen wird die exakte Wiederholung des Schweißparameters gewährleistet.



**EP-Patent 03 85 069**

Ihr Fachhändler:

Technische Daten:

| | |
|---|---|
| Motor: | 230 V~, 50 Hz, 2820 U/min, 0,55 KW, Schutzart IP 55 |
| Diamantscheibe: | Ø 150 mm |
| Schleifbereich: | Elektrodendurchmesser 1,0-8,0 mm<br>Elektrodenlänge 30-175 mm<br>kürzere Längen auf Anfrage |
| Schleifwinkel: | 0-90°, stufenlos |
| Gewicht: | 25 kg, ohne Schrank<br>68 kg, mit Schrank und Staubsauger |

CE Bitte beachten Sie, dass wir unsere Produkte stetig verbessern. Wir behalten uns das Recht vor, Änderungen auch ohne vorherige Ankündigung vorzunehmen.
Wir haften nicht für Schäden, die durch unsachgemäße Anwendung unserer Produkte entstehen.

# *JA-Tungsten-Grinder*
# *Model WIG 10/175*

| Order-No. | Description | EUR/pc. |
|---|---|---|
| 90000150 | JA-Tungsten-Grinder (230 V) with diamond grinding disk (grain 126 "coarse"), collet chuck for tungsten electrode ø 1/16" (1,6 mm), ø 3/32" (2,4 mm), ø 1/8" (3,2 mm), and transport box for collet chucks.**The dial gauge is available as an accessory.** | |
| 90000150A | as above, with 115 Volt motor | |
| 90064151 | Spare diamond grinding disk (grain 64 "very fine") | |
| 90076151 | Spare diamond grinding disk (grain 76 "fine") | |
| 90126151 | Spare diamond grinding disk (grain 126 "coarse") | |
| 90151151 | Spare diamond grinding disk (grain 151 "very coarse") | |
| 90000153 | collet nuts for collet chucks ø 0,04" to 5/32" (1,0 mm bis 4,0 mm) | |
| 90048153 | collet nuts for collet chucks ø 3/16" (4,8 mm) | |
| **Collet chuck for tungsten electrode** | | |
| 90000158 | ø 0,04" (1,0 mm) | |
| 90000159 | ø 1/16" (1,6 mm) | |
| 90000160 | ø 0,08" (2,0 mm) | |
| 90000161 | ø 3/32" (2,4 mm) | |
| 90000161A | ø 0,12" (3,0 mm) | |
| 90000162 | ø 1/8" (3,2 mm) | |
| 90000163 | ø 5/32" (4,0 mm) | |
| 90000164 | ø 3/16" (4,8 mm) | |
| 90000165 | ø 0,2" (5,0 mm) | |
| | Other dimensions on request | |

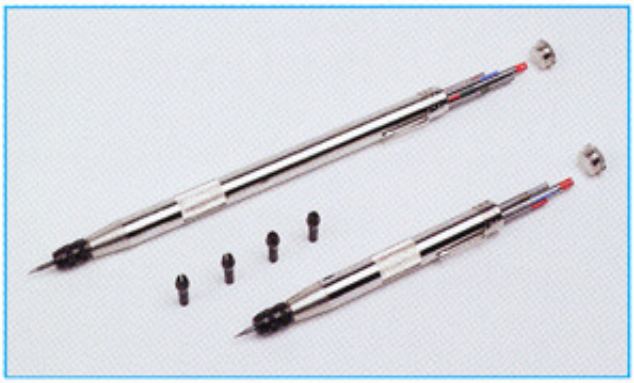
# *JA-Tungsten-Grinder*
# *Model WIG 20/175*

| Order-No. | Description | EUR/pc. |
|---|---|---|
| | JA-Tungsten-Grinder (230 V) with diamond grinding disk grain 151, 3 collet chucks (diameter on request) and transport box for collet chucks. **The dial gauge is available as an accessory**. | |
| | as above, with 115 Volt motor | |
| | Spare diamond grinding disk ø 150 mm, grain 151, Diamond galvanized | |
| **Collet chuck for tungsten electrode** | | |
| | ø 3/32" (2,4 mm) | |
| | ø 0,12" (3,0 mm) | |
| | ø 1/8" (3,2 mm) | |
| | ø 5/32" (4,0 mm) | |
| | ø 3/16" (4,8 mm) | |
| | ø 5,0 mm | |
| | ø 6,0 mm | |
| | ø 6,4 mm | |
| | ø 8,0 mm | |
| | Other dimensions on request | |

# *Equipment for Model WIG 10/175 and WIG 20/175*

| Order-No. | Description | EUR/pc. |
|---|---|---|
| 90000154 | pocket magnifier 9 x | |
| 90000155 | lit up pocket magnifier 5 x (batteries incl.) | |
| 90000156 | halogen lamp with magnet (230 V) | |
| 90000156A | halogen lamp with magnet (115 V) | |
| 90000170 | transport box for collet chucks, without content | |
| 90000167 | cupboard with drawer with dust absorbing device | |
| 90000168 | vacuum-cleaner type 2 M, tested and approved | |
| 90000170 | vacuum-cleaner type 2 H, tested and approved | |
| 90000169 | additional dial gauge (degree of accuracy 1/100 mm) with rearward, adjustable registering strap | |
| | | |

# Spannfix





- Grinding of tungsten electrodes without problems
- Helps to prevent accidents
- Allows to grind even short electrodes
- Helps to reduce costs
- For signing an marking
- Can store up to 20 electrodes
- Electrodes always ready to hand
- Available in two sizes:
  Size 1:
  85 mm long electrodes
  Size 2:
  175 mm long electrodes
- Collets available for the following diameter: 1,0 / 1,6 / 2,0 / 2,4 / 3,2 / 4,0 mm
- Standard equipment 1,6 / 2,4 / 3,2 mm. Other diameter on request.

# Spannfix

| Order No.<br>Bestellnr. | Size<br>Größe | € / piece<br>€ / Stück |
|---|---|---|
| 90001085 | I | |
| 90002175 | II | |

# Ersatzteile / spare parts

| Order No.<br>Bestellnr. | Description<br>Bezeichnung | | € / piece<br>€ / Stück |
|---|---|---|---|
| N27 033 00 | Adjusting nut | Spannmutter | |
| N27 032 10 | Intermediate collet | Spannfixeinsatz Ø 1,0mm | |
| N27 032 16 | Intermediate collet | Spannfixeinsatz Ø 1,6mm | |
| N27 032 24 | Intermediate collet | Spannfixeinsatz Ø 2,4mm | |
| N27 032 32 | Intermediate collet | Spannfixeinsatz Ø 3,2mm | |
| N27 032 40 | Intermediate collet | Spannfixeinsatz Ø 4,0mm | |
| 90001000 | Clip | Spannfix-Clip | |
| 90001001 | Cap | Spannfix-Kappe | |
| 90001002 | Top spike | Spannfix-Spitze | |

# Welding accessories



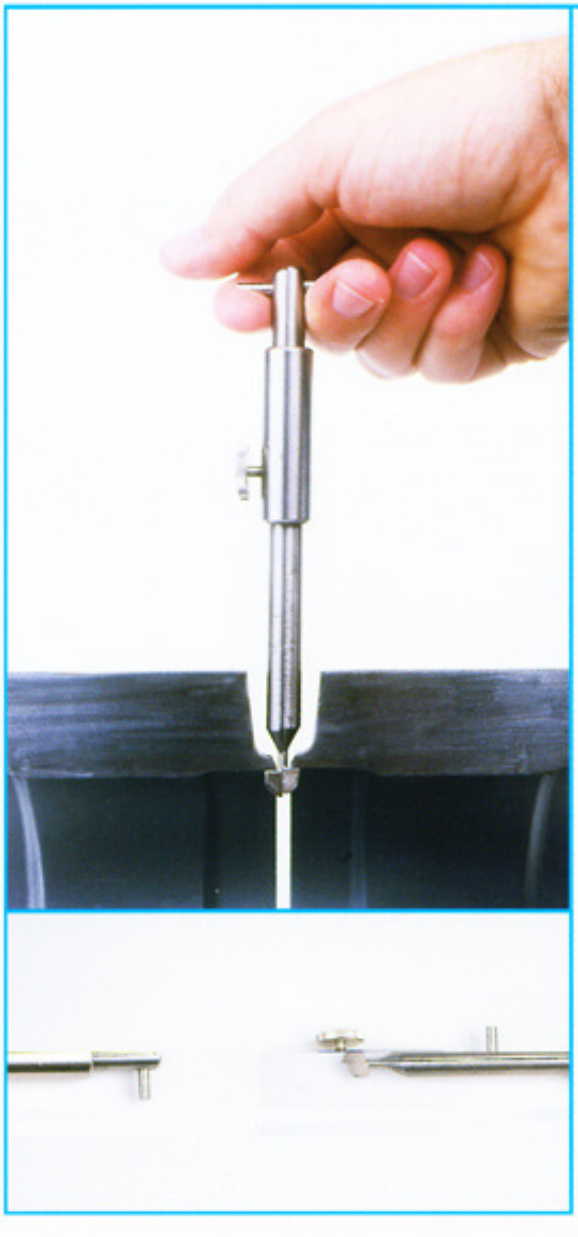



**90 000 129**
Tape measure, 2 m long with inside read-out, level and compass

**90 000 130**
Suitcase with insert and liner, content not included

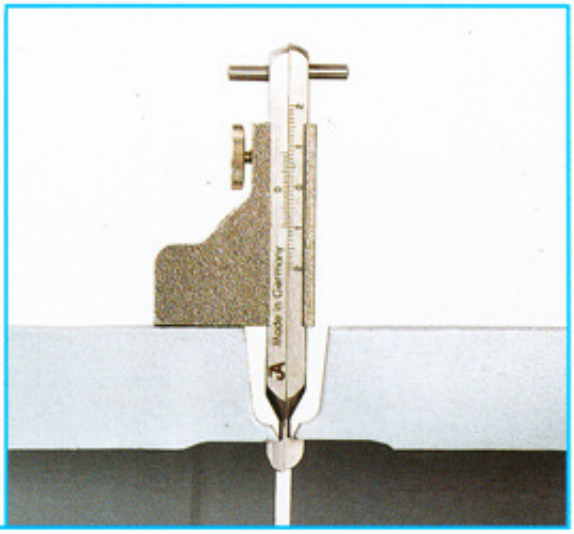
**90 000 131**
Complete JA service control box, content see price list

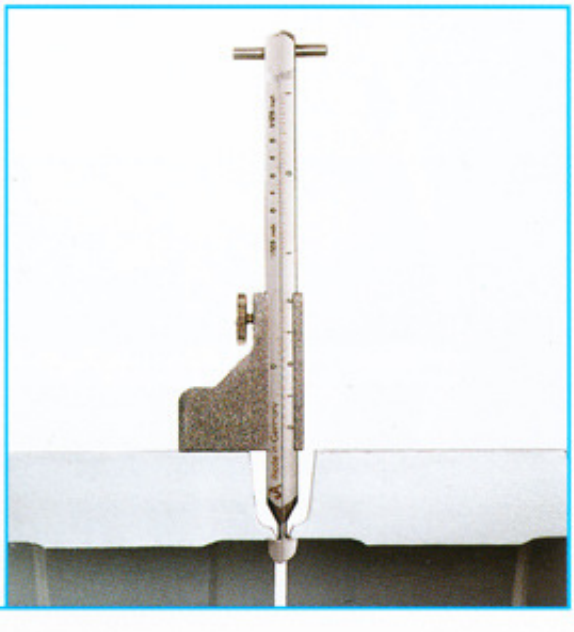




**90 000 138**
JA high-low gauge, made of stainless steel, round version

**9000 A 138**
JA high-low gauge, made of stainless steel, flat version with support in metric read-out to 1/10 mm for pipe wall thickness up to 1 1/4" (35 mm)





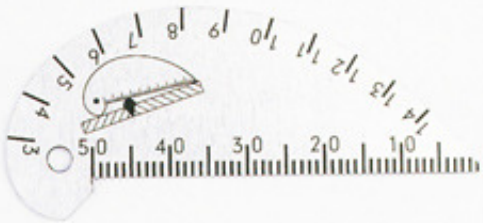
**9000 B 138**
JA high-low gauge, made of stainless steel, flat version with support in metric read-out to 1/10 mm and standard read-out to 1 1/128" for pipe wall thickness up to 4" (100 mm)

Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.

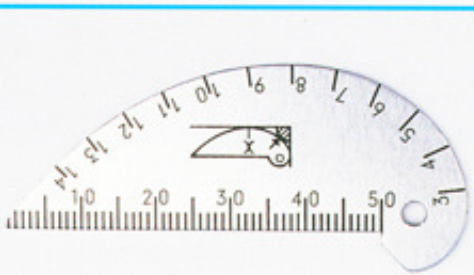
Printed in Germany



**90 000 094**
Stainless steel fillet weld gauge



**90 000 095**
Aluminium fillet weld gauge, markings on both side





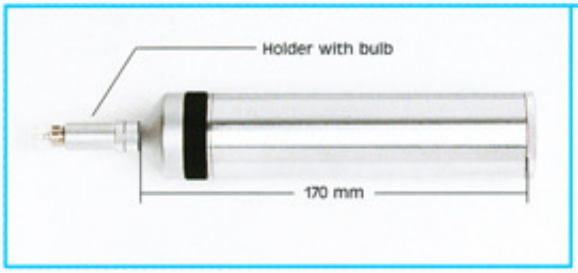
**90 000 100**
Digital clamp meter for AC/DC

| | |
|---|---|
| Alternating current (AC): | 200/1000 A |
| Alternating voltage: | 500 V |
| Direct current (DC): | 200/1000 A |
| Direct voltage: | 200 V |
| Resistance: | 200 Ω |



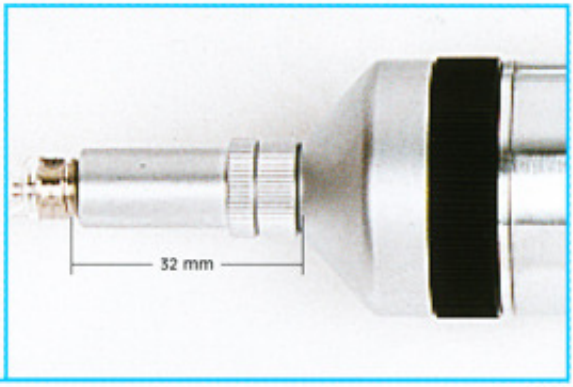
**90 000 101**
JA® gas indicator for accurate gas quantity measure-ments at the torch exit for Tig burners 0–50 l/min.

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**90 000 102**
Battery handle for inside quality control unit, with light intensity control, batteries not included

**90 000 102a**
Holder with bulb



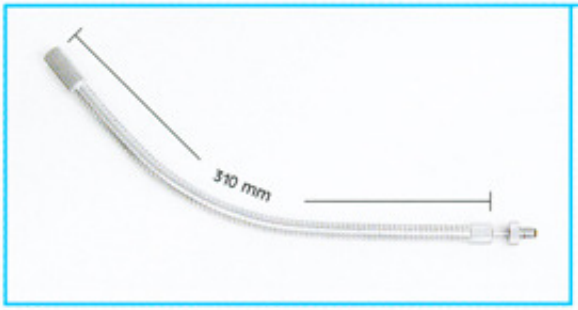




**90 000 103**
Straight extension for inside quality control unit

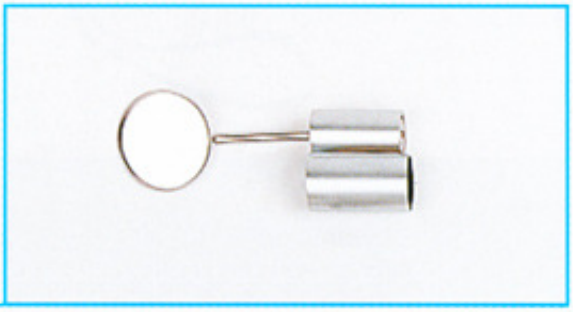
**90 000 104**
Curved extension for inside quality control unit



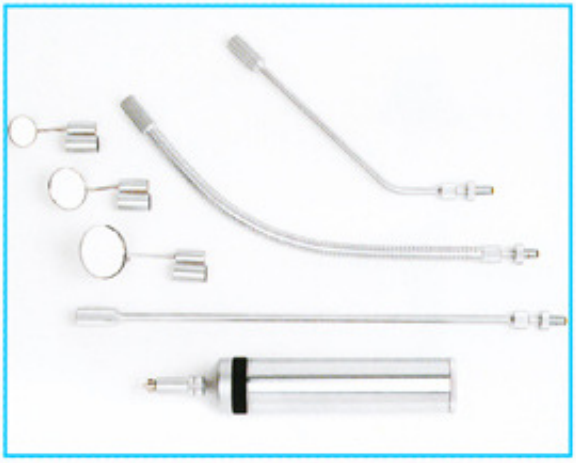




**90 000 105**
Bendable/ fixed probe for inside quality control unit

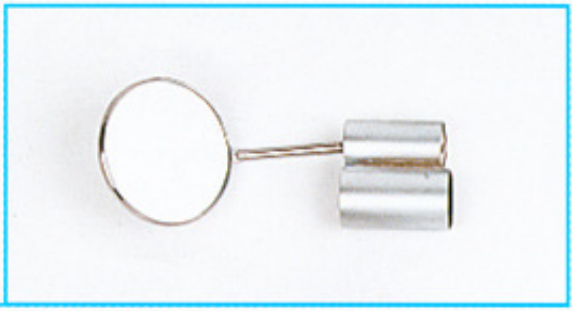
**90 000 106**
Mirror, 22.5 mm/$^{7}/_{8}$" diameter for inside quality control unit



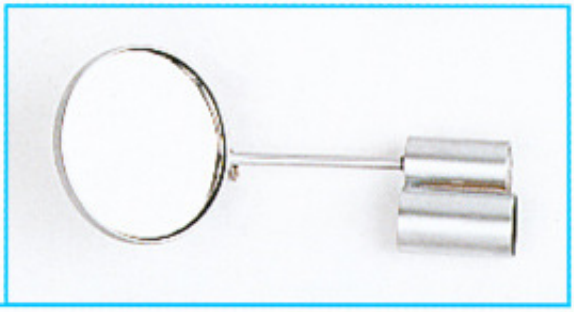
**90 000 108**
illuminated inside control unit complete with probes and mirrors (No.: 90 000 102–107)



**90 000 106a**
Mirror, 30.5 mm/1$^{1}/_{5}$" diameter for inside quality control unit



**90 000 107**
Mirror, 39.5 mm/1$^{1}/_{2}$" diameter for inside quality control unit

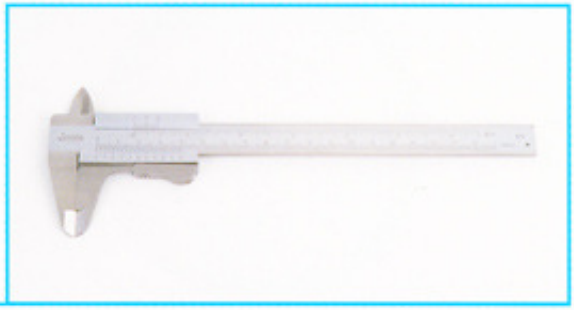


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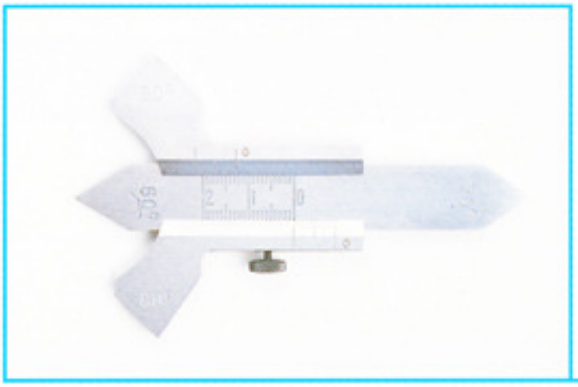
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**90 000 116**
JA® polarity tester, round, capped design to be placed on the welding cable during welding

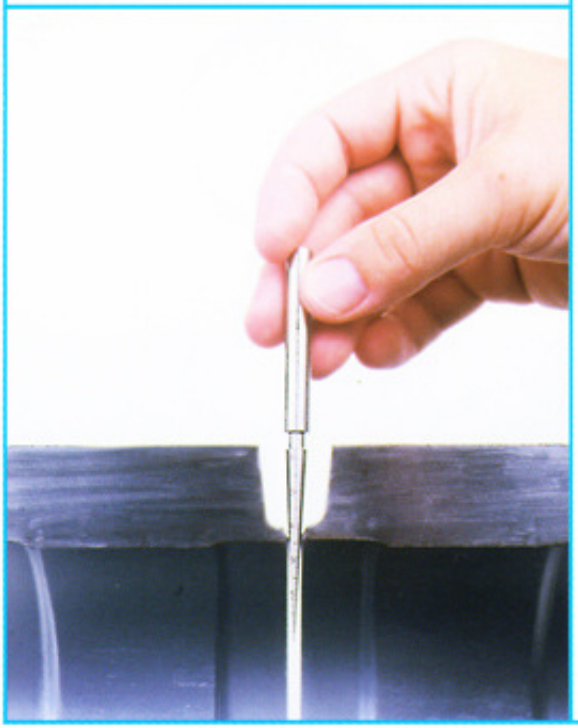


**90 000 117**
Stainless steel vernier with mm an inch markings
Measuring range:
180 mm/7"



**90 000 118**
Fillet weld gauge (stainless steel)





**90 000 121A**
Taper gauge, 1–10 mm, round design, stainless steel



**90 000 120**
Pocket leather shield with pen and note-pad

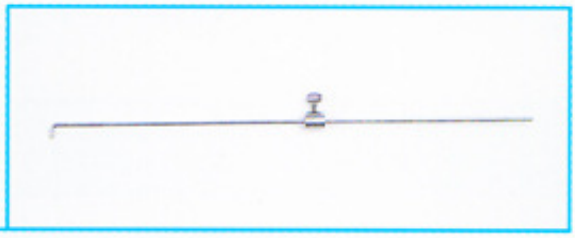
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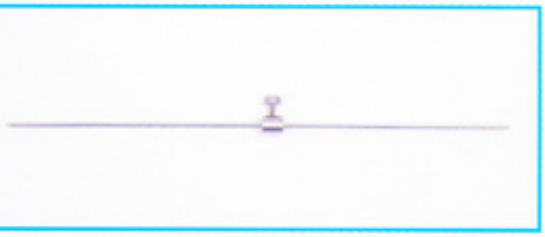
**90 000 122**
JA® high-low gauge and dial/pit depth gauge, measuring range up to 10 mm misalignment of edges graduations 1/100 mm

**90 000 123**
Stainless steel prism, 30 mm/ 1.2" wide, high-low gauge and dial/pit depth gauge

**90 000 124**
Stainless steel measuring needle, 99°, with clamp, for high-low gauge and dial/pit depth gauge



**90 000 125**
Stainless steel measuring needle, straight, for high-low gauge and dial/pit depth gauge



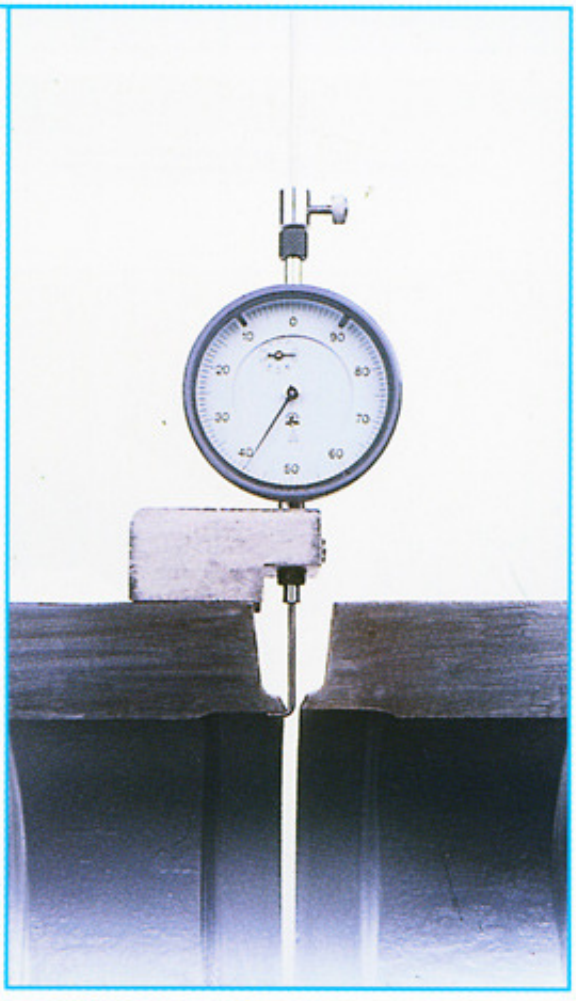


**90 000 126**
High-low gauge and dial/pit depth, gauge, complete (No.: 90 000 122 to 90 000 125

**90 000 127**
stainless steel ruler, 300 mm/ 12" long



**90 000 128**
Tinted safety glasses



Printed in Germany

Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.




**90 000 109**
JA® stainless steel finger-lamp, stable turning quality, batteries not included



**90 000 100**
Pocket lens, magnification 3x, 6x, 9x




**90 000 111**
Stopwatch

**90 000 112**
Magnet 9 mm ⌀ (0.4"), 41 mm long (1.6") capable of beeing screwed on telescopic pen, length: 700 mm (27.6")






**90 000 114**
Stainless steel feeler gauge from 0.05 mm to 1.00 mm



**90 000 115**
Zero point stamp, 8 mm print height, notch-free, for zero-point reading for x-ray work

Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.



**90 00b 113**
Temperature sensor TK 122-2 to 400 °C max.
Sensor length: 180 mm/7"
Total length: 315 mm/12 3/8"

**90 00c 113**
Temperature sensor TK 150-1 to 950 °C max.
Sensor length: 300 mm/12"
Total length: 435 mm/17 1/8"



**90 00d 113**
Instant digital display thermometer – 70 °C to + 1000 °C, with standard temperature sensor TK 122-1
Temperature measurements up to 400 °C max.
Sensor length: 60 mm/2 3/8"
Total length: 170 mm/6 3/4"
Padded case included




**90 000 113**
Instant digital display thermometer – 70 °C to +1000 °C
Temperature sensor not included

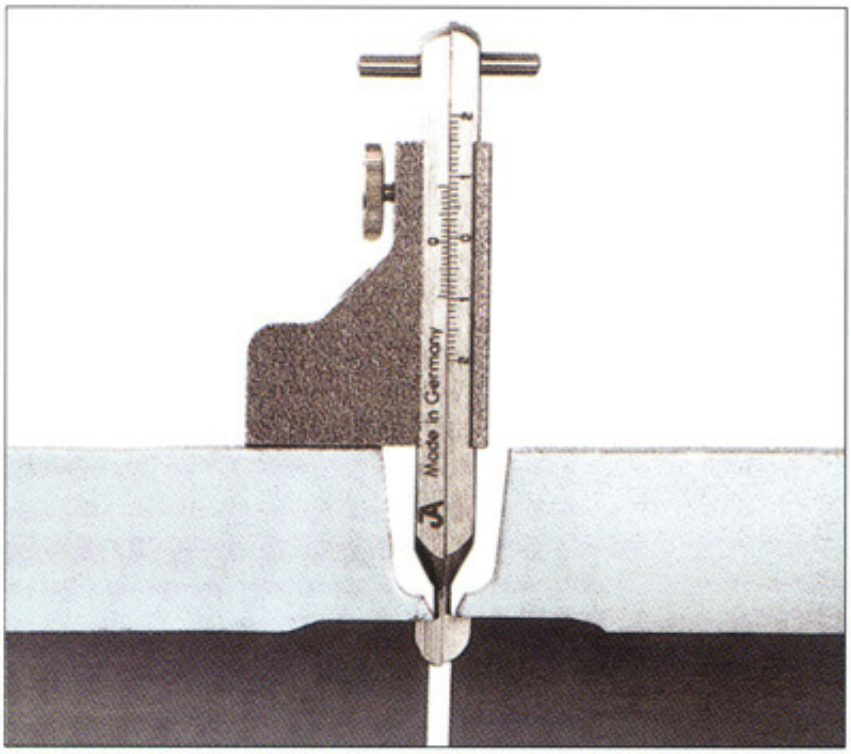
**90 00a 113**
Standard temperature sensor
TK 122-1 up to 400 °C max.
Sensor length: 60 mm/2 3/8"
Total length: 170 mm/6 3/4"

Please note that we are continually improving our products. We therefore reserve the right to modify products without prior notice. We can not be held liable for damages arising out of the inappropriate use of the product.

Printed in Germany

# Stainless Steel High-Low Welding Gauges

Made in Germany



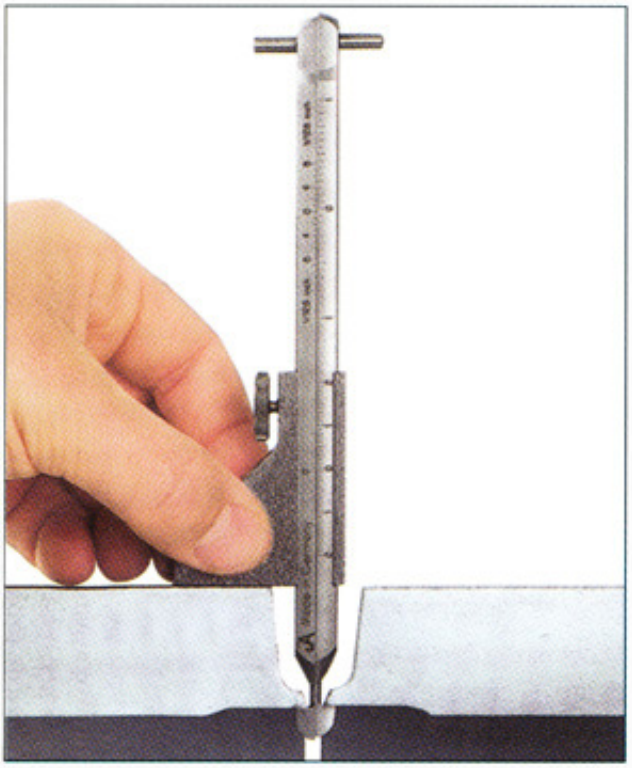

## Small model



High-low gauge made of stainless steel with support in metric read-out to 1/10 mm for pipe wall thickness up to 1 1/4" (35 mm)

Ordner-No.: 9000 A 138

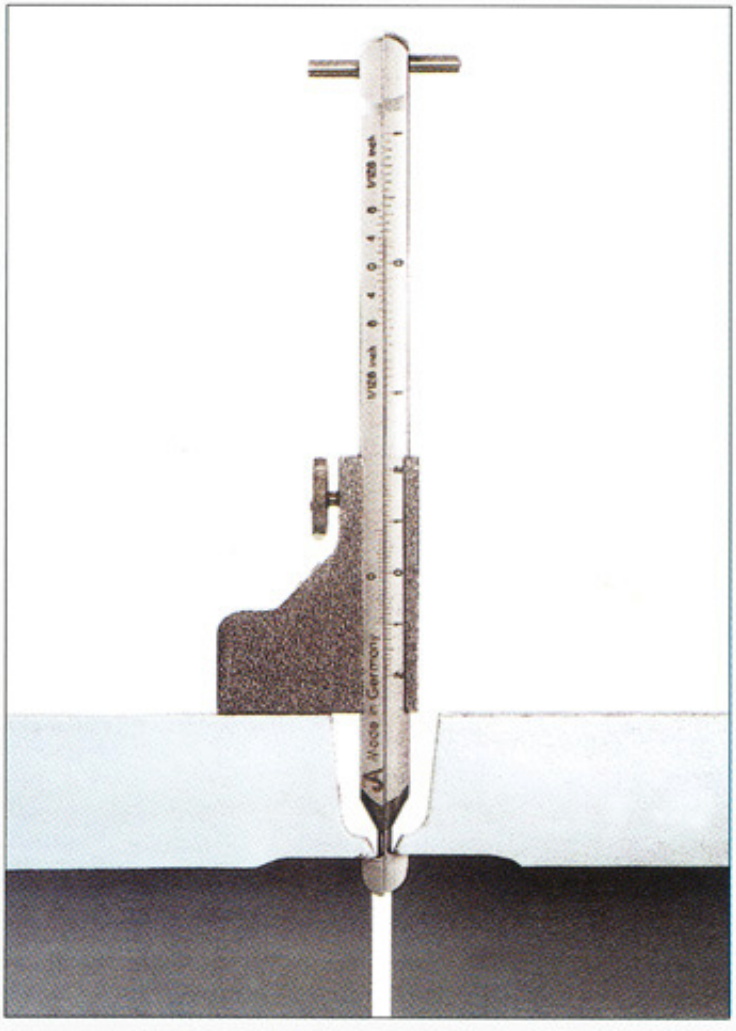
## Large model



High-low gauge with support
- in metric read-out to 1/10 mm and standard
- read-out to 1/128"/inch

for pipe wall thickness up to 4" (100mm)

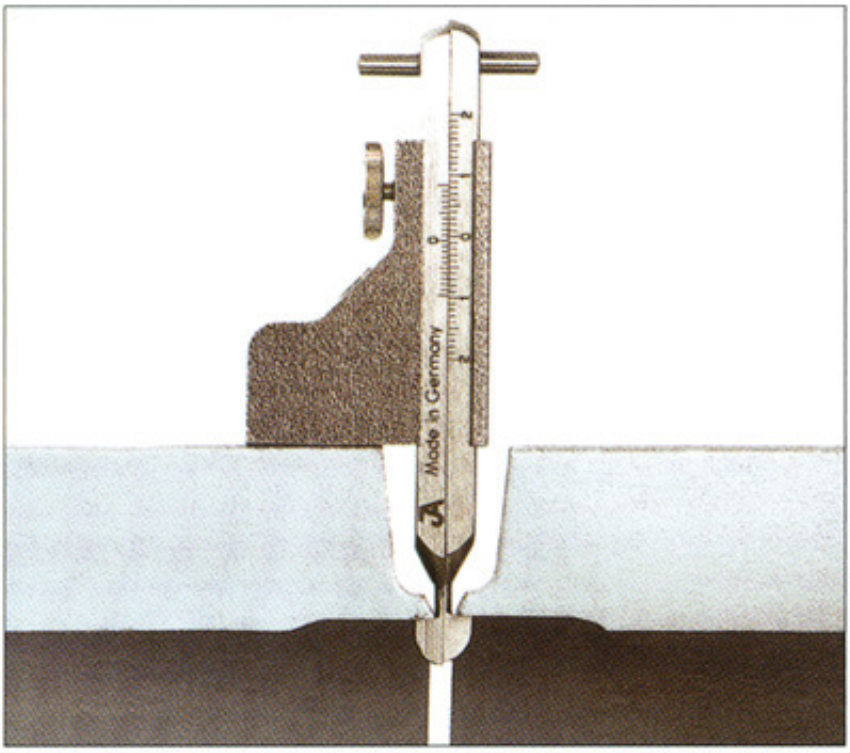
Order-No.: 9000 B 138



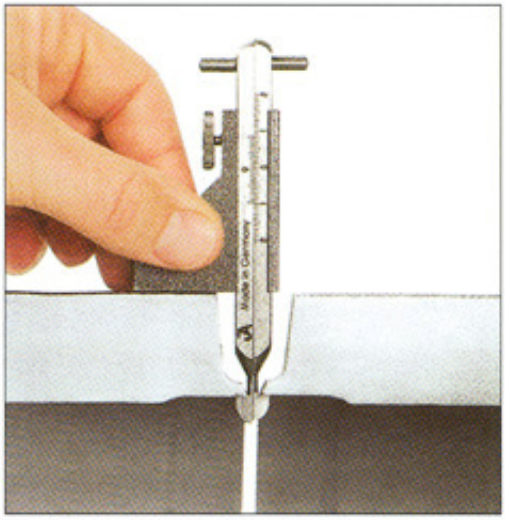
Printed in Germany

# Kantenversatzlehren aus Edelstahl

Made in Germany




## Kleine Ausführung



Edelstahl mit Auflagefläche,
Skala in Millimetern mit Nonius,
Ablesegenauigkeit 1/10 mm,
geeignet für Rohrwandstärken bis 35 mm
Bestell-Nr.: 9000 A 138

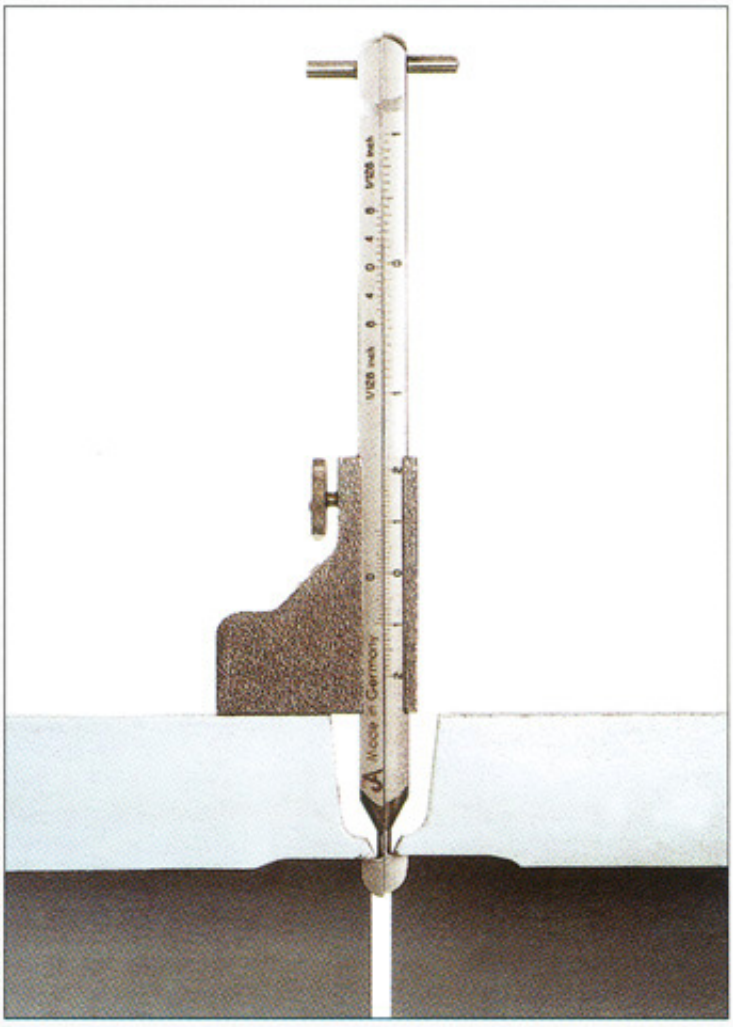
## Große Ausführung



Edelstahl mit Auflagefläche,
Zwei Skalen:

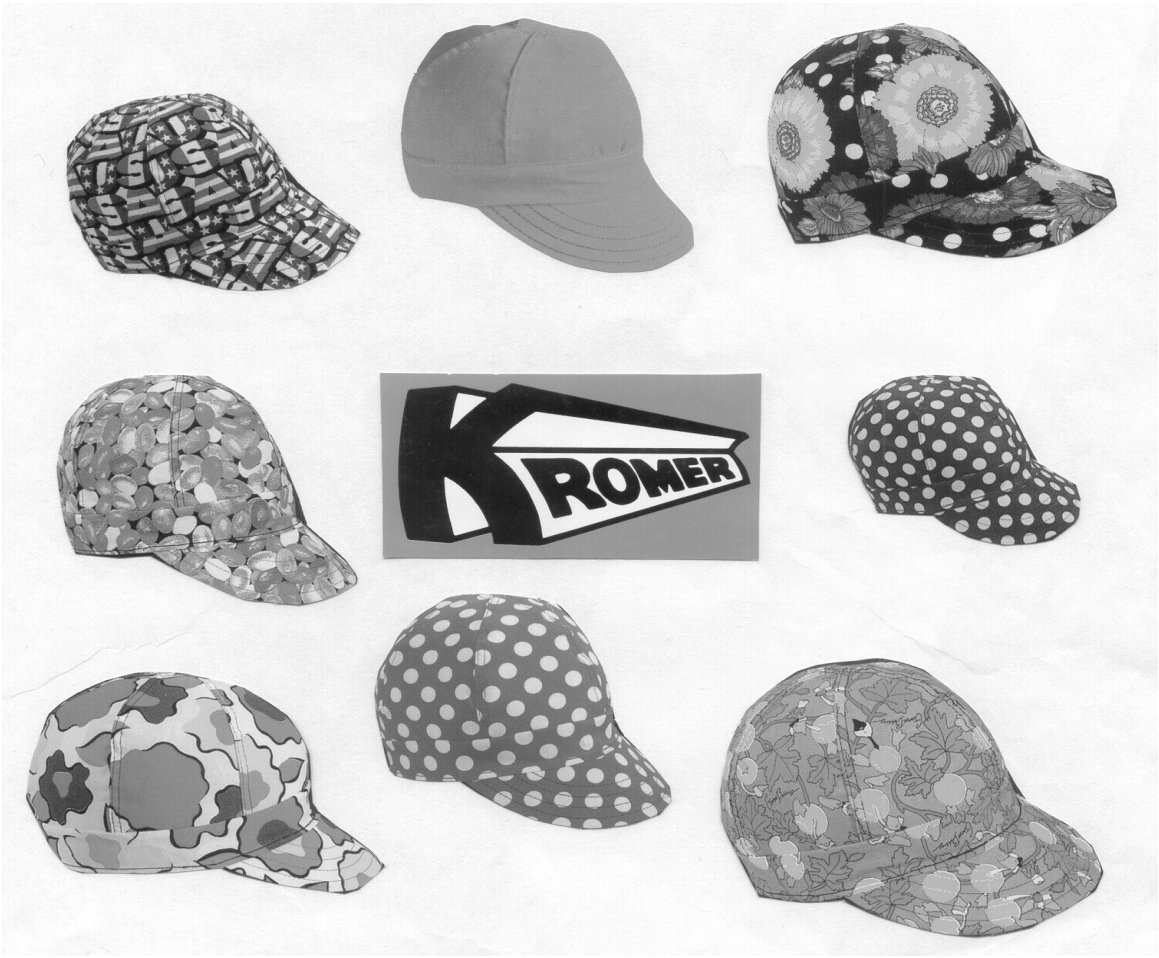
- Millimeter mit Nonius, Ablesegenauigkeit 1/10 mm
- Zoll/Inch, Ablesegenauigkeit 1/128 Zoll/Inch,

geeignet für Rohrwandstärken bis 100 mm
Bestell-Nr.: 9000 B 138



Catalog
12.12.2011
Prices on request

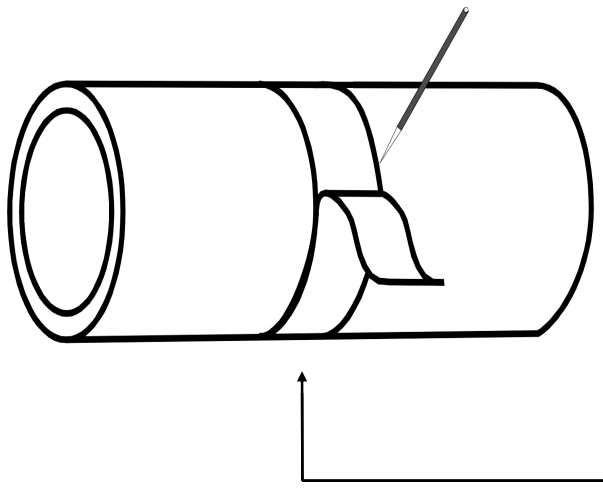
# Welding caps
# Kromer




| Order-No.: | Size | | EUR/pc. |
|---|---|---|---|
| 90000634 | 54 | 6 3/4 | |
| 90000678 | 55 | 6 7/8 | |
| 90000700 | 56 | 7 | |
| 90000718 | 57 | 7 1/8 | |
| 90000714 | 58 | 7 1/4 | |
| 90000738 | 59 | 7 3/8 | |
| 90000712 | 60 | 7 1/2 | |
| 90000758 | 61 | 7 5/8 | |
| 90000734 | 62 | 7 3/4 | |

# Rohr-Anreißband / Pipe Marking Tape
# Edelstahl / Stainless Steel

| Bestell-Nr.<br>Order-No. | Beschreibung<br>Description | | | EUR/Meter |
|---|---|---|---|---|
| RA05000E | Abmessungen:<br>Dimensions: | Breite 50 mm<br>Width 50 mm | Länge nach Wunsch<br>Length on request | |
| RA10000E | Abmessungen:<br>Dimensions: | Breite 100 mm<br>Width 100 mm | Länge nach Wunsch<br>Length on request | |



Breite 50 oder 100 mm
Länge nach Wunsch
Width 50 or 100 mm
Length on request

# welding accessories

## Content of the control-service-box:

| Order-No.: | Description | EUR/pc |
|---|---|---|
| 90000100 | Digital clamp surveying instrument P 1625 for AC/DC<br>AC:1000 A, DC: 1000 A, temperature measurement of between -40°C and 1000°C possible | |
| 90000101 | **JA** gas indicator for accurate gas measurements at the torch exit or of inert gas (0 - 50 Liter / min) | |
| J 04 1 01 20 | **JA** battery handle for inside quality control unit with sliding switch (batteries incl.) | |
| J 04 1 01 21 | **JA** lamp holder with lamp | |
| J 04 1 01 22 | **JA** straight elongation, for inside quality control unit, ca. 300 mm long | |
| J 04 1 01 23 | **JA** bend elongation, for inside quality control unit, ca. 200 mm long | |
| J 04 1 01 24 | **JA** flexible probe, for inside quality control unit, ca. 200 mm long | |
| J 04 1 01 25 | **JA** flexible probe, for inside quality control unit, ca. 300 mm long | |
| J 04 1 01 30 | **JA**-Mirror with ball-and-socket joint and collet for lamp holder 14 mm Ø | |
| J 04 1 01 31 | **JA-**Mirror with ball-and-socket joint and collet for lamp holder 22 mm Ø | |
| J 04 1 01 32 | **JA**-Mirror with ball-and-socket joint and collet for lamp holder 30 mm Ø | |
| J 04 1 01 33 | **JA-**Mirror with ball-and-socket joint and collet for lamp holder 50 mm Ø | |
| J 04 2 26 44 | hexagonal wrench 3mm | |
| **90000108** | **TOTAL: JA-Inside quality control unit, lit-up, equipped with probes and mirrors<br>( No.: 90000102 - 90000107)** | |
| 90000109 | **JA** torch, stainless steel, to illuminate welding gaps | |
| 90000110 | Pocket lens , magnification 3 x ,6 x ,9 x | |
| 90000111 | Stopwatch | |
| 90000112 | **JA** telescope magnet with pen, approx. 640 mm long | |
| 90000139 | Instant digital display thermometer PT5110, -50 up to 1300°C without sensor | |
| 9000A139 | temperature sensor TP02 up to max. 700°C (sensor length 162 mm,<br>cable length 175mm), for instant digital thermometer 90000139 | |
| 90000114 | Stainless steel feeler gauge, 13 blades from 0,05 mm- 1,00 mm | |
| 90000115 | Zero point stamp, 8mm point height, notch-free for zero-point reading | |
| 90000116 | **JA** - cable polarity tester, round, capped design | |
| 90000117 | Stainless steel vernier with mm and inch markings, measuring range: 150mm | |
| 90000118 | **JA** Fillet weld gauge (**stainless steel**) | |
| 90000095 | **JA** Fillet weld gauge (**aluminium**), labelled on both sides | |
| 90000120 | **JA** - Pocket leather shield with pen and notepad | |
| 90000121A | **JA** Taper gauge, 1-10 mm, round design, stainless steel | |
| 90000122 | **JA -** high-low gauge and dial/pit depth gauge.<br>Measuring range up to 10mm, Graduations 1/100mm (for welding seams over 100 mm width) | |
| 90000123 | **JA** stainless steel prism, 30mm wide, high-low gauge and dial/pit depth gauge | |
| 90000124 | **JA** stainless steel measuring needle, 90°, with clamp, for high-low gauge and dial/pit depth | |
| 90000125 | **JA** stainless steel measuring needle, straight, for high-low gauge and dial/pit depth | |
| **90000126** | **JA High-low gauge and dial/pit depth gauge, complete (90000122 - 90000125)** | |
| 90000127 | Stainless Steel ruler, 300 mm long | |
| 90000128 | Tinted safety glasses | |
| 90000129 | Tape measure, 3m long, with inside read-out, level and compass | |
| 90000130 | **JA** Carrying case with insert and liner | |
| | | |
| 90000138 | **JA** - high low gauge without support, round design, **stainless steel** | |
| 9000A138 | **JA** - high low gauge with support in metric read-out to 1/10 mm, small, for pipe wall thickness up to 35 mm/ 1 ¼ “, **stainless steel** | |
| 9000B138 | **JA** - high low gauge, large, **stainless steel**, with 2 scales: in mm with nonius (read-out to 1/10mm) and in inch (read-out to 1/128 inch), for pipe wall thickness up to 100 mm/4“ | |
| **90000131** | **JA - Control - Service - Box, complete** | |

**On request we deliver the JA-Conrtol-Service-Box, equipped according to your wishes**
**Our product range includes several different kinds of welding stamps**

# additional welding accessories

not included in the control-service-box

| Order-No.: | Description | EUR/pc |
|---|---|---|
| 9000C138 | **JA** - high low gauge, extra large, **stainless steel**, with 2 scales: in mm with nonius (read-out to 1/10mm) and in inch (read-out to 1/128 inch), for pipe wall thickness up to 150 mm/6“ | |
| 90000094 | **JA** fillet weld gauge, stainless steel, for measuring hollow seams | |
| 90000140 | **JA**-Telescope mirror, 22,5 mmØ, telescopic up to 640 mm long | |
| 90000141 | **JA**-Telescope mirror, 30,5 mmØ, telescopic up to 640 mm long | |
| 90000142 | **JA**-Telescope mirror, 50,0 mmØ, telescopic up to 640 mm long | |
| J 04 1 26 01 | **JA** Transport and storage box designed for temperature sensors 90000139 and 9000A139 | |
| J 04 1 26 02 | **JA** Transport and storage box designed for inside quality control unit | |
| J 04 1 26 03 | **JA** Transport and storage box designed for TIG-spare-parts | |
| J 04 1 04 00 | | |

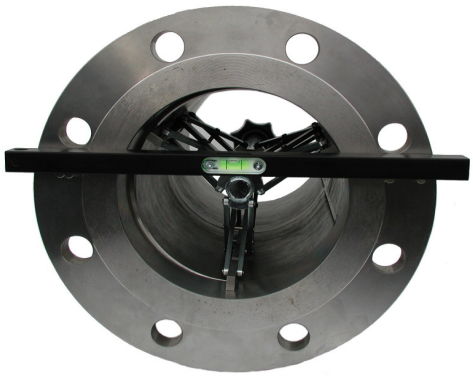
Catalog
12.12.2011
Prices on request

# Flange- spirit level

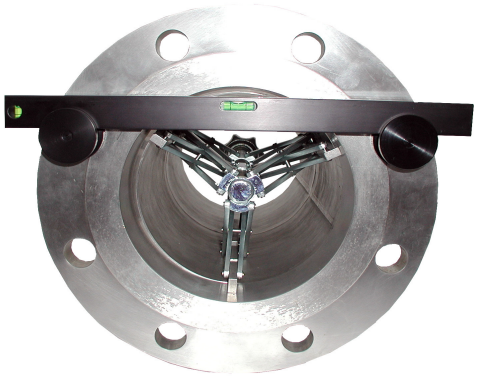
Consisting of a spirit level and two cylindrical borehole bolts
All parts made off solid, anodized aluminum

Standard length 400mm (other lengths available)

Equipped with several power magnets. The cylindrical borehole bolts with diameters of 11, 14, 16, 18 and 28.5 mm are easily tightened with the spirit level over its entire length.



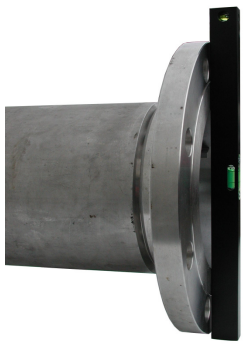
Flange spirit level
Precise horizontal alignment
of the punch position
Fastening with power magnets



Flange spirit level
Precise alignment
via screwed on borehole bolts



Flange spirit level with
adjustable borehole bolts
diameter: 11,14,16,18 and 28.5 mm
Other diameters on request



Flange spirit level
Vertical alignment
Fastening with power magnets

# Innenkontrollgerät komplett im Koffer





| Order No. | | Description | € / piece |
|---|---|---|---|
| J 04 1 01 20 | **JA-** | battery handle for inside quality control unit with sliding switch (batteries incl.) | |
| J 04 1 01 21 | **JA-** | lamp holder with lamp | |
| J 04 1 01 22 | **JA-** | straight elongation, for inside quality control unit, ca. 300 mm long | |
| J 04 1 01 23 | **JA-** | bend elongation, for inside quality control unit, ca. 200 mm long | |
| J 04 1 01 24 | **JA-** | flexible probe, for inside quality control unit, ca. 200 mm long | |
| J 04 1 01 25 | **JA-** | flexible probe, for inside quality control unit, ca. 300 mm long | |
| J 04 1 01 30 | **JA-** | Mirror with ball-and-socket joint and collet for lamp holder 14 mm Ø | |
| J 04 1 01 31 | **JA-** | Mirror with ball-and-socket joint and collet for lamp holder 22 mm Ø | |
| J 04 1 01 32 | **JA-** | Mirror with ball-and-socket joint and collet for lamp holder 30 mm Ø | |
| J 04 1 01 33 | **JA-** | Mirror with ball-and-socket joint and collet for lamp holder 50 mm Ø | |
| J 04 2 26 44 | | hexagonal wrench 3mm | |
| 90000109 | **JA-** | Fingerlampe ***aus Edelstahl,*** zum Ausleuchten durch die Schweissfugen | |
| J 04 1 01 34 | **JA-** | Spiegel Ø 30 mm mit doppeltem Kugelgelenk und Spannclip für Fingerlampe | |
| J 04 1 26 02 | **JA-** | Koffer mit Schaumstoffeinlage für das Innenkontrollgerät | |
| | | | |
| J 04 0 00 50 | **JA-** | Komplettset Innenkontrollgerät bestehend aus allen oben aufgelisteten Positionen | |




# JA®

# SCHWEISSTECHNIK
# WELDING TECHNOLOGY



WiG JA-Schweißbrenner individuell mit Düsen und passenden Isolatoren bestückt
JA-TiG-Torches equipped with individual nozzles and suitable insolators

Kleinste Düsen für flexible
WiG JA-Schweißbrenner

Smallest nozzles for flexible
JA-TiG-Torches



Düsen im WiG Zubehörkoffer
Nozzles with TiG-accessory box



## Gasgekühlte WiG-Schweißbrenner · Gascooled TiG-Torches

**Industriequalität – Eigene Herstellung mit sämtlichem Zubehör**
**Industry quality – Own production with all accessories**

| | | |
|---|---|---|
| JA 9<br>JA 9 F<br>JA 9 FL | Standard<br>Flexibel<br>Flexibel-lang | Standard<br>Flexible<br>Flexible-long |
| JA 9 V | Ventil | Valve |
| JA 17<br>JA 17 F | Standard<br>Flexibel | Standard<br>Flexible |
| JA 17 V | Ventil | Valve |
| JA 24 G<br>JA 24 GF<br>JA 24 G 90° | Standard<br>Flexibel<br>Kopf 90° | Standard<br>Flexible<br>Torch head 90° |
| JA 26<br>JA 26 F | Standard<br>Flexibel | Standard<br>Flexible |
| JA 26 V | Ventil | Valve |
| JA 220 V | Ventil | Valve |
| JA 27 G | Maschinenbrenner | Machine torch |

Überzeugen Sie sich! Durch die Verwendung größerer Materialquerschnitte in unseren Brennern, bei gleichzeitig erhöhter Leistung, läßt sich die Schutzgastemperatur vermindern! Ihr Vorteil: Steigerung der Schweißnahtqualität!

Convince yourself! Larger material cross-sections of our torches allow to reduce the welding temperature even if the energy is increased! Your advantage: An improved welding seam quality!

## Wassergekühlte WiG-Schweißbrenner · Watercooled TiG-Torches

**Industriequalität – Eigene Herstellung mit sämtlichem Zubehör**
**Industry quality – Own production with all accessories**

| | | |
|---|---|---|
| JA 20<br>JA 20 L<br>JA 20 LF<br>JA 20 M<br>JA 20 MF | Standard<br>Lang<br>Lang-flexibel<br>Mittellang<br>Mittellang-flexibel | Standard<br>Long<br>Long-flexible<br>Medium<br>Medium-flexible |
| JA 20 MT<br>JA 20 MTF | Standard<br>Flexibel | Standard<br>Flexible |
| JA 24 W<br>JA 24 W 90°<br>JA 24 WFM 90° | Standard<br>Kopf 90°<br>Flexibel – Kopf 90° | Standard<br>Torch head 90°<br>Flexible – Torch head 90° |
| JA 18<br>JA 18 L | Standard<br>Lang | Standard<br>Long |
| JA 27 W | Maschinenbrenner | Machine torch |
| JA 2 WT | Maschinenbrenner | Machine torch |

Überzeugen Sie sich! Eine größere Kühlwasser- Durchflußmenge erhöht die Leistung und verbessert Ihre Schweißnahtqualität!

Convince yourself! An extensive cooling water supply increases the efficency and improves the quality of the welding seam!

**Bitte beachten Sie unsere Brenner-Biegeanleitung! So können unsere flexiblen WiG-Brenner-Modelle bis zu 1000 Biegungen und mehr standhalten!**

**Please attend to our torch-bending-instructions! In this way our flexible TiG-Torches can stand out up to 1000 bendings and more!**

**Neben unserer Brennerfertigung und Weiterentwicklung liefern wir seit Jahren:**

**In addition to our torch production and our development we deliver for years:**

- Hochflexible Schlauchpakete in bester Industriequalität
- Sämtliche Brenner- und Maschinenanschlüsse
- Gummi-Schutzschläuche ohne Gewebe
- Gummi-Schutzschläuche mit Gewebe
- Textil-Schutzschläuche, hitzebeständig bis 250 °C
- Gummi-Gewebeschläuche
- PVC-Gewebeschläuche, zweiwandig
- Silikon-Gewebeschläuche
- Hochflexible Kupferlitzen, blank und verzinnt
- WiG-Strom-Gaskabel (Monokabel)
- Schweißkabel
- Hochflexible Steuerleitungen mit und ohne Abschirmung
- Schlauch-Quetschhülsen aus Kupfer und Messing
- Kabelpressen
- WiG-Zubehör-Kästen
- Wolframelektroden
- Wolfram-Elektroden-Schleifmaschinen für Elektroden bis 10 mm ∅

- High-flexible cable assemblies in best industry quality
- All torch- and machine connections
- Rubber protection hoses without fabrics
- Rubber protection hoses with fabrics
- Textile protection hoses, heat-resistant up to 250 °C
- Fabric-coated rubber hoses
- Fabric-coated PVC-hoses, double-walled
- Silicone hoses, fabric-coated
- High-flexible copper-stranded wire, tin-plated or bare
- TiG power-gas-cable (mono cable)
- Welding cable
- High-flexible pilot wire with or without shielding
- Hose clips made of copper or brass
- Cable presses
- Boxes for TiG-accessories
- Tungsten-electrodes
- Tungsten-electrode-grinder for electrodes up to 10 mm ∅

Printed in Germany

# WiG-Schweißbrenner
# TiG-Torches




Gasgekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 140 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Durch die Verwendung größerer Materialquerschnitte in unseren Brennern, bei gleichzeitig erhöhter Leistung, läßt sich die Schutzgastemperatur vermindern! Ihr Vorteil: Steigerung der Schweißnahtqualität!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

Gascooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 140 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*Larger material cross-sections in our torches allow to reduce the welding temperature even if the energy is increased! Your advantage: An improved welding seam quality!*

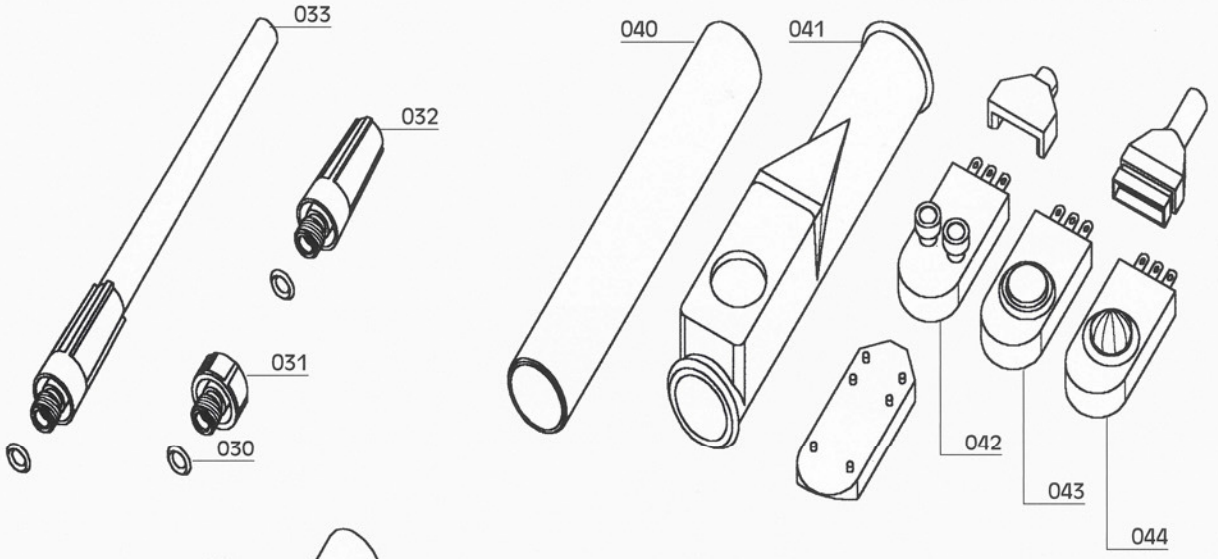
The advantages of our new developed gas lenses are:

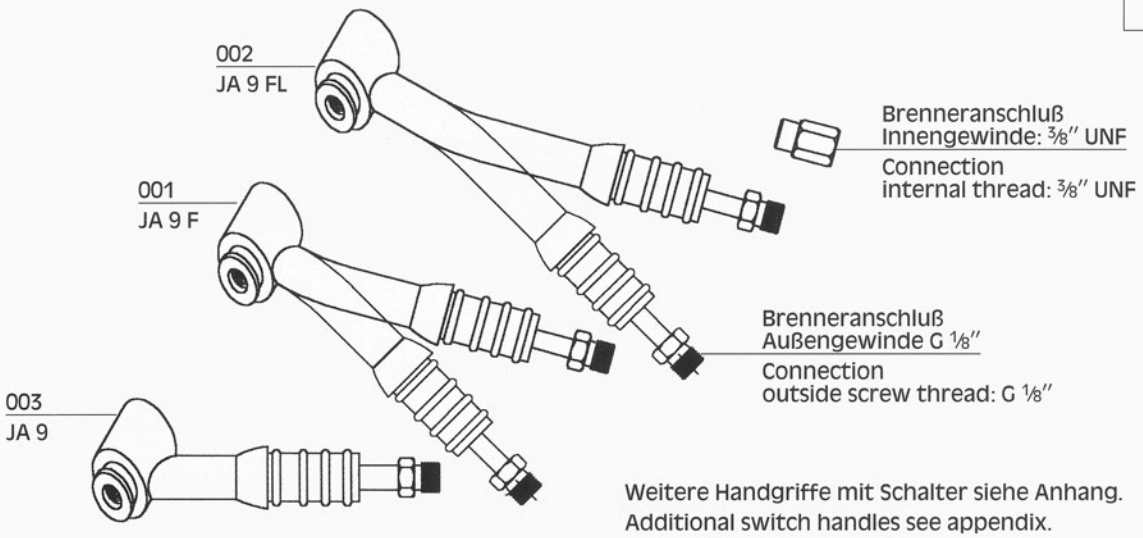
- a higher quality of the welding seam by laminar gas outlet
- a longer durability

# WiG-Schweißbrenner
# TiG-Torches

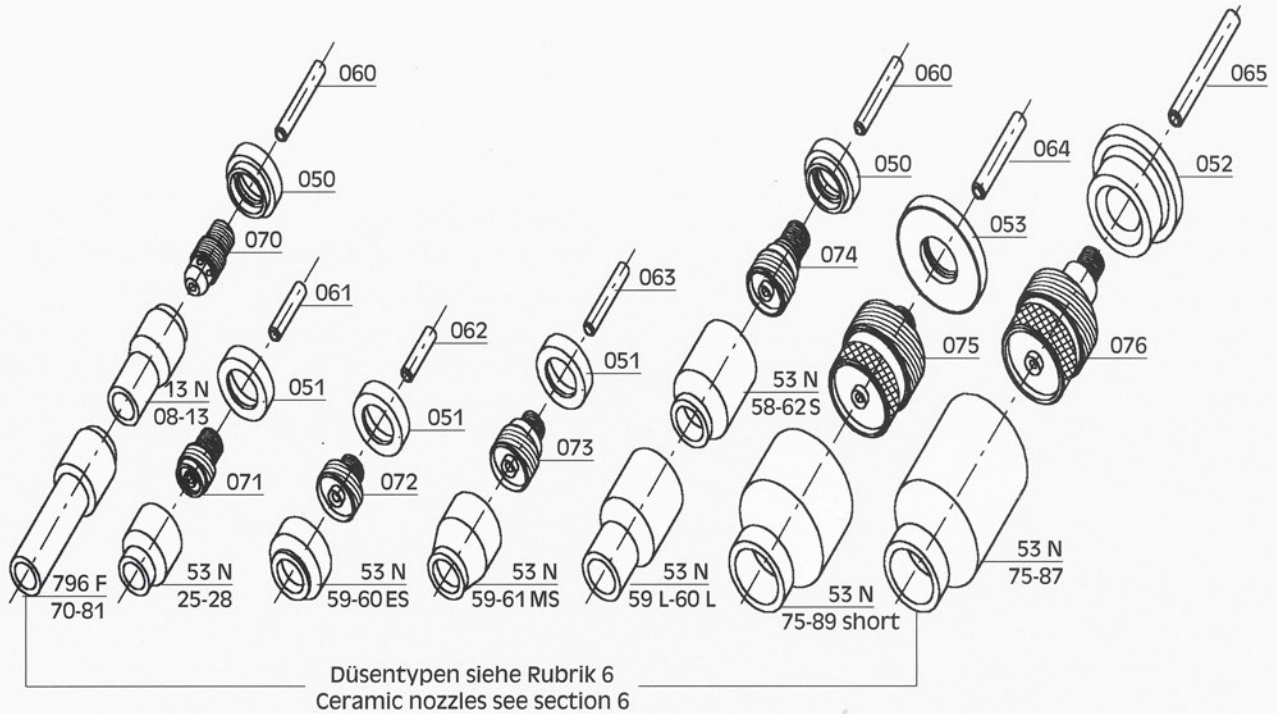
**JA 9**
**JA 9 F**
**JA 9 FL**

Weitere Handgriffe siehe Anhang.
Additional handles see appendix.




Weitere Handgriffe mit Schalter siehe Anhang.
Additional switch handles see appendix.




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 9 / JA 9 F / JA 9 FL

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 140 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **9** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | |
| JA **9** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **9 F** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | |
| JA **9 F** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **9 FL** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | |
| JA **9 FL** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |

**SINGLE PIECE PRODUCTION**

Each additional meter tube paket 16 mm²
Each additional meter tube paket 25 mm²

| Order-No. | Description | Thread | | Length | EUR/piece |
|---|---|---|---|---|---|
| N09 **003** 00 I | Torch JA 9 | Internal | 3/8"-24 G-UNF | 45 mm | |
| N09 **003** 00 A | Torch JA 9 | External | G 1/8" | 45 mm | |
| N09 **001** 00 I | Torch JA 9 F | Internal | 3/8"-24 G-UNF | 80 mm | |
| N09 **001** 00 A | Torch JA 9 F | External | G 1/8" | 80 mm | |
| N09 **002** 00 I | Torch JA 9 FL | Internal | 3/8"-24 G-UNF | 105 mm | |
| N09 **002** 00 A | Torch JA 9 FL | External | G 1/8" | 105 mm | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N09 **040** 00 | Handle, smooth | |
| | N09 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |
| | J 05 0 00 01 | JA-TIG-Torch, small, complete | |
| 4K | J 05 2 09 01 | JA-TIG-Torch, small | |
| 4K | J 05 2 13 01 | 5 JA-screws | |
| 2K | J 05 2 09 02 | JA-key button | |
| 3K | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | |
| 5K | J 05 2 15 01 | JA-O-Ring | |
| 6K | J 05 2 09 03 | JA-intermediate sleeve for hose | |
| 7K | J 05 2 07 01 | JA-sleeve for hose | |

| | | | |
|---|---|---|---|
| N09 **030** 00 | o-seal | | |
| N09 **031** 00 | Back cap, short | | |
| N09 **032** 00 | Back cap, medium | | |
| N09 **033** 00 | Back cap, long | | |

| | | | |
|---|---|---|---|
| | N09 **050** 00 | insulator | |
| | N09 **051** 00 | insulator | |
| | N09 **052** 00 | insulator | |
| | N09 **053** 00 | insulator | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N09 **060** 10G<br>N09 **060** 10A | Collet slotted or bewelled | 1,0 | 25,0 | |
| N09 **060** 16G<br>N09 **060** 16A | Collet slotted or bewelled | 1,6 | 25,0 | |
| N09 **060** 24G<br>N09 **060** 24A | Collet slotted or bewelled | 2,4 | 25,0 | |
| N09 **060** 32G<br>N09 **060** 32A | Collet slotted or bewelled | 3,2 | 25,0 | |
| N09 **061** 10G<br>N09 **061** 10A | Collet slotted or bewelled | 1,0 | 17,5 | |
| N09 **061** 16G<br>N09 **061** 16A | Collet slotted or bewelled | 1,6 | 17,5 | |
| N09 **061** 24G<br>N09 **061** 24A | Collet slotted or bewelled | 2,4 | 17,5 | |
| N09 **062** 10G<br>N09 **062** 10A | Collet slotted or bewelled | 1,0 | 16,0 | |
| N09 **062** 16G<br>N09 **062** 16A | Collet slotted or bewelled | 1,6 | 16,0 | |
| N09 **062** 24G<br>N09 **062** 24A | Collet slotted or bewelled | 2,4 | 16,0 | |
| N09 **062** 32G<br>N09 **062** 32A | Collet slotted or bewelled | 3,2 | 16,0 | |
| N09 **063** 10G<br>N09 **063** 10A | Collet slotted or bewelled | 1,0 | 23,0 | |
| N09 **063** 16G<br>N09 **063** 16A | Collet slotted or bewelled | 1,6 | 23,0 | |
| N09 **063** 24G<br>N09 **063** 24A | Collet slotted or bewelled | 2,4 | 23,0 | |
| N09 **063** 32G<br>N09 **063** 32A | Collet slotted or bewelled | 3,2 | 23,0 | |
| N09 **064** 10G<br>N09 **064** 10A | Collet slotted or bewelled | 1,0 | 27,0 | |
| N09 **064** 16G<br>N09 **064** 16A | Collet slotted or bewelled | 1,6 | 27,0 | |
| N09 **064** 24G<br>N09 **064** 24A | Collet slotted or bewelled | 2,4 | 27,0 | |
| N09 **064** 32G<br>N09 **064** 32A | Collet slotted or bewelled | 3,2 | 27,0 | |
| N09 **065** 10G<br>N09 **065** 10A | Collet slotted or bewelled | 1,0 | 38,0 | |
| N09 **065** 16G<br>N09 **065** 16A | Collet slotted or bewelled | 1,6 | 38,0 | |
| N09 **065** 24G<br>N09 **065** 24A | Collet slotted or bewelled | 2,4 | 38,0 | |
| N09 **065** 32A | Collet bewelled | 3,2 | 38,0 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet Length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N09 **070** 10 | Collet body | 1,0 | 20,5 | 25,0 | |
| N09 **070** 16 | Collet body | 1,6 | 20,5 | 25,0 | |
| N09 **070** 24 | Collet body | 2,4 | 20,5 | 25,0 | |
| N09 **070** 32 | Collet body | 3,2 | 20,5 | 25,0 | |
| N09 **074** 10 | Gas lens | 1,0 | 22,5 | 25,0 | |
| N09 **074** 16 | Gas lens | 1,6 | 22,5 | 25,0 | |
| N09 **074** 24 | Gas lens | 2,4 | 22,5 | 25,0 | |
| N09 **074** 32 | Gas lens | 3,2 | 22,5 | 25,0 | |
| N09 **071** 10 | Gas lens | 1,0 | 14,5 | 17,5 | |
| N09 **071** 16 | Gas lens | 1,6 | 14,5 | 17,5 | |
| N09 **071** 24 | Gas lens | 2,4 | 14,5 | 17,5 | |
| N09 **072** 10 | Gas lens | 1,0 | 12,0 | 16,0 | |
| N09 **072** 16 | Gas lens | 1,6 | 12,0 | 16,0 | |
| N09 **072** 24 | Gas lens | 2,4 | 12,0 | 16,0 | |
| N09 **072** 32 | Gas lens | 3,2 | 12,0 | 16,0 | |
| N09 **073** 10 | Gas lens | 1,0 | 17,0 | 23,0 | |
| N09 **073** 16 | Gas lens | 1,6 | 17,0 | 23,0 | |
| N09 **073** 24 | Gas lens | 2,4 | 17,0 | 23,0 | |
| N09 **073** 32 | Gas lens | 3,2 | 17,0 | 23,0 | |
| N09 **075** 10 | Gas lens | 1,0 | 30,0 | 27,0 | |
| N09 **075** 16 | Gas lens | 1,6 | 30,0 | 27,0 | |
| N09 **075** 24 | Gas lens | 2,4 | 30,0 | 27,0 | |
| N09 **075** 32 | Gas lens | 3,2 | 30,0 | 27,0 | |
| N09 **076** 10 | Gas lens | 1,0 | 40,0 | 38,0 | |
| N09 **076** 16 | Gas lens | 1,6 | 40,0 | 38,0 | |
| N09 **076** 24 | Gas lens | 2,4 | 40,0 | 38,0 | |
| N09 **076** 32 | Gas lens | 3,2 | 40,0 | 38,0 | |

# TIG-Torches JA 9 V

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 140 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **9 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | **SINGLE PIECE PRODUCTION** |
| JA **9 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **9 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 35 mm² | |

Each additional meter tube pakets 16 mm²
Each additional meter tube pakets 25 mm²
Each additional meter tube pakets 35 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N09 **004** 00 I | Torch JA 9 V | Internal 3/8"-24G-UNF | 65 mm | |
| N09 **004** 00 A | Torch JA 9 V | External G 1/8" | 65 mm | |

| Order-No. | Description | EUR/piece |
|---|---|---|
| N09 **040** 00 | Handle | |
| N09 **050** 00 | insulator | |
| N09 **051** 00 | insulator | |
| N09 **052** 00 | insulator | |
| N09 **053** 00 | insulator | |

| Order-No. | Description | EUR/piece |
|---|---|---|
| N09 **030** 00 | o-seal | |
| N09 **031** 00 | Back cap, short | |
| N09 **032** 00 | Back cap, medium | |
| N09 **033** 00 | Back cap, long | |
| N09 **034** 00 | Valvewheel | |
| N09 **035** 00 | o-seal | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N09 **060** 10G<br>N09 **060** 10A | Collet slotted or bewelled | 1,0 | 25,0 | |
| N09 **060** 16G<br>N09 **060** 16A | Collet slotted or bewelled | 1,6 | 25,0 | |
| N09 **060** 24G<br>N09 **060** 24A | Collet slotted or bewelled | 2,4 | 25,0 | |
| N09 **060** 32G<br>N09 **060** 32A | Collet slotted or bewelled | 3,2 | 25,0 | |
| N09 **061** 10G<br>N09 **061** 10A | Collet slotted or bewelled | 1,0 | 17,5 | |
| N09 **061** 16G<br>N09 **061** 16A | Collet slotted or bewelled | 1,6 | 17,5 | |
| N09 **061** 24G<br>N09 **061** 24A | Collet slotted or bewelled | 2,4 | 17,5 | |
| N09 **062** 10G<br>N09 **062** 10A | Collet slotted or bewelled | 1,0 | 16,0 | |
| N09 **062** 16G<br>N09 **062** 16A | Collet slotted or bewelled | 1,6 | 16,0 | |
| N09 **062** 24G<br>N09 **062** 24A | Collet slotted or bewelled | 2,4 | 16,0 | |
| N09 **062** 32G<br>N09 **062** 32A | Collet slotted or bewelled | 3,2 | 16,0 | |
| N09 **063** 10G<br>N09 **063** 10A | Collet slotted or bewelled | 1,0 | 23,0 | |
| N09 **063** 16G<br>N09 **063** 16A | Collet slotted or bewelled | 1,6 | 23,0 | |
| N09 **063** 24G<br>N09 **063** 24A | Collet slotted or bewelled | 2,4 | 23,0 | |
| N09 **063** 32G<br>N09 **063** 32A | Collet slotted or bewelled | 3,2 | 23,0 | |
| N09 **064** 10G<br>N09 **064** 10A | Collet slotted or bewelled | 1,0 | 27,0 | |
| N09 **064** 16G<br>N09 **064** 16A | Collet slotted or bewelled | 1,6 | 27,0 | |
| N09 **064** 24G<br>N09 **064** 24A | Collet slotted or bewelled | 2,4 | 27,0 | |
| N09 **064** 32G<br>N09 **064** 32A | Collet slotted or bewelled | 3,2 | 27,0 | |
| N09 **065** 10G<br>N09 **065** 10A | Collet slotted or bewelled | 1,0 | 38,0 | |
| N09 **065** 16G<br>N09 **065** 16A | Collet slotted or bewelled | 1,6 | 38,0 | |
| N09 **065** 24G<br>N09 **065** 24A | Collet slotted or bewelled | 2,4 | 38,0 | |
| N09 **065** 32A | Collet bewelled | 3,2 | 38,0 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet Length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N09 **070** 10 | Collet body | 1,0 | 20,5 | 25,0 | |
| N09 **070** 16 | Collet body | 1,6 | 20,5 | 25,0 | |
| N09 **070** 24 | Collet body | 2,4 | 20,5 | 25,0 | |
| N09 **070** 32 | Collet body | 3,2 | 20,5 | 25,0 | |
| N09 **074** 10 | Gas lens | 1,0 | 22,5 | 25,0 | |
| N09 **074** 16 | Gas lens | 1,6 | 22,5 | 25,0 | |
| N09 **074** 24 | Gas lens | 2,4 | 22,5 | 25,0 | |
| N09 **074** 32 | Gas lens | 3,2 | 22,5 | 25,0 | |
| N09 **071** 10 | Gas lens | 1,0 | 14,5 | 17,5 | |
| N09 **071** 16 | Gas lens | 1,6 | 14,5 | 17,5 | |
| N09 **071** 24 | Gas lens | 2,4 | 14,5 | 17,5 | |
| N09 **072** 10 | Gas lens | 1,0 | 12,0 | 16,0 | |
| N09 **072** 16 | Gas lens | 1,6 | 12,0 | 16,0 | |
| N09 **072** 24 | Gas lens | 2,4 | 12,0 | 16,0 | |
| N09 **072** 32 | Gas lens | 3,2 | 12,0 | 16,0 | |
| N09 **073** 10 | Gas lens | 1,0 | 17,0 | 23,0 | |
| N09 **073** 16 | Gas lens | 1,6 | 17,0 | 23,0 | |
| N09 **073** 24 | Gas lens | 2,4 | 17,0 | 23,0 | |
| N09 **073** 32 | Gas lens | 3,2 | 17,0 | 23,0 | |
| N09 **075** 10 | Gas lens | 1,0 | 30,0 | 27,0 | |
| N09 **075** 16 | Gas lens | 1,6 | 30,0 | 27,0 | |
| N09 **075** 24 | Gas lens | 2,4 | 30,0 | 27,0 | |
| N09 **075** 32 | Gas lens | 3,2 | 30,0 | 27,0 | |
| N09 **076** 10 | Gas lens | 1,0 | 40,0 | 38,0 | |
| N09 **076** 16 | Gas lens | 1,6 | 40,0 | 38,0 | |
| N09 **076** 24 | Gas lens | 2,4 | 40,0 | 38,0 | |
| N09 **076** 32 | Gas lens | 3,2 | 40,0 | 38,0 | |

# WiG-Schweißbrenner
# TiG-Torches




Gasgekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 165 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Durch die Verwendung größerer Materialquerschnitte in unseren Brennern, bei gleichzeitig erhöhter Leistung, läßt sich die Schutzgastemperatur vermindern! Ihr Vorteil: Steigerung der Schweißnahtqualität!*

Gascooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 165 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*Larger material cross-sections in our torches allow to reduce the welding temperature even if the energy is increased! Your advantage: An improved welding seam quality!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

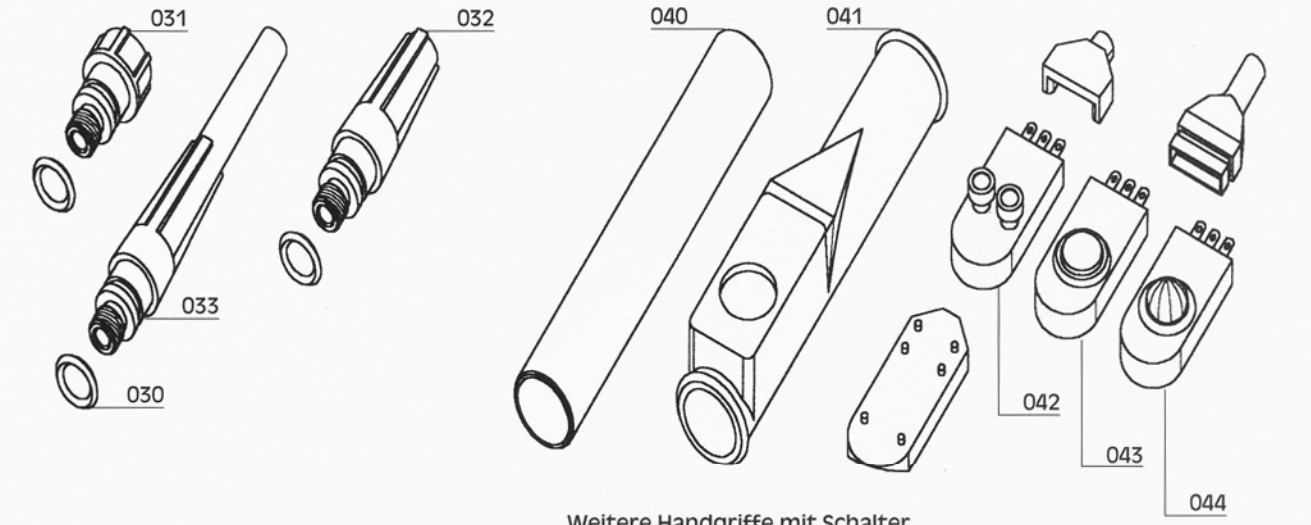
The advantages of our new developed gas lenses are:

- a higher quality of the welding seam by laminar gas outlet
- a longer durability

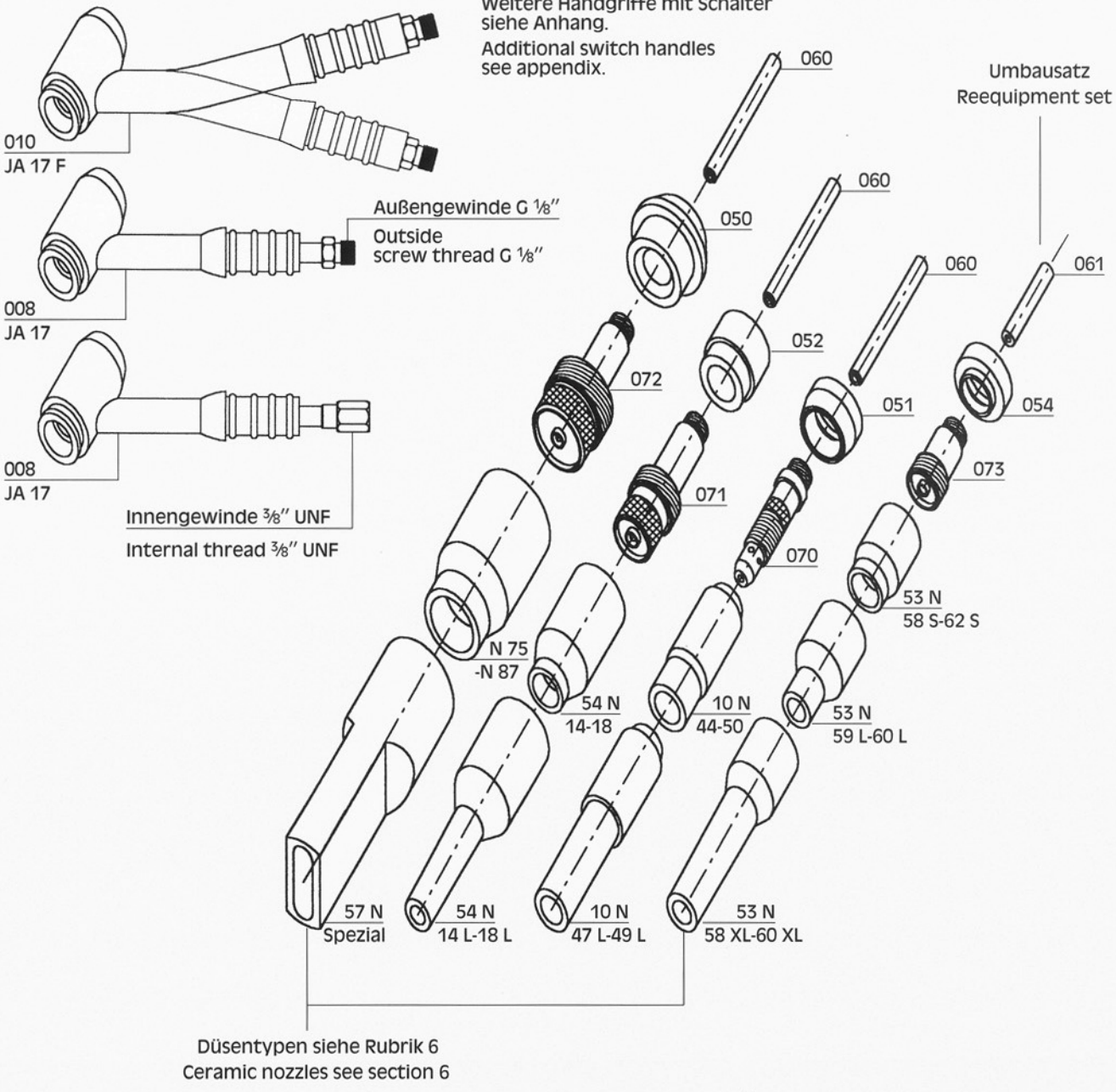
# WiG-Schweißbrenner
# TiG-Torches

**JA 17**
**JA 17 F**

Weitere Handgriffe siehe Anhang. Additional handles see appendix.




Weitere Handgriffe mit Schalter siehe Anhang.
Additional switch handles see appendix.




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 17 / JA 17F

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 165 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **17** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | **SINGLE PIECE PRODUCTION** |
| JA **17** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **17 F** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | |
| JA **17 F** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |

Each additional meter tube paket 16 mm²
Each additional meter tube paket 25 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N17 **008** 00 I | Torch JA 17 | Internal 3/8"-24G UNF | 65 mm | |
| N17 **008** 00 A | Torch JA 17 | External G 1/8" | 65 mm | |
| N17 **010** 00 I | Torch JA 17 F | Internal 3/8"-24G UNF | 70 mm | |
| N17 **010** 00 A | Torch JA 17 F | External G 1/8" | 70 mm | |

| | | | |
|---|---|---|---|
| N17 **030** 00 | o-seal, black | | |
| N17 **031** 00 | Back cap, short | WPØ 13,50 mm black | |
| N17 **032** 00 | Back cap, medium | WPØ 13,50 mm black | |
| N17 **033** 00 | Back cap, long | WPØ 13,50 mm black | |
| N17 **030** 12 | o-seal, red | | |
| N17 **031** 12 | Back cap, short | HPØ 12,00 mm red | |
| N17 **032** 12 | Back cap, medium | HPØ 12,00 mm red | |
| N17 **033** 12 | Back cap, long | HPØ 12,00 mm red | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N09 **040** 00 | Handle | |
| | N09 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |

| | | | |
|---|---|---|---|
| | J 05 0 00 01 | JA-TIG-Torch, small, complete | |
| 4K | J 05 2 09 01 | JA-TIG-Torch, small | |
| | J 05 2 13 01 | 5 JA-screws | |
| 2K | J 05 2 09 02 | JA-key button | |
| 3K | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | |
| 5K | J 05 2 15 01 | JA-O-Ring | |
| 6K | J 05 2 09 03 | JA-intermediate sleeve for hose | |
| 7K | J 05 2 07 01 | JA-sleeve for hose | |

| | | |
|---|---|---|
| | N17 **050** 00 | insulator |
| | N17 **051** 00 | insulator |
| | N17 **052** 00 | insulator |
| | N17 **054** 00 | insulator |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N17 **060** 10G<br>N17 **060** 10A | Collet slotted or bewelled | 1,0 | 50,0 | |
| N17 **060** 16G<br>N17 **060** 16A | Collet slotted or bewelled | 1,6 | 50,0 | |
| N17 **060** 24G<br>N17 **060** 24A | Collet slotted or bewelled | 2,4 | 50,0 | |
| N17 **060** 32G<br>N17 **060** 32A | Collet slotted or bewelled | 3,2 | 50,0 | |
| N17 **060** 40A | Collet bewelled | 4,0 | 50,0 | |

| | Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|---|
| | N17 **070** 10 | Collet body | 1,0 | 47,0 | 50,0 | |
| | N17 **070** 16 | Collet body | 1,6 | 47,0 | 50,0 | |
| | N17 **070** 24 | Collet body | 2,4 | 47,0 | 50,0 | |
| | N17 **070** 32 | Collet body | 3,2 | 47,0 | 50,0 | |
| | N17 **070** 40 | Collet body | 4,0 | 47,0 | 50,0 | |
| | N17 **071** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| | N17 **071** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| | N17 **071** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| | N17 **071** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| | N17 **071** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |
| | N17 **072** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| | N17 **072** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| | N17 **072** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| | N17 **072** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| | N17 **072** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |

| | | | | |
|---|---|---|---|---|
| N17 **061** 10G<br>N17 **061** 10A | Collet slotted or bewelled | 1,0 | 30,0 | |
| N17 **061** 16G<br>N17 **061** 16A | Collet slotted or bewelled | 1,6 | 30,0 | |
| N17 **061** 24G<br>N17 **061** 24A | Collet slotted or bewelled | 2,4 | 30,0 | |
| N17 **061** 32G<br>N17 **061** 32A | Collet slotted or bewelled | 3,2 | 30,0 | |
| N17 **061** 40A | Collet bewelled | 4,0 | 30,0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | N17 **073** 10 | Gas lens conversion kit | 1,0 | 27,0 | 30,0 | |
| | N17 **073** 16 | Gas lens conversion kit | 1,6 | 27,0 | 30,0 | |
| | N17 **073** 24 | Gas lens conversion kit | 2,4 | 27,0 | 30,0 | |
| | N17 **073** 32 | Gas lens conversion kit | 3,2 | 27,0 | 30,0 | |
| | N17 **073** 40 | Gas lens conversion kit | 4,0 | 27,0 | 30,0 | |

# TIG-Torches JA 17V

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 165 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **17 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | **SINGLE PIECE PRODUCTION** |
| JA **17 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **17 V** | with 4.0 m tube paket without machine fitting system, mono cable 35 mm² | |

Each additional meter tube paket 16 mm²
Each additional meter tube paket 25 mm²
Each additional meter tube paket 35 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N17 **009** 00 I | Torch JA 17 V | Internal 3/8"-24G-UNF | 65 mm | |
| N17 **009** 00 A | Torch JA 17 V | External G 1/8" | 65 mm | |

| Order-No. | Description | EUR/piece |
|---|---|---|
| N09 **034** 00 | Valvewheel | |
| N09 **035** 00 | Sealing, round | |
| N09 **040** 00 | Handle | |

| | | | |
|---|---|---|---|
| N17 **030** 00 | o-seal, black | | |
| N17 **031** 00 | Back cap, short | WPØ 13,50 mm black | |
| N17 **032** 00 | Back cap, medium | WPØ 13,50 mm black | |
| N17 **033** 00 | Back cap, long | WPØ 13,50 mm black | |
| N17 **030** 12 | o-seal, red | | |
| N17 **031** 12 | Back cap, short | HPØ 12,00 mm red | |
| N17 **032** 12 | Back cap, medium | HPØ 12,00 mm red | |
| N17 **033** 12 | Back cap, long | HPØ 12,00 mm red | |

| | | | |
|---|---|---|---|
| N17 **050** 00 | insulator | | |
| N17 **051** 00 | insulator | | |
| N17 **052** 00 | insulator | | |
| N17 **054** 00 | insulator | | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N17 **060** 10G<br>N17 **060** 10A | Collet slotted or bewelled | 1,0 | 50,0 | |
| N17 **060** 16G<br>N17 **060** 16A | Collet slotted or bewelled | 1,6 | 50,0 | |
| N17 **060** 24G<br>N17 **060** 24A | Collet slotted or bewelled | 2,4 | 50,0 | |
| N17 **060** 32G<br>N17 **060** 32A | Collet slotted or bewelled | 3,2 | 50,0 | |
| N17 **060** 40A | Collet bewelled | 4,0 | 50,0 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N17 **070** 10 | Collet body | 1,0 | 47,0 | 50,0 | |
| N17 **070** 16 | Collet body | 1,6 | 47,0 | 50,0 | |
| N17 **070** 24 | Collet body | 2,4 | 47,0 | 50,0 | |
| N17 **070** 32 | Collet body | 3,2 | 47,0 | 50,0 | |
| N17 **070** 40 | Collet body | 4,0 | 47,0 | 50,0 | |
| N17 **071** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **071** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **071** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **071** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **071** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |
| N17 **072** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **072** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **072** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **072** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **072** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |
| N17 **061** 10G<br>N17 **061** 10A | Collet slotted or bewelled | 1,0 | 30,0 | | |
| N17 **061** 16G<br>N17 **061** 16A | Collet slotted or bewelled | 1,6 | 30,0 | | |
| N17 **061** 24G<br>N17 **061** 24A | Collet slotted or bewelled | 2,4 | 30,0 | | |
| N17 **061** 32G<br>N17 **061** 32A | Collet slotted or bewelled | 3,2 | 30,0 | | |
| N17 **061** 40A | Collet bewelled | 4,0 | 30,0 | | |
| N17 **073** 10 | Gas lens conversion kit | 1,0 | 27,0 | 30,0 | |
| N17 **073** 16 | Gas lens conversion kit | 1,6 | 27,0 | 30,0 | |
| N17 **073** 24 | Gas lens conversion kit | 2,4 | 27,0 | 30,0 | |
| N17 **073** 32 | Gas lens conversion kit | 3,2 | 27,0 | 30,0 | |
| N17 **073** 40 | Gas lens conversion kit | 4,0 | 27,0 | 30,0 | |

# WiG-Schweißbrenner
# TiG-Torches




Wassergekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 375 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Eine größere Kühlwasser-Durchflußmenge erhöht die Leistung und verbessert Ihre Schweißnaht-qualität!*

Watercooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 375 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*An extensive cooling water supply increases the efficency and improves the quality of the welding seam!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

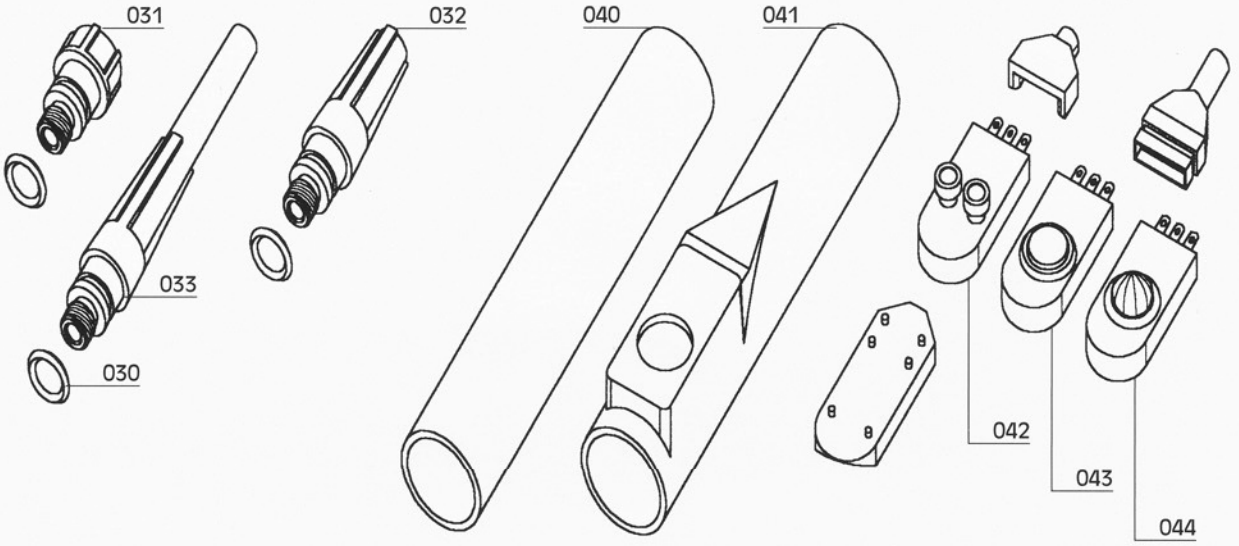
The advantages of our new developed gas lenses are:

- a higher quality of the welding seam by laminar gas outlet
- a longer durability

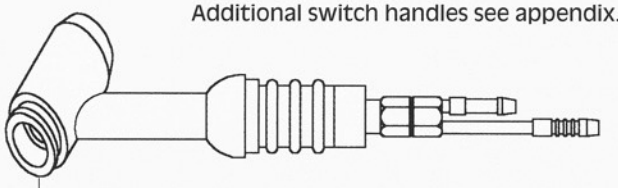
# WiG-Schweißbrenner
# TiG-Torches

**JA 18**
**JA 18 L**

Weitere Handgriffe siehe Anhang. Additional handles see appendix.



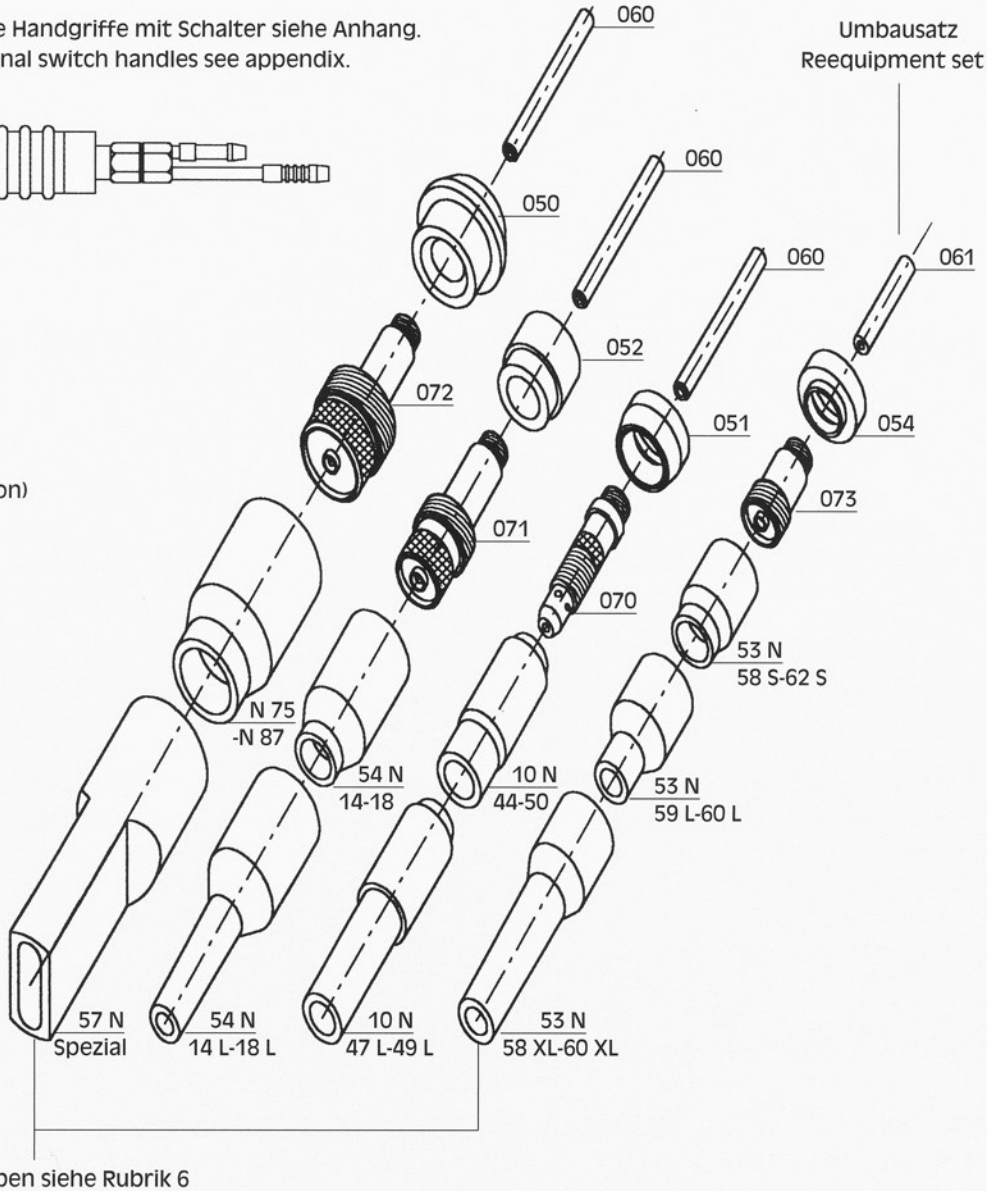

Weitere Handgriffe mit Schalter siehe Anhang.
Additional switch handles see appendix.



010
JA 18

020
JA 18 L
(ohne Abbildung)
(without illustration)

Umbausatz
Reequipment set




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 18 / JA 18 L

**Made in Germany.**
**Water-cooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 375 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**
**With conversion kit**

**EUR**

| | | |
|---|---|---|
| JA **18** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 10 mm² | **SINGLE PIECE PRODUCTION** |
| JA **18** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 16 mm² | |
| JA **18 L** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 10 mm² | |
| JA **18 L** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 16 mm² | |
| JA **18 LF** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 10 mm² | |
| JA **18 LF** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 16 mm² | |

Each additional meter tube paket 10 mm²
Each additional meter tube paket 16 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N18 **010** 00 I | Torch JA 18 | Internal 3/8"-24G-UNF links | 50 mm | |
| N18 **020** 00 I | Torch JA 18 L | Internal 3/8"-24G-UNF links | 70 mm | |
| N18 **030** 00 I | Torch JA 18 LF | Internal 3/8"-24G-UNF links | 70 mm | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N18 **040** 00 | Handle | |
| | N18 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |

| | | | | |
|---|---|---|---|---|
| N17 **030** 00 | o-seal, black | | | |
| N17 **031** 00 | Back cap, short | WPØ 13,50 mm black | | |
| N17 **032** 00 | Back cap, medium | WPØ 13,50 mm black | | |
| N17 **033** 00 | Back cap, long | WPØ 13,50 mm black | | |
| N17 **030** 12 | o-seal, red | | | |
| N17 **031** 12 | Back cap, short | HPØ 12,00 mm red | | |
| N17 **032** 12 | Back cap, medium | HPØ 12,00 mm red | | |
| N17 **033** 12 | Back cap, long | HPØ 12,00 mm red | | |

| | | | | |
|---|---|---|---|---|
| | J 05 0 00 02 | JA-TIG-Torch, large, complete | | |
| 1G | J 05 2 09 04 | JA-TIG-Torch, large | | |
| 2G | J 05 2 09 02 | JA-key button | | |
| 3G | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | | |
| 4G | J 05 2 13 01 | 5 JA-screws | | |
| 5G | J 05 2 07 02 | JA-sleeve for hose li Ø 25 mm + 28 mm | | |
| 6G | J 05 2 07 03 | JA-sleeve for hose li Ø 20 mm + 22,5 mm | | |

| | | | |
|---|---|---|---|
| N17 **050** 00 | insulator | | |
| N17 **051** 00 | insulator | | |
| N17 **052** 00 | insulator | | |
| N17 **054** 00 | insulator | | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N17 **060** 10G<br>N17 **060** 10A | Collet slotted or bewelled | 1,0 | 50,0 | |
| N17 **060** 16G<br>N17 **060** 16A | Collet slotted or bewelled | 1,6 | 50,0 | |
| N17 **060** 24G<br>N17 **060** 24A | Collet slotted or bewelled | 2,4 | 50,0 | |
| N17 **060** 32G<br>N17 **060** 32A | Collet slotted or bewelled | 3,2 | 50,0 | |
| N17 **060** 40A | Collet bewelled | 4,0 | 50,0 | |

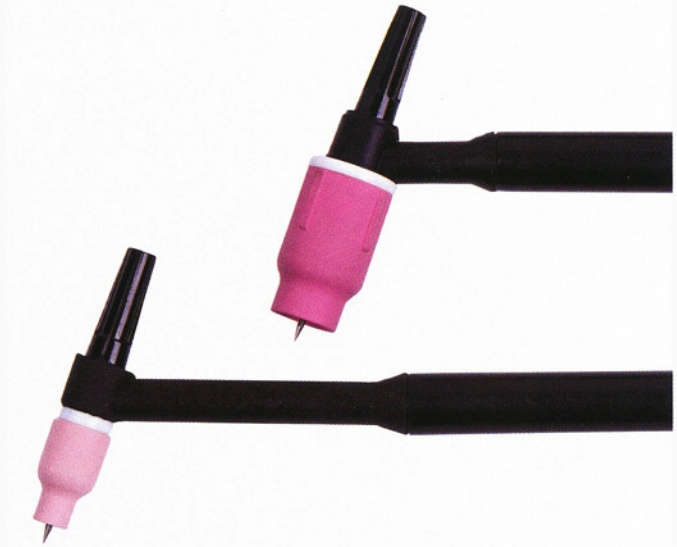
| | Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|---|
| | N17 **070** 10 | Collet body | 1,0 | 47,0 | 50,0 | |
| | N17 **070** 16 | Collet body | 1,6 | 47,0 | 50,0 | |
| | N17 **070** 24 | Collet body | 2,4 | 47,0 | 50,0 | |
| | N17 **070** 32 | Collet body | 3,2 | 47,0 | 50,0 | |
| | N17 **070** 40 | Collet body | 4,0 | 47,0 | 50,0 | |
| | N17 **071** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| | N17 **071** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| | N17 **071** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| | N17 **071** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| | N17 **071** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |
| | N17 **072** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| | N17 **072** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| | N17 **072** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| | N17 **072** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| | N17 **072** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |

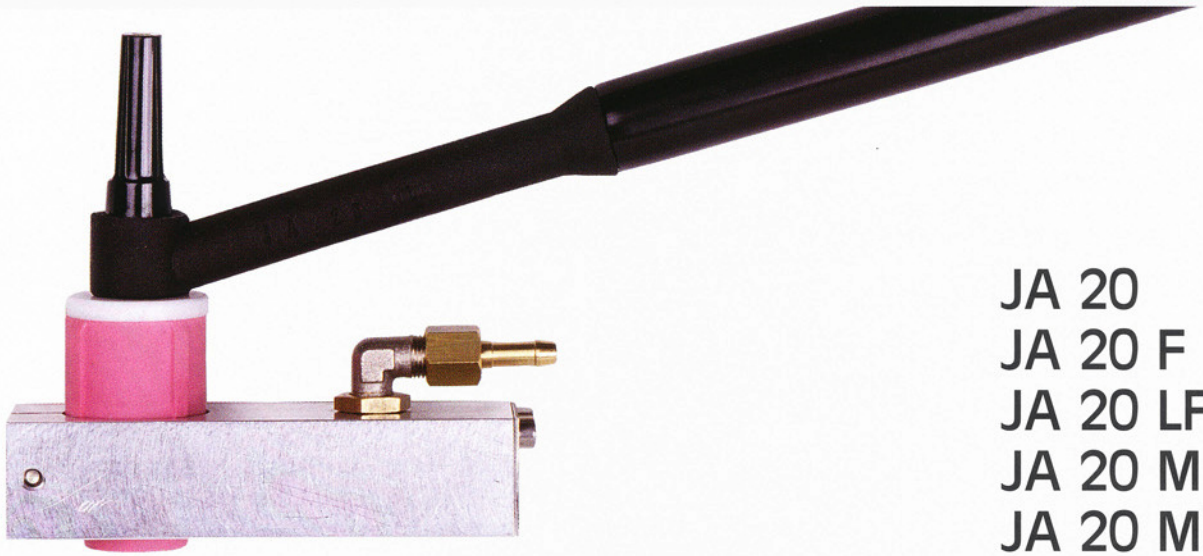
| | | | | |
|---|---|---|---|---|
| N17 **061** 10G<br>N17 **061** 10A | Collet slotted or bewelled | 1,0 | 30,0 | |
| N17 **061** 16G<br>N17 **061** 16A | Collet slotted or bewelled | 1,6 | 30,0 | |
| N17 **061** 24G<br>N17 **061** 24A | Collet slotted or bewelled | 2,4 | 30,0 | |
| N17 **061** 32G<br>N17 **061** 32A | Collet slotted or bewelled | 3,2 | 30,0 | |
| N17 **061** 40A | Collet bewelled | 4,0 | 30,0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | N17 **073** 10 | Gas lens conversion kit | 1,0 | 27,0 | 30,0 | |
| | N17 **073** 16 | Gas lens conversion kit | 1,6 | 27,0 | 30,0 | |
| | N17 **073** 24 | Gas lens conversion kit | 2,4 | 27,0 | 30,0 | |
| | N17 **073** 32 | Gas lens conversion kit | 3,2 | 27,0 | 30,0 | |
| | N17 **073** 40 | Gas lens conversion kit | 4,0 | 27,0 | 30,0 | |

# WiG-Schweißbrenner
# TiG-Torches







**JA 20**
**JA 20 F**
**JA 20 LF**
**JA 20 M**
**JA 20 MF**

Wassergekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 265 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Eine größere Kühlwasser-Durchflußmenge erhöht die Leistung und verbessert Ihre Schweißnaht-qualität!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

Watercooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 265 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*An extensive cooling water supply increases the efficency and improves the quality of the welding seam!*

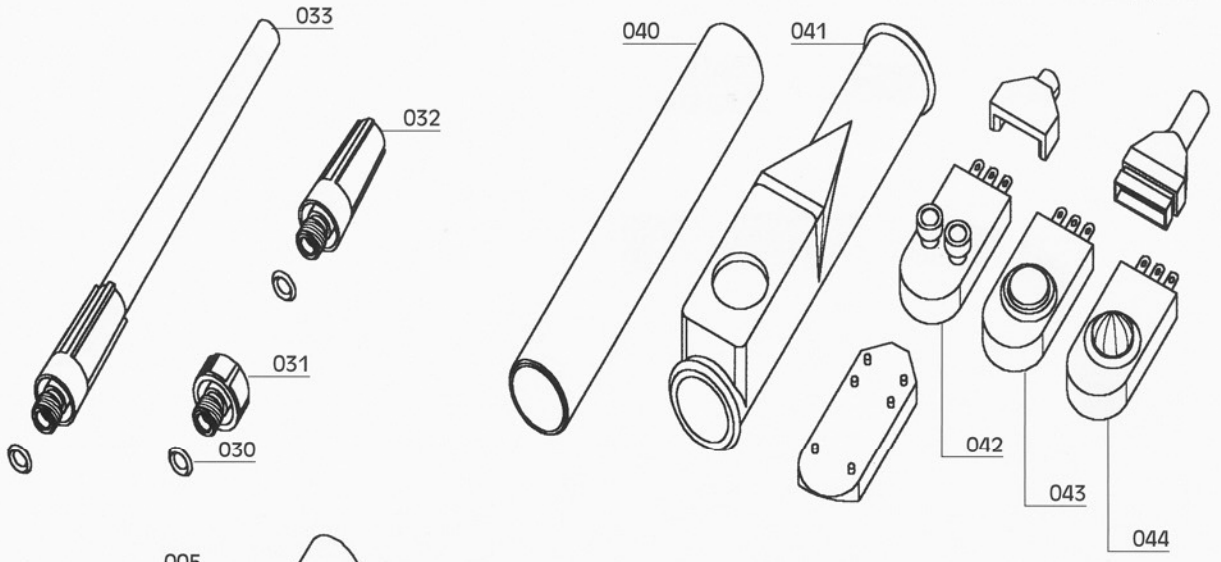
The advantages of our new developed gas lenses are:

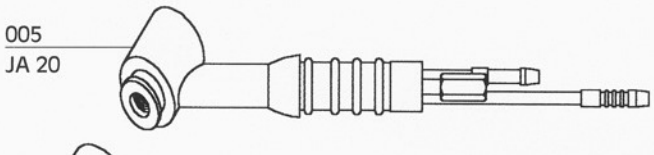
- a higher quality of the welding seam by laminar gas outlet
- a longer durability

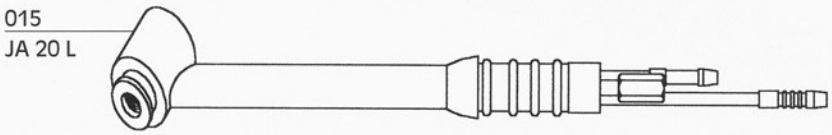
# WiG-Schweißbrenner
# TiG-Torches

**JA 20, 20 L**
**JA 20 LF**
**JA 20 M**
**JA 20 MF**

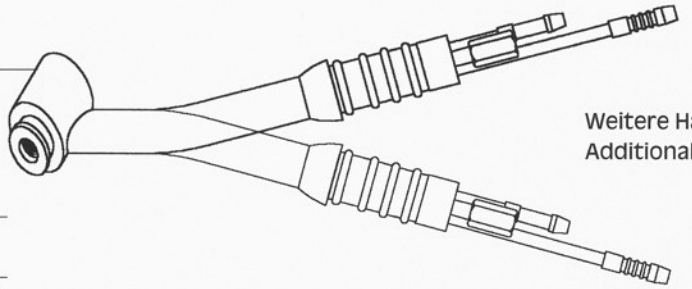
Weitere Handgriffe siehe Anhang.
Additional handles see appendix.



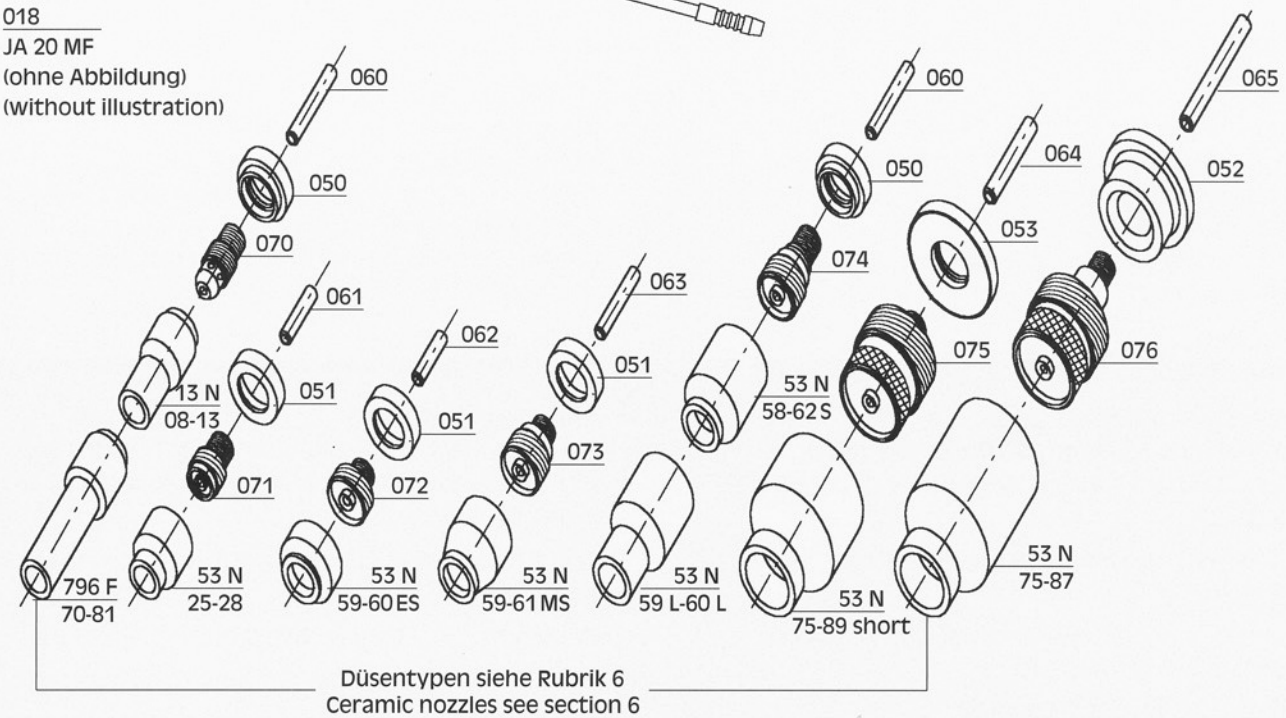




Wahlweise mit
Innengewinde ¼" 28G UNF
oder mit
Außengewinde ¼" 28G UNF
On request
internal thread ¼" 28G UNF
or outside
screw thread ¼" 28G UNF




Weitere Handgriffe mit Schalter siehe Anhang.
Additional switch handles see appendix.

024
JA 20 M
018
JA 20 MF
(ohne Abbildung)
(without illustration)




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 20 / JA 20 L / JA 20 LF / JA 20 M / JA 20 MF

**Made in Germany.**
**Water-cooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 265 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

| | | EUR |
|---|---|---|
| JA **20** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm² | **SINGLE PIECE PRODUCTION** |
| JA **20 L** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm² | |
| JA **20 LF** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm² | |
| JA **20 M** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm² | |
| JA **20 MF** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm² | |

Each additional meter tube paket 8 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N20 **005** 00 A | Torch JA 20 | External ¼" 28 G UNF | 45 mm | |
| N20 **005** 00 I | Torch JA 20 | Internal ¼" 28 G UNF | 45 mm | |
| N20 **015** 00 A | Torch JA 20 L | External ¼" 28 G UNF | 110 mm | |
| N20 **015** 00 I | Torch JA 20 L | Internal ¼" 28 G UNF | 110 mm | |
| N20 **016** 00 A | Torch JA 20 LF | External ¼" 28 G UNF | 110 mm | |
| N20 **016** 00 I | Torch JA 20 LF | Internal ¼" 28 G UNF | 110 mm | |
| N20 **024** 00 I | Torch JA 20 M | Internal ¼" 28 G UNF | 75 mm | |
| N20 **024** 00A | Torch JA 20 M | External ¼" 28 G UNF | 75 mm | |
| N20 **018** 00 I | Torch JA 20 MF | Internal ¼" 28 G UNF | 75 mm | |
| N20 **018** 00 A | Torch JA 20 MF | External ¼" 28 G UNF | 75 mm | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N09 **040** 00 | Handle | |
| | N09 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |
| | J 05 0 00 01 | JA-TIG-Torch, small, complete | |
| 4K | J 05 2 09 01 | JA-TIG-Torch, small | |
| | J 05 2 13 01 | 5 JA-screws | |
| 2K | J 05 2 09 02 | JA-key button | |
| 3K | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | |
| 5K | J 05 2 15 01 | JA-O-Ring | |
| 6K | J 05 2 09 03 | JA-intermediate sleeve for hose | |
| 7K | J 05 2 07 01 | JA-sleeve for hose | |

| | |
|---|---|
| N09 **030** 00 | o-seal |
| N09 **031** 00 | Back cap, short |
| N09 **032** 00 | Back cap, medium |
| N09 **033** 00 | Back cap, long |

| | |
|---|---|
| N09 **050** 00 | insulator |
| N09 **051** 00 | insulator |
| N09 **052** 00 | insulator |
| N09 **053** 00 | insulator |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N09 **060** 10G<br>N09 **060** 10A | Collet slotted or bewelled | 1,0 | 25,0 | |
| N09 **060** 16G<br>N09 **060** 16A | Collet slotted or bewelled | 1,6 | 25,0 | |
| N09 **060** 24G<br>N09 **060** 24A | Collet slotted or bewelled | 2,4 | 25,0 | |
| N09 **060** 32G<br>N09 **060** 32A | Collet slotted or bewelled | 3,2 | 25,0 | |
| N09 **061** 10G<br>N09 **061** 10A | Collet slotted or bewelled | 1,0 | 17,5 | |
| N09 **061** 16G<br>N09 **061** 16A | Collet slotted or bewelled | 1,6 | 17,5 | |
| N09 **061** 24G<br>N09 **061** 24A | Collet slotted or bewelled | 2,4 | 17,5 | |
| N09 **062** 10G<br>N09 **062** 10A | Collet slotted or bewelled | 1,0 | 16,0 | |
| N09 **062** 16G<br>N09 **062** 16A | Collet slotted or bewelled | 1,6 | 16,0 | |
| N09 **062** 24G<br>N09 **062** 24A | Collet slotted or bewelled | 2,4 | 16,0 | |
| N09 **062** 32G<br>N09 **062** 32A | Collet slotted or bewelled | 3,2 | 16,0 | |
| N09 **063** 10G<br>N09 **063** 10A | Collet slotted or bewelled | 1,0 | 23,0 | |
| N09 **063** 16G<br>N09 **063** 16A | Collet slotted or bewelled | 1,6 | 23,0 | |
| N09 **063** 24G<br>N09 **063** 24A | Collet slotted or bewelled | 2,4 | 23,0 | |
| N09 **063** 32G<br>N09 **063** 32A | Collet slotted or bewelled | 3,2 | 23,0 | |
| N09 **064** 10G<br>N09 **064** 10A | Collet slotted or bewelled | 1,0 | 27,0 | |
| N09 **064** 16G<br>N09 **064** 16A | Collet slotted or bewelled | 1,6 | 27,0 | |
| N09 **064** 24G<br>N09 **064** 24A | Collet slotted or bewelled | 2,4 | 27,0 | |
| N09 **064** 32G<br>N09 **064** 32A | Collet slotted or bewelled | 3,2 | 27,0 | |
| N09 **065** 10G<br>N09 **065** 10A | Collet slotted or bewelled | 1,0 | 38,0 | |
| N09 **065** 16G<br>N09 **065** 16A | Collet slotted or bewelled | 1,6 | 38,0 | |
| N09 **065** 24G<br>N09 **065** 24A | Collet slotted or bewelled | 2,4 | 38,0 | |
| N09 **065** 32A | Collet bewelled | 3,2 | 38,0 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N09 **070** 10 | Collet body | 1,0 | 20,5 | 25,0 | |
| N09 **070** 16 | Collet body | 1,6 | 20,5 | 25,0 | |
| N09 **070** 24 | Collet body | 2,4 | 20,5 | 25,0 | |
| N09 **070** 32 | Collet body | 3,2 | 20,5 | 25,0 | |
| N09 **074** 10 | Gas lens | 1,0 | 22,5 | 25,0 | |
| N09 **074** 16 | Gas lens | 1,6 | 22,5 | 25,0 | |
| N09 **074** 24 | Gas lens | 2,4 | 22,5 | 25,0 | |
| N09 **074** 32 | Gas lens | 3,2 | 22,5 | 25,0 | |
| N09 **071** 10 | Gas lens | 1,0 | 14,5 | 17,5 | |
| N09 **071** 16 | Gas lens | 1,6 | 14,5 | 17,5 | |
| N09 **071** 24 | Gas lens | 2,4 | 14,5 | 17,5 | |
| N09 **072** 10 | Gas lens | 1,0 | 12,0 | 16,0 | |
| N09 **072** 16 | Gas lens | 1,6 | 12,0 | 16,0 | |
| N09 **072** 24 | Gas lens | 2,4 | 12,0 | 16,0 | |
| N09 **072** 32 | Gas lens | 3,2 | 12,0 | 16,0 | |
| N09 **073** 10 | Gas lens | 1,0 | 17,0 | 23,0 | |
| N09 **073** 16 | Gas lens | 1,6 | 17,0 | 23,0 | |
| N09 **073** 24 | Gas lens | 2,4 | 17,0 | 23,0 | |
| N09 **073** 32 | Gas lens | 3,2 | 17,0 | 23,0 | |
| N09 **075** 10 | Gas lens | 1,0 | 30,0 | 27,0 | |
| N09 **075** 16 | Gas lens | 1,6 | 30,0 | 27,0 | |
| N09 **075** 24 | Gas lens | 2,4 | 30,0 | 27,0 | |
| N09 **075** 32 | Gas lens | 3,2 | 30,0 | 27,0 | |
| N09 **076** 10 | Gas lens | 1,0 | 40,0 | 38,0 | |
| N09 **076** 16 | Gas lens | 1,6 | 40,0 | 38,0 | |
| N09 **076** 24 | Gas lens | 2,4 | 40,0 | 38,0 | |
| N09 **076** 32 | Gas lens | 3,2 | 40,0 | 38,0 | |

# WiG-Schweißbrenner
# TiG-Torches




Wassergekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 265 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
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Watercooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 265 Amp
Length and equipment of cable assemblies on request

Industry quality –
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*Convince yourself!*
*An extensive cooling water supply increases the efficency and improves the quality of the welding seam!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

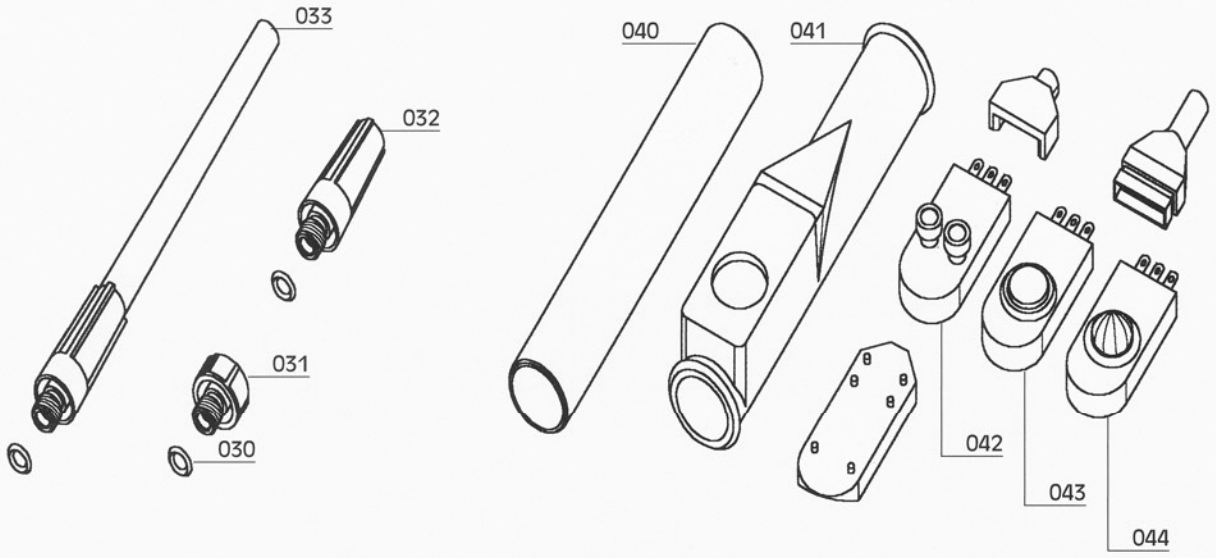
The advantages of our new developed gas lenses are:

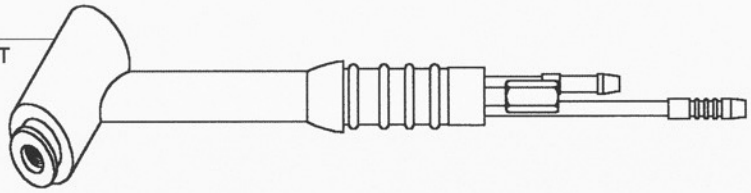
- a higher quality of the welding seam by laminar gas outlet
- a longer durability

# WiG-Schweißbrenner
# TiG-Torches

**JA 20 MT**
**JA 20 MTF**

Weitere Handgriffe siehe Anhang.
Additional handles see appendix.

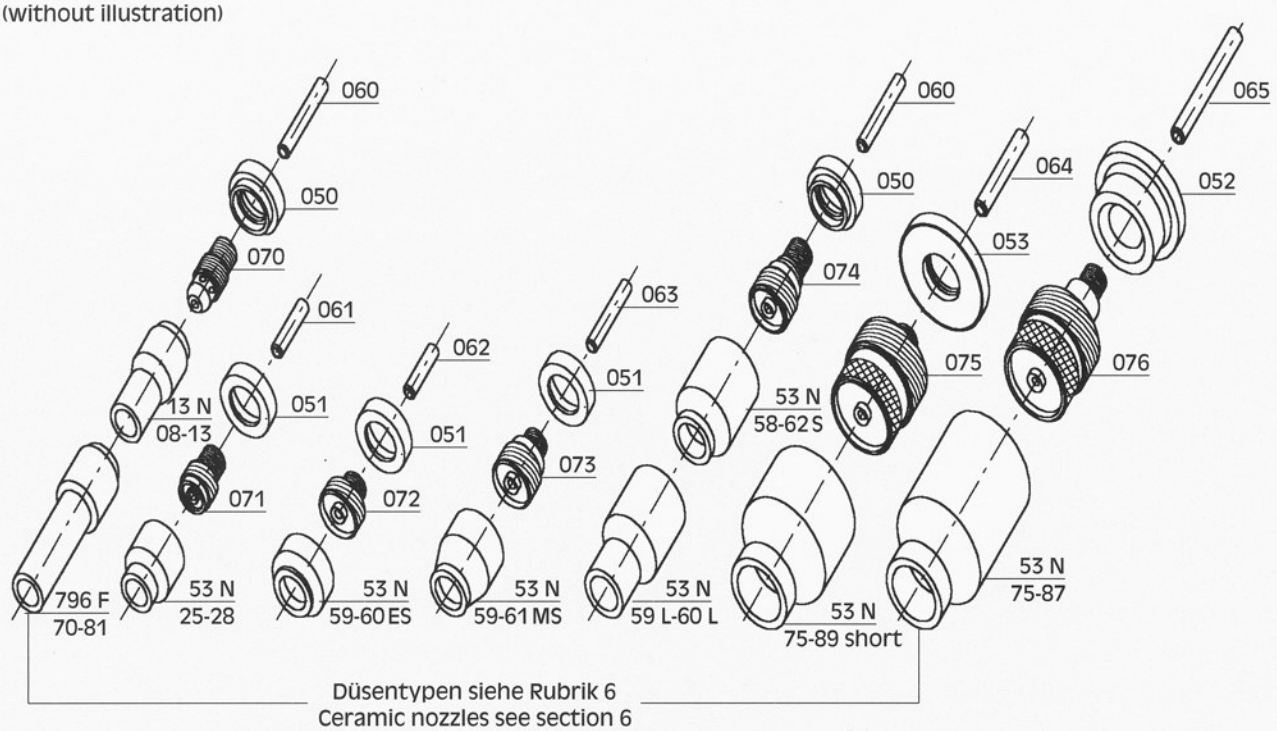



Weitere Handgriffe mit Schalter siehe Anhang.
Additional switch handles see appendix.

Wahlweise mit Innengewinde ¼" 28G UNF
oder mit Außengewinde ¼" 28G UNF
On request internal thread ¼" 28G UNF
or outside screw thread ¼" 28G UNF

023
JA 20 MTF
(ohne Abbildung)
(without illustration)




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 20 MT / JA 20 MTF

**Made in Germany.**
**Water-cooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 265 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

JA **20 MT** with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm²
JA **20 MTF** with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm²

**SINGLE PIECE PRODUCTION**

Each additional meter tube paket 8 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N20 **017** 00 I | Torch JA 20 MT | Internal ¼" 28 G UNF | 75 mm | |
| N20 **017** 00 A | Torch JA 20 MT | External ¼" 28 G UNF | 75 mm | |
| N20 **023** 00 I | Torch JA 20 MTF | Internal ¼" 28 G UNF | 75 mm | |
| N20 **023** 00 A | Torch JA 20 MTF | External ¼" 28 G UNF | 75 mm | |

| | | |
|---|---|---|
| N09 **030** 00 | o-seal | |
| N09 **031** 00 | Back cap, short | |
| N09 **032** 00 | Back cap, medium | |
| N09 **033** 00 | Back cap, long | |

| | | |
|---|---|---|
| N09 **050** 00 | insulator | |
| N09 **051** 00 | insulator | |
| N09 **052** 00 | insulator | |
| N09 **053** 00 | insulator | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N09 **040** 00 | Handle | |
| | N09 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | J 05 0 00 01 | JA-TIG-Torch, small, complete | |
| 4K | J 05 2 09 01 | JA-TIG-Torch, small | |
| | J 05 2 13 01 | 5 JA-screws | |
| 2K | J 05 2 09 02 | JA-key button | |
| 3K | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | |
| 5K | J 05 2 15 01 | JA-O-Ring | |
| 6K | J 05 2 09 03 | JA-intermediate sleeve for hose | |
| 7K | J 05 2 07 01 | JA-sleeve for hose | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N20 **060** 10G<br>N20 **060** 10A | Collet slotted or bewelled | 1,0 | 37,0 | |
| N20 **060** 16G<br>N20 **060** 16A | Collet slotted or bewelled | 1,6 | 37,0 | |
| N20 **060** 24G<br>N20 **060** 24A | Collet slotted or bewelled | 2,4 | 37,0 | |
| N20 **060** 32A | Collet bewelled | 3,2 | 37,0 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N09 **070** 10 | Collet body | 1,0 | 20,5 | 37,0 | |
| N09 **070** 16 | Collet body | 1,6 | 20,5 | 37,0 | |
| N09 **070** 24 | Collet body | 2,4 | 20,5 | 37,0 | |
| N09 **070** 32 | Collet body | 3,2 | 20,5 | 37,0 | |
| N09 **074** 10 | Gas lens | 1,0 | 22,5 | 37,0 | |
| N09 **074** 16 | Gas lens | 1,6 | 22,5 | 37,0 | |
| N09 **074** 24 | Gas lens | 2,4 | 22,5 | 37,0 | |
| N09 **074** 32 | Gas lens | 3,2 | 22,5 | 37,0 | |

| | | | | |
|---|---|---|---|---|
| N20 **061** 10G<br>N20 **061** 10A | Collet slotted or bewelled | 1,0 | 30,0 | |
| N20 **061** 16G<br>N20 **061** 16A | Collet slotted or bewelled | 1,6 | 30,0 | |
| N20 **061** 24G<br>N20 **061** 24A | Collet slotted or bewelled | 2,4 | 30,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N09 **071** 10 | Gas lens | 1,0 | 14,5 | 30,0 | |
| N09 **071** 16 | Gas lens | 1,6 | 14,5 | 30,0 | |
| N09 **071** 24 | Gas lens | 2,4 | 14,5 | 30,0 | |

| | | | | |
|---|---|---|---|---|
| N20 **062** 10G<br>N20 **062** 10A | Collet slotted or bewelled | 1,0 | 29,0 | |
| N20 **062** 16G<br>N20 **062** 16A | Collet slotted or bewelled | 1,6 | 29,0 | |
| N20 **062** 24G<br>N20 **062** 24A | Collet slotted or bewelled | 2,4 | 29,0 | |
| N20 **062** 32A | Collet bewelled | 3,2 | 29,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N09 **072** 10 | Gas lens | 1,0 | 12 | 29,0 | |
| N09 **072** 16 | Gas lens | 1,6 | 12 | 29,0 | |
| N09 **072** 24 | Gas lens | 2,4 | 12 | 29,0 | |
| N09 **072** 32 | Gas lens | 3,2 | 12 | 29,0 | |

| | | | | |
|---|---|---|---|---|
| N20 **063** 10G<br>N20 **063** 10A | Collet slotted or bewelled | 1,0 | 36,0 | |
| N20 **063** 16G<br>N20 **063** 16A | Collet slotted or bewelled | 1,6 | 36,0 | |
| N20 **063** 24G<br>N20 **063** 24A | Collet slotted or bewelled | 2,4 | 36,0 | |
| N20 **063** 32A | Collet bewelled | 3,2 | 36,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N09 **073** 10 | Gas lens | 1,0 | 17,0 | 36,0 | |
| N09 **073** 16 | Gas lens | 1,6 | 17,0 | 36,0 | |
| N09 **073** 24 | Gas lens | 2,4 | 17,0 | 36,0 | |
| N09 **073** 32 | Gas lens | 3,2 | 17,0 | 36,0 | |

| | | | | |
|---|---|---|---|---|
| N09 **065** 10G<br>N09 **065** 10A | Collet slotted or bewelled | 1,0 | 38,0 | |
| N09 **065** 16G<br>N09 **065** 16A | Collet slotted or bewelled | 1,6 | 38,0 | |
| N09 **065** 24G<br>N09 **065** 24A | Collet slotted or bewelled | 2,4 | 38,0 | |
| N09 **065** 32A | Collet bewelled | 3,2 | 38,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N09 **075** 10 | Gas lens | 1,0 | 30,0 | 38,0 | |
| N09 **075** 16 | Gas lens | 1,6 | 30,0 | 38,0 | |
| N09 **075** 24 | Gas lens | 2,4 | 30,0 | 38,0 | |
| N09 **075** 32 | Gas lens | 3,2 | 30,0 | 38,0 | |

| | | | | |
|---|---|---|---|---|
| N20 **065** 10G<br>N20 **065** 10A | Collet slotted or bewelled | 1,0 | 48,0 | |
| N20 **065** 16G<br>N20 **065** 16A | Collet slotted or bewelled | 1,6 | 48,0 | |
| N20 **065** 24G<br>N20 **065** 24A | Collet slotted or bewelled | 2,4 | 48,0 | |
| N20 **065** 32A | Collet bewelled | 3,2 | 48,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N09 **076** 10 | Gas lens | 1,0 | 40,0 | 48,0 | |
| N09 **076** 16 | Gas lens | 1,6 | 40,0 | 48,0 | |
| N09 **076** 24 | Gas lens | 2,4 | 40,0 | 48,0 | |
| N09 **076** 32 | Gas lens | 3,2 | 40,0 | 48,0 | |

# WiG-Schweißbrenner
# TiG-Torches




Gasgekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 90 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Durch die Verwendung größerer Materialquerschnitte in unseren Brennern, bei gleichzeitig erhöhter Leistung, läßt sich die Schutzgastemperatur vermindern! Ihr Vorteil: Steigerung der Schweißnahtqualität!*

Gascooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 90 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*Larger material cross-sections in our torches allow to reduce the welding temperature even if the energy is increased! Your advantage: An improved welding seam quality!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

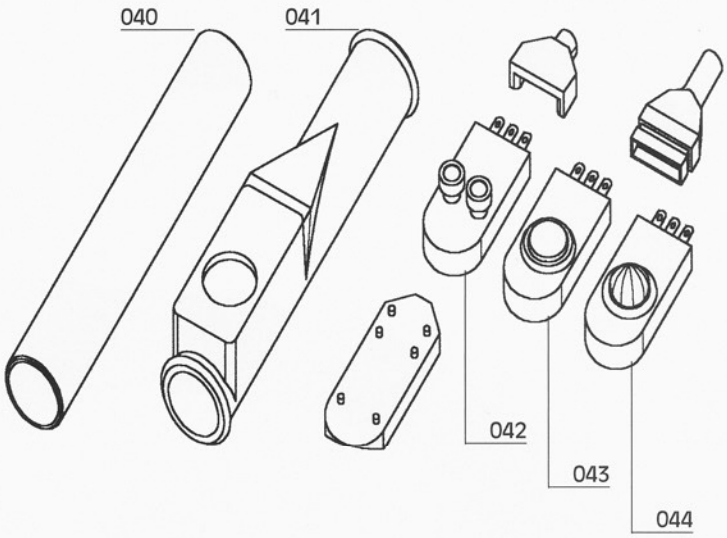
The advantages of our new developed gas lenses are:

- a higher quality of the welding seam by laminar gas outlet
- a longer durability

# WiG-Schweißbrenner
# TiG-Torches

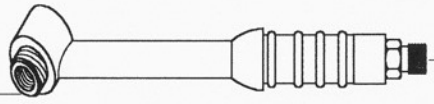
**JA 24 G**
**JA 24 G 90°**
**JA 24 GF**

Weitere Handgriffe siehe Anhang.
Additional handles see appendix.




Weitere Handgriffe mit Schalter siehe Anhang.

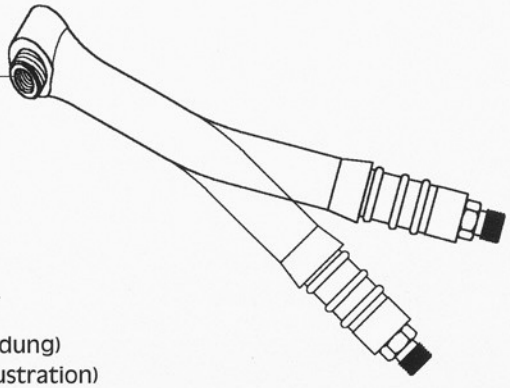
Additional switch handles see appendix.



014
JA 24 G

Wahlweise mit Außengewinde G 1/8" oder mit Innengewinde 3/8" UNF

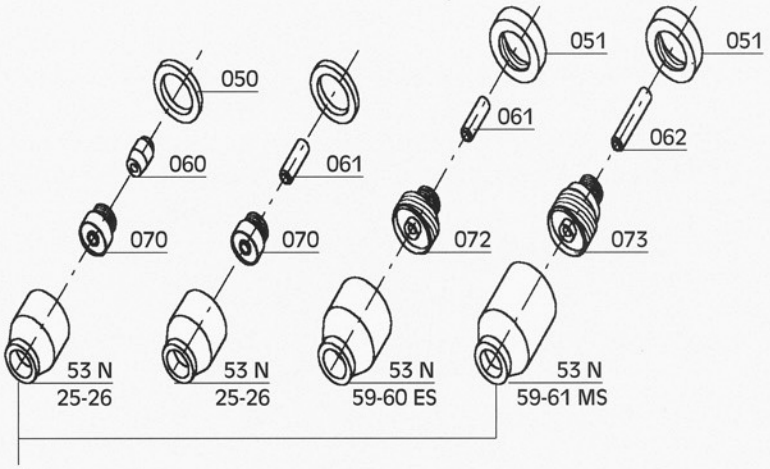
On request outside screw thread G 1/8" or with internal thread 3/8" UNF



006
JA 24 GF

022
JA 24 G 90°
(ohne Abbildung)
(without illustration)

Innengewinde
Internal thread




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 24 G / JA 24 GF / JA 24 G 90º

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 90 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **24 G** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | **SINGLE PIECE PRODUCTION** |
| JA **24 G** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **24 GF** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | |
| JA **24 GF** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **24 G90º** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | |
| JA **24 G90º** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |

Each additional meter tube pakets 16 mm²
Each additional meter tube pakets 25 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N24 **014** 00 I | Torch JA 24 G | Internal 3/8"-24 G UNF | 75 mm | |
| N24 **014** 00 A | Torch JA 24 G | External G 1/8" | 75 mm | |
| N24 **006** 00 I | Torch JA 24 GF | Internal 3/8"-24 G UNF | 120 mm | |
| N24 **006** 00 A | Torch JA 24 GF | External G 1/8" | 120 mm | |
| N24 **022** 00 I | Torch JA 24 G90º | Internal 3/8"-24 G UNF | 75 mm | |
| N24 **022** 00 A | Torch JA 24 G90º | External G 1/8" | 75 mm | |

| | | |
|---|---|---|
| N24 **050** 00 | insulator | |
| N24 **051** 00 | insulator | |

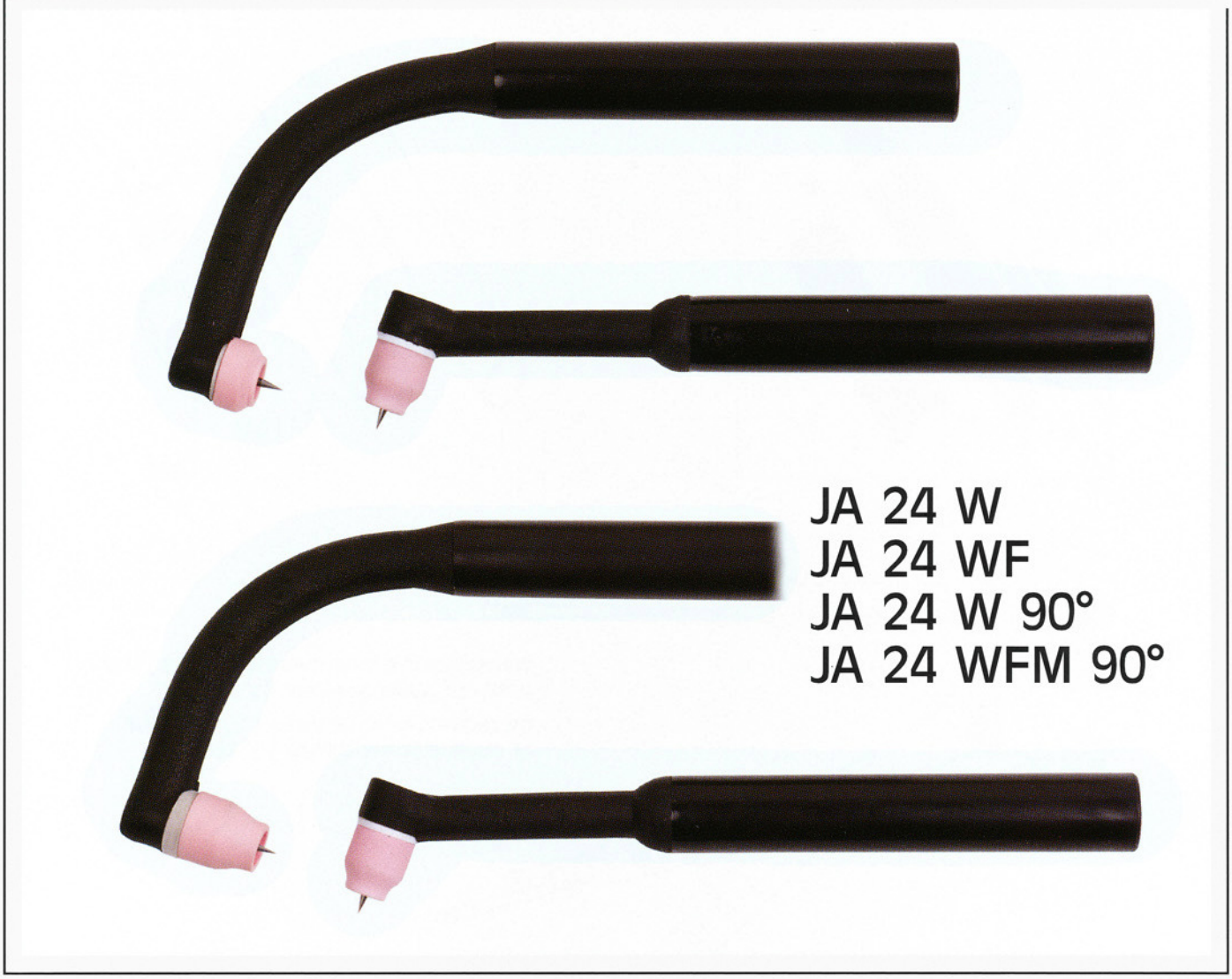
| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N09 **040** 00 | Handle | |
| | N09 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |

| | | | |
|---|---|---|---|
| | J 05 0 00 01 | JA-TIG-Torch, small, complete | |
| 4K | J 05 2 09 01 | JA-TIG-Torch, small | |
| | J 05 2 13 01 | 5 JA-screws | |
| 2K | J 05 2 09 02 | JA-key button | |
| 3K | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | |
| 5K | J 05 2 15 01 | JA-O-Ring | |
| 6K | J 05 2 09 03 | JA-intermediate sleeve for hose | |
| 7K | J 05 2 07 01 | JA-sleeve for hose | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N24 **061** 10G | Collet slotted | 1,0 | 12,0 | |
| N24 **061** 16G | Collet slotted | 1,6 | 12,0 | |
| N24 **061** 24G | Collet slotted | 2,4 | 12,0 | |
| N24 **061** 32G | Collet slotted | 3,2 | 12,0 | |
| N24 **061** 10G | Collet slotted | 1,0 | 12,0 | |
| N24 **061** 16G | Collet slotted | 1,6 | 12,0 | |
| N24 **061** 24G | Collet slotted | 2,4 | 12,0 | |
| N24 **061** 32G | Collet slotted | 3,2 | 12,0 | |
| N24 **062** 10G | Collet slotted | 1,0 | 19,0 | |
| N24 **062** 16G | Collet slotted | 1,6 | 19,0 | |
| N24 **062** 24G | Collet slotted | 2,4 | 19,0 | |
| N24 **062** 32G | Collet slotted | 3,2 | 19,0 | |

| | Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length | EUR/piece |
|---|---|---|---|---|---|---|
| | N09 **072** 10 | Gas lens | 1,0 | 12,0 | 12,0 | |
| | N09 **072** 16 | Gas lens | 1,6 | 12,0 | 12,0 | |
| | N09 **072** 24 | Gas lens | 2,4 | 12,0 | 12,0 | |
| | N09 **072** 32 | Gas lens | 3,2 | 12,0 | 12,0 | |
| | N24 **070** 10 | Gas lens | 1,0 | 8,5 | 12,0 | |
| | N24 **070** 16 | Gas lens | 1,6 | 8,5 | 12,0 | |
| | N24 **070** 24 | Gas lens | 2,4 | 8,5 | 12,0 | |
| | N24 **070** 32 | Gas lens | 3,2 | 8,5 | 12,0 | |
| | N09 **073** 10 | Gas lens | 1,0 | 17,0 | 19,0 | |
| | N09 **073** 16 | Gas lens | 1,6 | 17,0 | 19,0 | |
| | N09 **073** 24 | Gas lens | 2,4 | 17,0 | 19,0 | |
| | N09 **073** 32 | Gas lens | 3,2 | 17,0 | 19,0 | |

# WiG-Schweißbrenner
# TiG-Torches




Wassergekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 250 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Eine größere Kühlwasser-Durchflußmenge erhöht die Leistung und verbessert Ihre Schweißnaht-qualität!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

Watercooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 250 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*An extensive cooling water supply increases the efficency and improves the quality of the welding seam!*

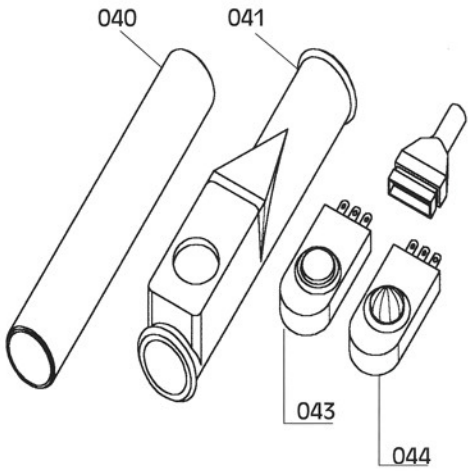
The advantages of our new developed gas lenses are:

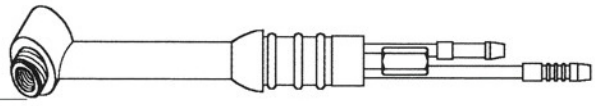
- a higher quality of the welding seam by laminar gas outlet
- a longer durability

# WiG-Schweißbrenner
# TiG-Torches

# JA 24 W
# JA 24 WF
# JA 24 W 90°
# JA 24 WFM 90°



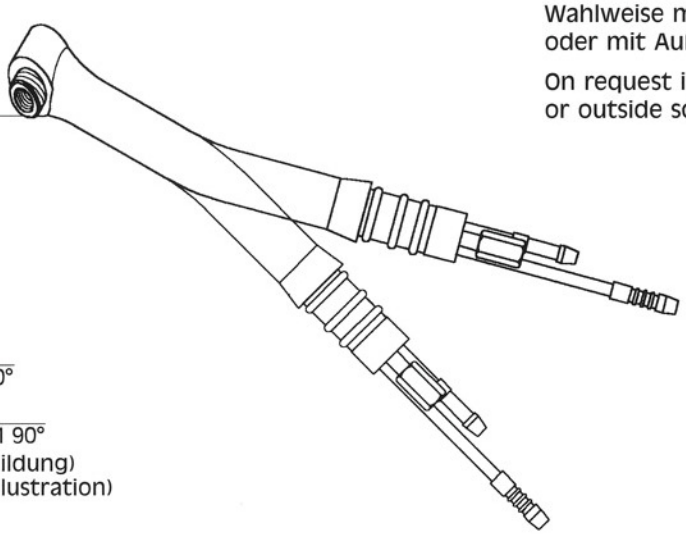



015
JA 24 W

Wahlweise mit Innengewinde $^1/_4$" 28G UNF
oder mit Außengewinde $^1/_4$" 28G UNF

On request internal thread $^1/_4$" 28G UNF
or outside screw thread $^1/_4$" 28G UNF

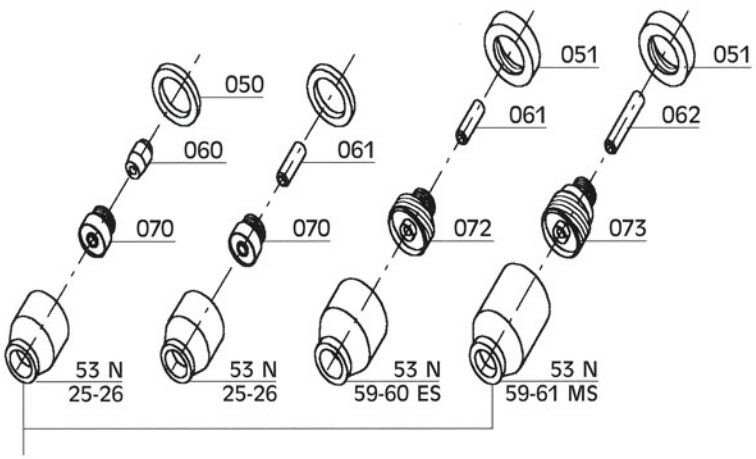


017
JA 24 WF

026
JA 24 W 90°

021
JA 24 WFM 90°
(ohne Abbildung)
(without illustration)

Innengewinde
Internal thread




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches

JA 24 W / JA 24 WF / JA 24 W 90º / JA 24 WFM 90º

**Made in Germany.**
**Water-cooled (incl. torch head) . Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 250 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

JA **24 W** with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm²
JA **24 WF** with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm²
JA **24 W 90º** with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm²
JA **24 WFM 90º** with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm²

**SINGLE PIECE PRODUCTION**

Each additional meter tube paket 8 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N24 **015** 00 I | Torch JA 24 W | Internal ¼" 28 G UNF | 74 mm | |
| N24 **015** 00 A | Torch JA 24 W | External ¼" 28 G UNF | 74 mm | |
| N24 **017** 00 I | Torch JA 24 WF | Internal ¼" 28 G UNF | 120 mm | |
| N24 **017** 00 A | Torch JA 24 WF | External¼" 28 G UNF | 120 mm | |
| N24 **026** 00 I | Torch JA 24 W 90º | Internal ¼" 28 G UNF | 75 mm | |
| N24 **026** 00 A | Torch JA 24 W 90º | External ¼" 28 G UNF | 75 mm | |
| N24 **021** 00 I | Torch JA 24 WFM 90º | Internal ¼" 28 G UNF | 75 mm | |
| N24 **021** 00 A | Torch JA 24 WFM 90º | External ¼" 28 G UNF | 75 mm | |

| | | |
|---|---|---|
| N24 **050** 00 | insulator | |
| N24 **051** 00 | insulator | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N09 **040** 00 | Handle | |
| | N09 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |
| | J 05 0 00 01 | JA-TIG-Torch, small, complete | |
| 4K | J 05 2 09 01 | JA-TIG-Torch, small | |
| | J 05 2 13 01 | 5 JA-screws | |
| 2K | J 05 2 09 02 | JA-key button | |
| 3K | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | |
| 5K | J 05 2 15 01 | JA-O-Ring | |
| 6K | J 05 2 09 03 | JA-intermediate sleeve for hose | |
| 7K | J 05 2 07 01 | JA-sleeve for hose | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N24 **061** 10G | Collet slotted | 1,0 | 12,0 | |
| N24 **061** 16G | Collet slotted | 1,6 | 12,0 | |
| N24 **061** 24G | Collet slotted | 2,4 | 12,0 | |
| N24 **061** 32G | Collet slotted | 3,2 | 12,0 | |
| N24 **061** 10G | Collet slotted | 1,0 | 12,0 | |
| N24 **061** 16G | Collet slotted | 1,6 | 12,0 | |
| N24 **061** 24G | Collet slotted | 2,4 | 12,0 | |
| N24 **061** 32G | Collet slotted | 3,2 | 12,0 | |
| N24 **062** 10G | Collet slotted | 1,0 | 19,0 | |
| N24 **062** 16G | Collet slotted | 1,6 | 19,0 | |
| N24 **062** 24G | Collet slotted | 2,4 | 19,0 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N09 **072** 10 | Gas lens | 1,0 | 12,0 | 12,0 | |
| N09 **072** 16 | Gas lens | 1,6 | 12,0 | 12,0 | |
| N09 **072** 24 | Gas lens | 2,4 | 12,0 | 12,0 | |
| N09 **072** 32 | Gas lens | 3,2 | 12,0 | 12,0 | |
| N24 **070** 10 | Gas lens | 1,0 | 8,5 | 12,0 | |
| N24 **070** 16 | Gas lens | 1,6 | 8,5 | 12,0 | |
| N24 **070** 24 | Gas lens | 2,4 | 8,5 | 12,0 | |
| N24 **070** 32 | Gas lens | 3,2 | 8,5 | 12,0 | |
| N09 **073** 10 | Gas lens | 1,0 | 17,0 | 19,0 | |
| N09 **073** 16 | Gas lens | 1,6 | 17,0 | 19,0 | |
| N09 **073** 24 | Gas lens | 2,4 | 17,0 | 19,0 | |

# WiG-Schweißbrenner
# TiG-Torches



JA 26
JA 26 F

Gasgekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 230 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Durch die Verwendung größerer Materialquerschnitte in unseren Brennern, bei gleichzeitig erhöhter Leistung, läßt sich die Schutzgastemperatur vermindern! Ihr Vorteil: Steigerung der Schweißnahtqualität!*

Gascooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 230 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*Larger material cross-sections in our torches allow to reduce the welding temperature even if the energy is increased! Your advantage: An improved welding seam quality!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

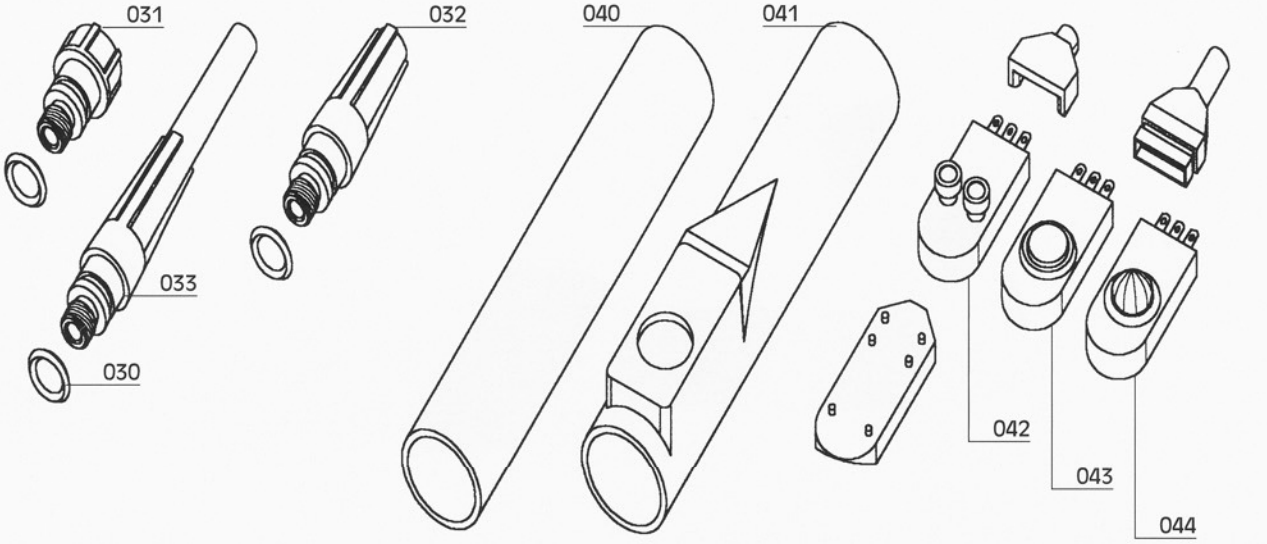
The advantages of our new developed gas lenses are:

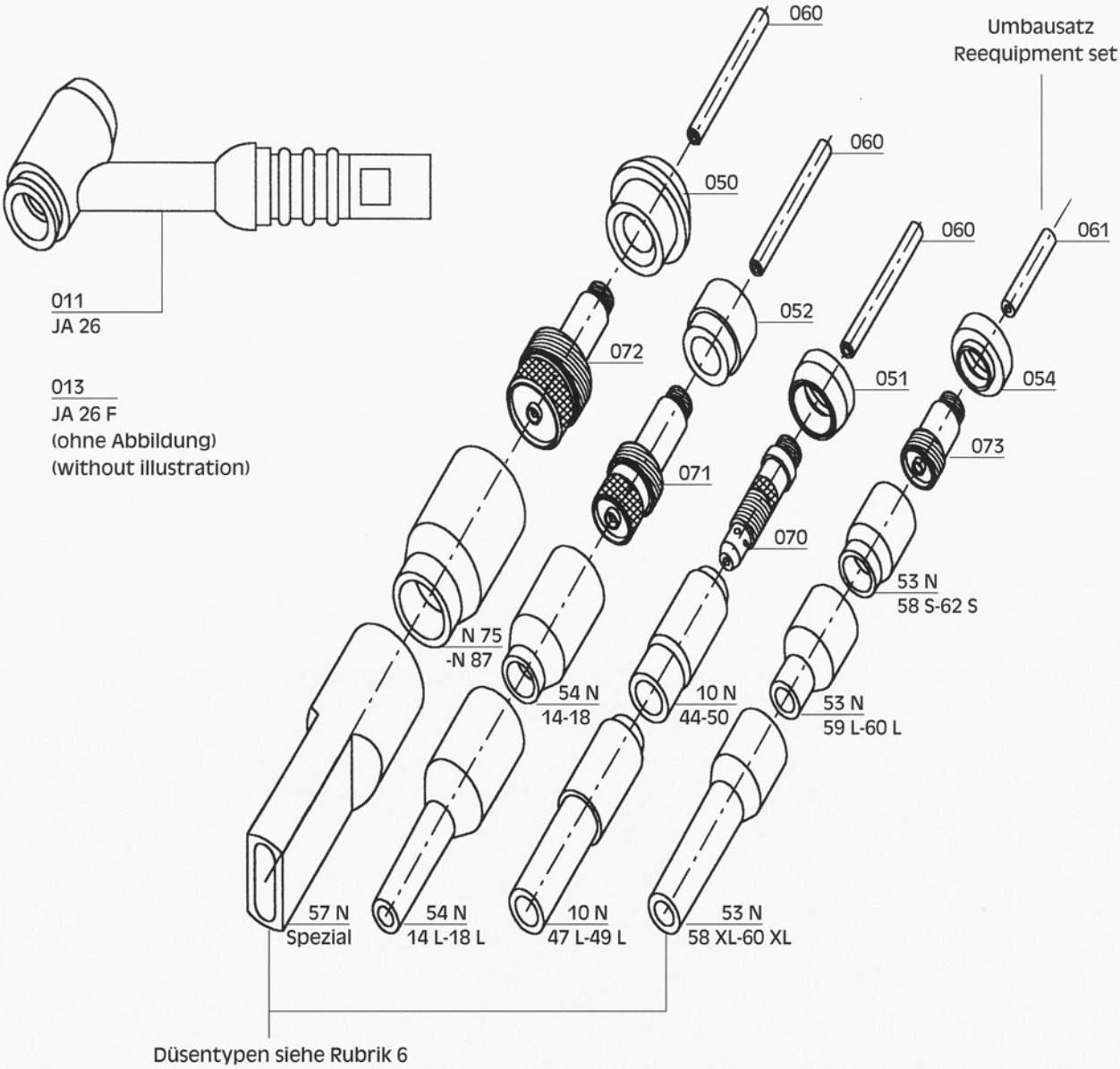
- a higher quality of the welding seam by laminar gas outlet
- a longer durability

# WiG-Schweißbrenner
# TiG-Torches

**JA 26**
**JA 26 F**

Weitere Handgriffe siehe Anhang. Additional handles see appendix.




Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 26 / JA 26 F

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 230 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **26** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | **SINGLE PIECE PRODUCTION** |
| JA **26** | with 4.0 m tube paket without machine fitting system, mono cable 35 mm² | |
| JA **26F** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **26F** | with 4.0 m tube paket without machine fitting system, mono cable 35 mm² | |

Each additional meter tube pakets 25 mm²
Each additional meter tube pakets 35 mm²

| Order-No. | Description | Thread | | Length | EUR/piece |
|---|---|---|---|---|---|
| N26 **011** 00 I | Torch JA 26 | Internal 5/8"-18G-UNF | | 60 mm | |
| N26 **013** 00 I | Torch JA 26 F | Internal 5/8"-18G-UNF | | 80 mm | |
| N17 **030** 00 | o-seal, black | | | | |
| N17 **031** 00 | Back cap, short | | WPØ 13,50 mm black | | |
| N17 **032** 00 | Back cap, medium | | WPØ 13,50 mm black | | |
| N17 **033** 00 | Back cap, long | | WPØ 13,50 mm black | | |
| N17 **030** 12 | o-seal, red | | | | |
| N17 **031** 12 | Back cap, short | | HPØ 12,00 mm red | | |
| N17 **032** 12 | Back cap, medium | | HPØ 12,00 mm red | | |
| N17 **033** 12 | Back cap, long | | HPØ 12,00 mm red | | |
| N17 **050** 00 | insulator | | | | |
| N17 **051** 00 | insulator | | | | |
| N17 **052** 00 | insulator | | | | |
| N17 **054** 00 | insulator | | | | |

| Item | Order-No. | Description | EUR/piece |
|---|---|---|---|
| | N18 **040** 00 | Handle | |
| | N18 **041** 00 | Switch boot | |
| | N09 **043** 00 | Switch, flat | |
| | N09 **044** 00 | Switch, round | |
| | J 05 0 00 02 | JA-TIG-Torch, large, complete | |
| 1G | J 05 2 09 04 | JA-TIG-Torch, large | |
| 2G | J 05 2 09 02 | JA-key button | |
| 3G | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | |
| 4G | J 05 2 13 01 | 5 JA-screws | |
| 5G | J 05 2 07 02 | JA-sleeve for hose li Ø 25 mm + 28 mm | |
| 6G | J 05 2 07 03 | JA-sleeve for hose li Ø 20 mm + 22,5 mm | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N17 **060** 10G<br>N17 **060** 10A | Collet slotted or bewelled | 1,0 | 50,0 | |
| N17 **060** 16G<br>N17 **060** 16A | Collet slotted or bewelled | 1,6 | 50,0 | |
| N17 **060** 24G<br>N17 **060** 24A | Collet slotted or bewelled | 2,4 | 50,0 | |
| N17 **060** 32G<br>N17 **060** 32A | Collet slotted or bewelled | 3,2 | 50,0 | |
| N17 **060** 40A | Collet bewelled | 4,0 | 50,0 | |
| N17 **061** 10G<br>N17 **061** 10A | Collet slotted or bewelled | 1,0 | 30,0 | |
| N17 **061** 16G<br>N17 **061** 16A | Collet slotted or bewelled | 1,6 | 30,0 | |
| N17 **061** 24G<br>N17 **061** 24A | Collet slotted or bewelled | 2,4 | 30,0 | |
| N17 **061** 32G<br>N17 **061** 32A | Collet slotted or bewelled | 3,2 | 30,0 | |
| N17 **061** 40A | Collet bewelled | 4,0 | 30,0 | |

| | Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|---|
| | N17 **070** 10 | Collet body | 1,0 | 47,0 | 50,0 | |
| | N17 **070** 16 | Collet body | 1,6 | 47,0 | 50,0 | |
| | N17 **070** 24 | Collet body | 2,4 | 47,0 | 50,0 | |
| | N17 **070** 32 | Collet body | 3,2 | 47,0 | 50,0 | |
| | N17 **070** 40 | Collet body | 4,0 | 47,0 | 50,0 | |
| | N17 **071** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| | N17 **071** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| | N17 **071** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| | N17 **071** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| | N17 **071** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |
| | N17 **072** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| | N17 **072** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| | N17 **072** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| | N17 **072** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| | N17 **072** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |
| | N17 **073** 10 | Gas lens conversion kit | 1,0 | 27,0 | 30,0 | |
| | N17 **073** 16 | Gas lens conversion kit | 1,6 | 27,0 | 30,0 | |
| | N17 **073** 24 | Gas lens conversion kit | 2,4 | 27,0 | 30,0 | |
| | N17 **073** 32 | Gas lens conversion kit | 3,2 | 27,0 | 30,0 | |
| | N17 **073** 40 | Gas lens conversion kit | 4,0 | 27,0 | 30,0 | |

# TIG-Torches JA 26 V

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 230 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **26 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 16 mm² | **SINGLE PIECE PRODUCTION** |
| JA **26 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | |
| JA **26 V** | with 4.0 m tube paket without machine fitting system, mono cable 35 mm² | |

Each additional meter tube pakets 16 mm²
Each additional meter tube pakets 25 mm²
Each additional meter tube pakets 35 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N26 **012** 00 I | Torch JA 26 V | Internal 5/8"-18G UNF | 80 mm | |

| Order-No. | Description | | EUR/piece |
|---|---|---|---|
| N17 **030** 00 | o-seal, black | | |
| N17 **031** 00 | Back cap, short | WPØ 13,50 mm black | |
| N17 **032** 00 | Back cap, medium | WPØ 13,50 mm black | |
| N17 **033** 00 | Back cap, long | WPØ 13,50 mm black | |
| N17 **030** 12 | o-seal, red | | |
| N17 **031** 12 | Back cap, short | HPØ 12,00 mm red | |
| N17 **032** 12 | Back cap, medium | HPØ 12,00 mm red | |
| N17 **033** 12 | Back cap, long | HPØ 12,00 mm red | |

| Order-No. | Description | EUR/piece |
|---|---|---|
| N09 **034** 00 | Valvewheel | |
| N09 **035** 00 | Sealing, round | |
| N18 **040** 00 | Handle | |
| N17 **050** 00 | insulator | |
| N17 **051** 00 | insulator | |
| N17 **052** 00 | insulator | |
| N17 **054** 00 | insulator | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N17 **060** 10G<br>N17 **060** 10A | Collet slotted or bewelled | 1,0 | 50,0 | |
| N17 **060** 16G<br>N17 **060** 16A | Collet slotted or bewelled | 1,6 | 50,0 | |
| N17 **060** 24G<br>N17 **060** 24A | Collet slotted or bewelled | 2,4 | 50,0 | |
| N17 **060** 32G<br>N17 **060** 32A | Collet slotted or bewelled | 3,2 | 50,0 | |
| N17 **060** 40A | Collet bewelled | 4,0 | 50,0 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N17 **070** 10 | Collet body | 1,0 | 47,0 | 50,0 | |
| N17 **070** 16 | Collet body | 1,6 | 47,0 | 50,0 | |
| N17 **070** 24 | Collet body | 2,4 | 47,0 | 50,0 | |
| N17 **070** 32 | Collet body | 3,2 | 47,0 | 50,0 | |
| N17 **070** 40 | Collet body | 4,0 | 47,0 | 50,0 | |
| N17 **071** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **071** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **071** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **071** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **071** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |
| N17 **072** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **072** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **072** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **072** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **072** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |

| | | | | |
|---|---|---|---|---|
| N17 **061** 10G<br>N17 **061** 10A | Collet slotted or bewelled | 1,0 | 30,0 | |
| N17 **061** 16G<br>N17 **061** 16A | Collet slotted or bewelled | 1,6 | 30,0 | |
| N17 **061** 24G<br>N17 **061** 24A | Collet slotted or bewelled | 2,4 | 30,0 | |
| N17 **061** 32G<br>N17 **061** 32A | Collet slotted or bewelled | 3,2 | 30,0 | |
| N17 **061** 40A | Collet bewelled | 4,0 | 30,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N17 **073** 10 | Gas lens conversion kit | 1,0 | 27,0 | 30,0 | |
| N17 **073** 16 | Gas lens conversion kit | 1,6 | 27,0 | 30,0 | |
| N17 **073** 24 | Gas lens conversion kit | 2,4 | 27,0 | 30,0 | |
| N17 **073** 32 | Gas lens conversion kit | 3,2 | 27,0 | 30,0 | |
| N17 **073** 40 | Gas lens conversion kit | 4,0 | 27,0 | 30,0 | |

# TIG-Torches JA 220V

**Made in Germany.**
**Gascooled. Silicone insulated.**
**All machine fitting systems available**
**Load range: up to 240 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **220 V** | with 4.0 m tube paket without machine fitting system, copper-stranded wire 25 mm² | **SINGLE PIECE PRODUCTION** |
| JA **220 V** | with 4.0 m tube paket without machine fitting system, mono cable 35 mm² | |

Each additional meter tube paket 25 mm²
Each additional meter tube paket 35 mm²

| Order-No. | Description | Thread | Length | EUR/piece |
|---|---|---|---|---|
| N22 **016** 00 I | Torch JA 220 V | Internal M24 x 0,75 | 80 mm | |

| | | | |
|---|---|---|---|
| N17 **030** 00 | o-seal, black | | |
| N17 **031** 00 | Back cap, short | WPØ 13,50 mm black | |
| N17 **032** 00 | Back cap, medium | WPØ 13,50 mm black | |
| N17 **033** 00 | Back cap, long | WPØ 13,50 mm black | |
| N17 **030** 12 | o-seal, red | | |
| N17 **031** 12 | Back cap, short | HPØ 12,00 mm red | |
| N17 **032** 12 | Back cap, medium | HPØ 12,00 mm red | |
| N17 **033** 12 | Back cap, long | HPØ 12,00 mm red | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N17 **060** 10G<br>N17 **060** 10A | Collet slotted or bewelled | 1,0 | 50,0 | |
| N17 **060** 16G<br>N17 **060** 16A | Collet slotted or bewelled | 1,6 | 50,0 | |
| N17 **060** 24G<br>N17 **060** 24A | Collet slotted or bewelled | 2,4 | 50,0 | |
| N17 **060** 32G<br>N17 **060** 32A | Collet slotted or bewelled | 3,2 | 50,0 | |
| N17 **060** 40A | Collet bewelled | 4,0 | 50,0 | |

| | | | | |
|---|---|---|---|---|
| N17 **061** 10G<br>N17 **061** 10A | Collet slotted or bewelled | 1,0 | 30,0 | |
| N17 **061** 16G<br>N17 **061** 16A | Collet slotted or bewelled | 1,6 | 30,0 | |
| N17 **061** 24G<br>N17 **061** 24A | Collet slotted or bewelled | 2,4 | 30,0 | |
| N17 **061** 32G<br>N17 **061** 32A | Collet slotted or bewelled | 3,2 | 30,0 | |
| N17 **061** 40A | Collet bewelled | 4,0 | 30,0 | |

| Order-No. | Description | EUR/piece |
|---|---|---|
| N22 **034** 00 | Valve body | |
| N22 **035** 00 | Switch | |
| N22 **040** 00 | Handle | |
| N22 **041** 00 | Plastic screw | |

| | | |
|---|---|---|
| N17 **050** 00 | insulator | |
| N17 **051** 00 | insulator | |
| N17 **052** 00 | insulator | |
| N17 **054** 00 | insulator | |

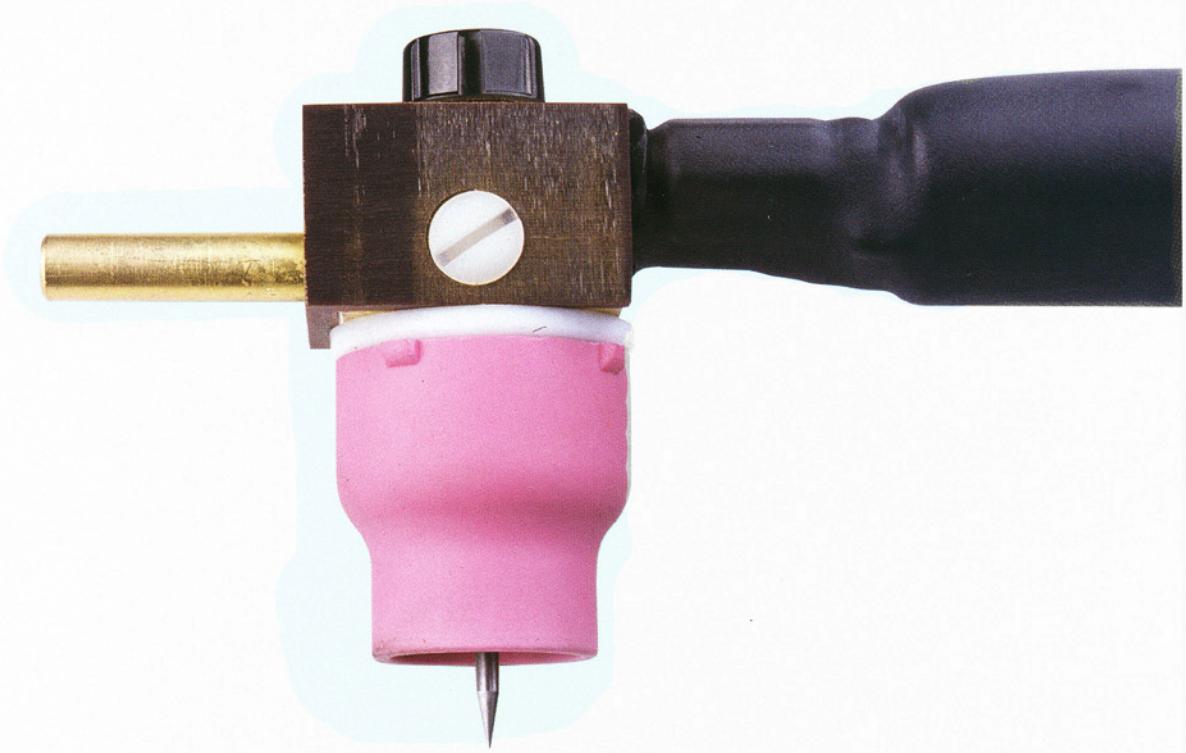
| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N17 **070** 10 | Collet body | 1,0 | 47,0 | 50,0 | |
| N17 **070** 16 | Collet body | 1,6 | 47,0 | 50,0 | |
| N17 **070** 24 | Collet body | 2,4 | 47,0 | 50,0 | |
| N17 **070** 32 | Collet body | 3,2 | 47,0 | 50,0 | |
| N17 **070** 40 | Collet body | 4,0 | 47,0 | 50,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N17 **071** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **071** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **071** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **071** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **071** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N17 **072** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **072** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **072** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **072** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **072** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |

| | | | | | |
|---|---|---|---|---|---|
| N17 **073** 10 | Gas lens conversion kit | 1,0 | 27,0 | 30,0 | |
| N17 **073** 16 | Gas lens conversion kit | 1,6 | 27,0 | 30,0 | |
| N17 **073** 24 | Gas lens conversion kit | 2,4 | 27,0 | 30,0 | |
| N17 **073** 32 | Gas lens conversion kit | 3,2 | 27,0 | 30,0 | |
| N17 **073** 40 | Gas lens conversion kit | 4,0 | 27,0 | 30,0 | |

# WiG-Schweißbrenner
# TiG-Torches



JA 2 WT

Wassergekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 265 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Eine größere Kühlwasser-Durchflußmenge erhöht die Leistung und verbessert Ihre Schweißnaht-qualität!*

Watercooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 265 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*An extensive cooling water supply increases the efficency and improves the quality of the welding seam!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

The advantages of our new developed gas lenses are:

- a higher quality of the welding seam by laminar gas outlet
- a longer durability

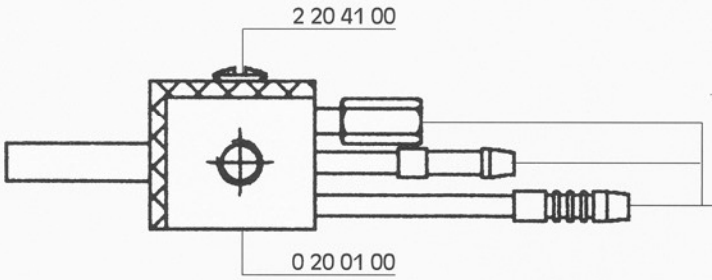
# WiG-Schweißbrenner
# TiG-Torches

JA 2 WT



0 90 31 00

0 90 30 00

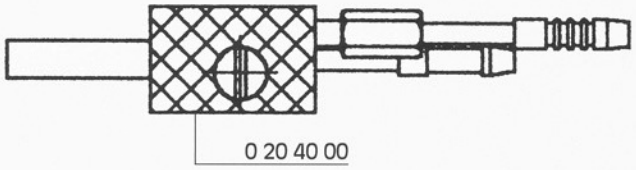


2 20 41 00

0 20 01 00

Anschlüsse auch als ⅛" lieferbar.

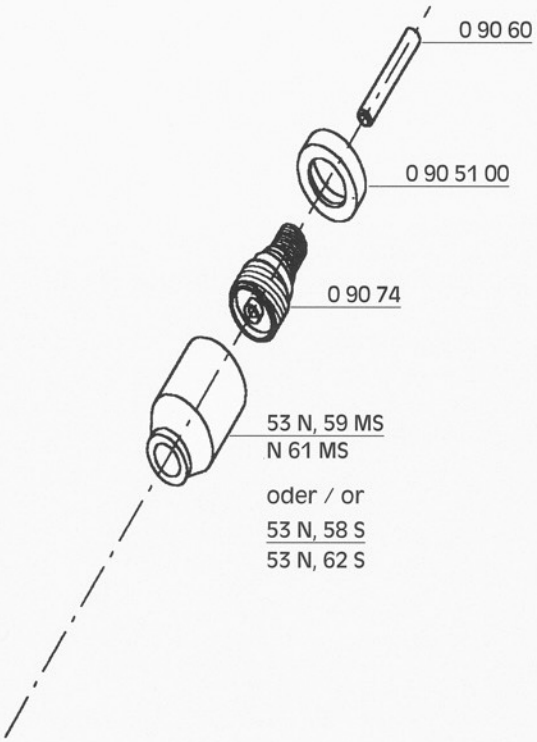
⅛" connections are also available.



0 20 40 00

025

JA 2 WT



0 90 60

0 90 51 00

0 90 74

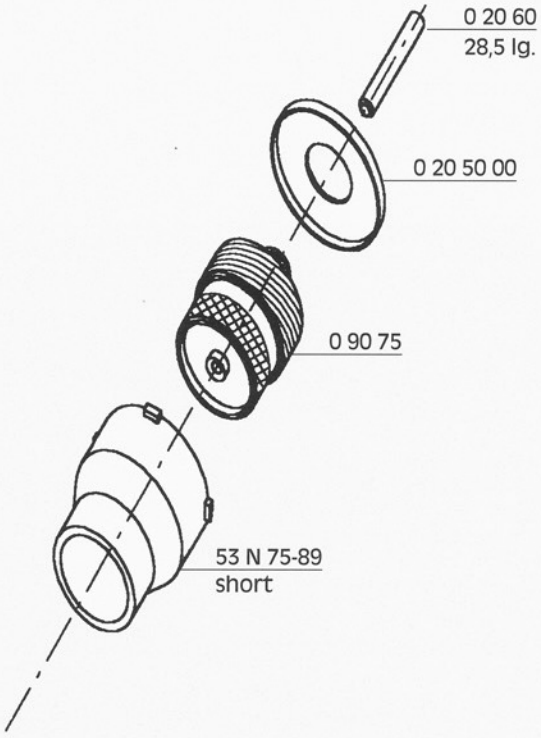
53 N, 59 MS

N 61 MS

oder / or

53 N, 58 S

53 N, 62 S



0 20 60

28,5 lg.

0 20 50 00

0 90 75

53 N 75-89

short

Printed in Germany

# TIG-Torches JA 2 WT Orbital

Price list
12.12.2011
All prices are **net prices**
in € excl. VAT

**Made in Germany.**
**Water-cooled. Partly insulated**
**All machine fitting systems available**
**Load range: up to 265 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

| | | EUR |
|---|---|---|
| | | **Single Piece Production** |
| JA **2 WT** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 8 mm² | |
| JA **2 WT** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 10 mm² | |

Each additional meter tube paket 8 mm²
Each additional meter tube paket 10 mm²

| Order-No. | Description | Thread | EUR/piece |
|---|---|---|---|
| N20 **025** 00 I | 2 WT | Internal 3/8 " - 24 G-UNF | |
| N20 **025** 00 A | 2 WT | External G 1/8" | |

| Order-No. | Description | EUR/piece |
|---|---|---|
| N09 **051** 00 | insulator | |
| N02 **050** 00 | insulator | |

| Order-No. | Description | EUR/piece |
|---|---|---|
| N09 **030** 00 | o-seal | |
| N09 **031** 00 | Back cap, short | |
| N22 **041** 00 | Plastic screw | |
| N02 **040** 00 | Torch insulator | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N09 **060** 10G<br>N09 **060** 10A | Collet slotted or bewelled | 1,0 | 25,0 | |
| N09 **060** 16G<br>N09 **060** 16A | Collet slotted or bewelled | 1,6 | 25,0 | |
| N09 **060** 24G<br>N09 **060** 24A | Collet slotted or bewelled | 2,4 | 25,0 | |
| N09 **060** 32G<br>N09 **060** 32A | Collet slotted or bewelled | 3,2 | 25,0 | |
| N02 **060** 10A | Collet bewelled | 1,0 | 28,5 | |
| N02 **060** 16A | Collet bewelled | 1,6 | 28,5 | |
| N02 **060** 24A | Collet bewelled | 2,4 | 28,5 | |
| N02 **060** 32A | Collet bewelled | 3,2 | 28,5 | |

| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N09 **074** 10 | Gas lens | 1,0 | 22,5 | 25,0 | |
| N09 **074** 16 | Gas lens | 1,6 | 22,5 | 25,0 | |
| N09 **074** 24 | Gas lens | 2,4 | 22,5 | 25,0 | |
| N09 **074** 32 | Gas lens | 3,2 | 22,5 | 25,0 | |
| N09 **075** 10 | Gas lens, titanium | 1,0 | 30,0 | 28,5 | |
| N09 **075** 16 | Gas lens, titanium | 1,6 | 30,0 | 28,5 | |
| N09 **075** 24 | Gas lens, titanium | 2,4 | 30,0 | 28,5 | |
| N09 **075** 32 | Gas lens, titanium | 3,2 | 30,0 | 28,5 | |

# WiG-Schweißbrenner
# TiG-Torches




Wassergekühlt
Silikonisoliert
Alle maschinenseitige Anschlußsysteme lieferbar
Belastbar bis 370 Amp
Schlauchpaketlänge und Ausführung nach Ihren Wünschen

Industriequalität –
Eigene Herstellung mit sämtlichem Zubehör

*Überzeugen Sie sich!*
*Eine größere Kühlwasser-Durchflußmenge erhöht die Leistung und verbessert Ihre Schweißnaht-qualität!*

Watercooled
Silicone-isolated
Available for all type of machine side connectors
Capable up to 370 Amp
Length and equipment of cable assemblies on request

Industry quality –
Own production with complete accessories

*Convince yourself!*
*An extensive cooling water supply increases the efficency and improves the quality of the welding seam!*

Die Vorteile unserer neuentwickelten Gaslinsen sind:

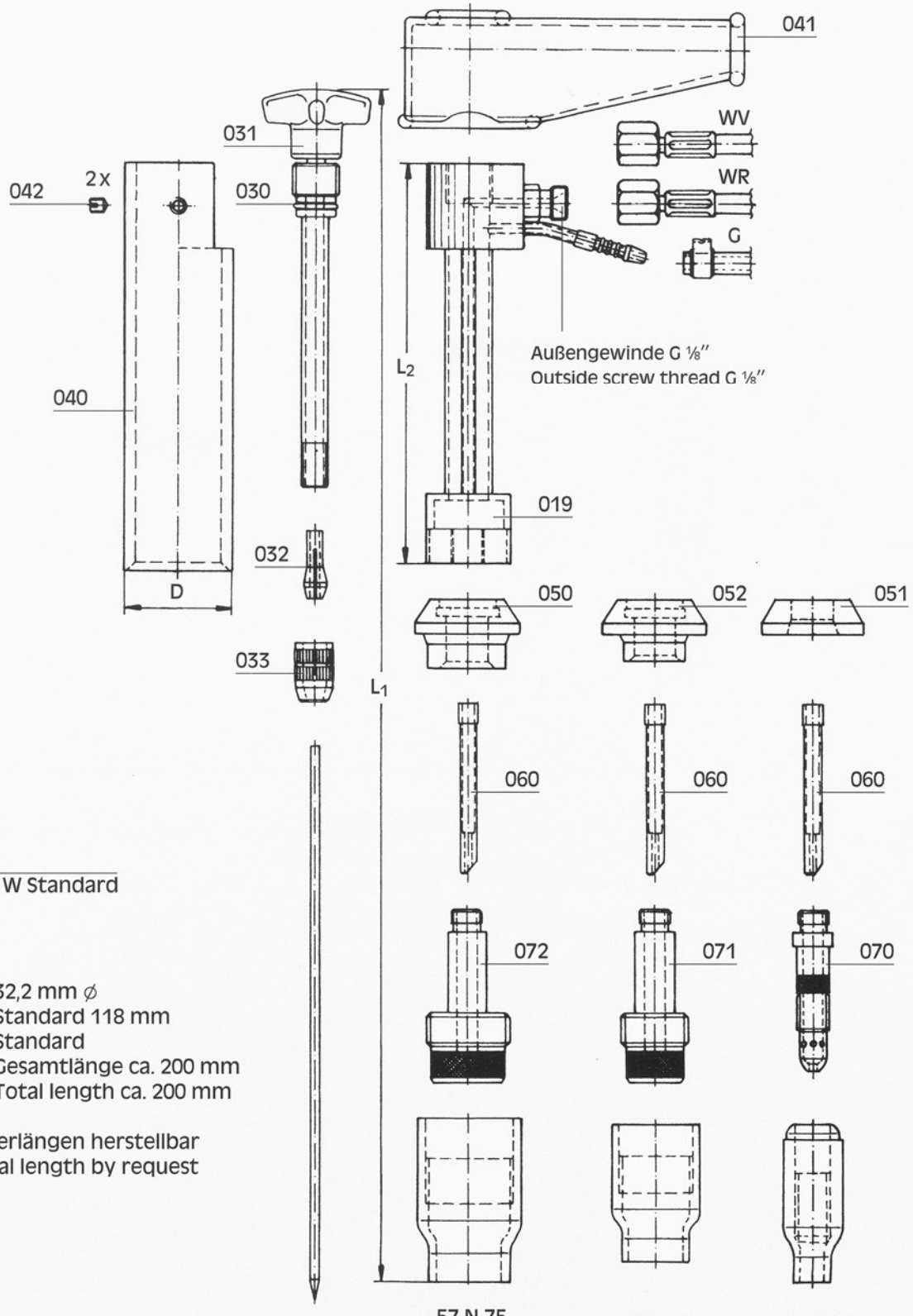
- eine höhere Schweißnahtqualität durch laminaren Gasaustritt
- eine längere Einsatzdauer

The advantages of our new developed gas lenses are:

- a higher quality of the welding seam by laminar gas outlet
- a longer durability

# WiG-Schweißbrenner
# TiG-Torches

JA 27 W




019
JA 27 W Standard

D = 32,2 mm ⌀
$L_2$ = Standard 118 mm
$L_1$ = Standard
Gesamtlänge ca. 200 mm
Total length ca. 200 mm

Sonderlängen herstellbar
Special length by request

Düsentypen siehe Rubrik 6
Ceramic nozzles see section 6

Printed in Germany

# TIG-Torches JA 27W

**Made in Germany.**
**Water-cooled (incl. Torch head).**
**All machine fitting systems available**
**Load range: up to 370 Amp. 40% E.D.**
**Tube pakets available in different lengths and versions.**

**EUR**

| | | |
|---|---|---|
| JA **27 W** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 10 mm² | **SINGLE PIECE PRODUCTION** |
| JA **27 W** | with 4.0 m tube paket without machine fitting system, copper-stranded tin-plated wire 16 mm² | |

Each additional meter tube paket 10 mm²
Each additional meter tube paket 16 mm²

| Order-No. | Description | Thread | | Length | EUR/piece |
|---|---|---|---|---|---|
| N27 **019** 00 A | Torch JA 27 W | External 2 x G 1/8" | L 1 | 200 mm Standard | |
| | Price increase for special length, for each 100mm | | | | |
| N17 **030** 00 | o-seal, black | | | | |
| N27 **040** 00 | Insulating tube Ø 32,2 mm | | | | |
| N27 **041** 00 | Rubber insulator | | | | |
| N27 **042** 00 | Stud bolt M5 | | | | |
| N17 **050** 00 | insulator | | | | |
| N27 **051** 00 | insulator | | | | |
| N27 **052** 00 | insulator | | | | |

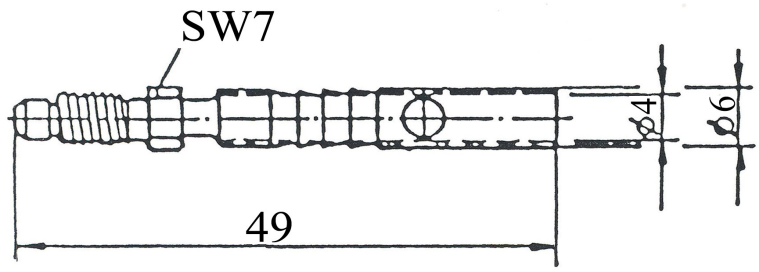
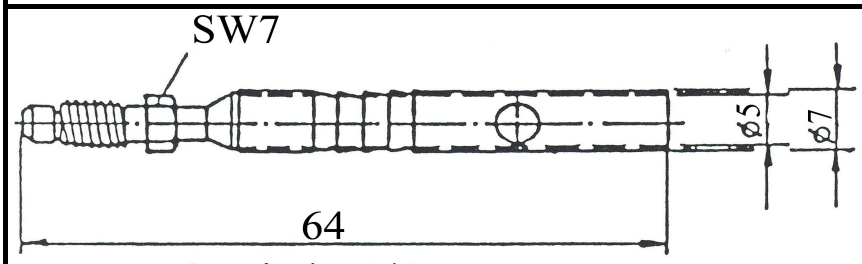
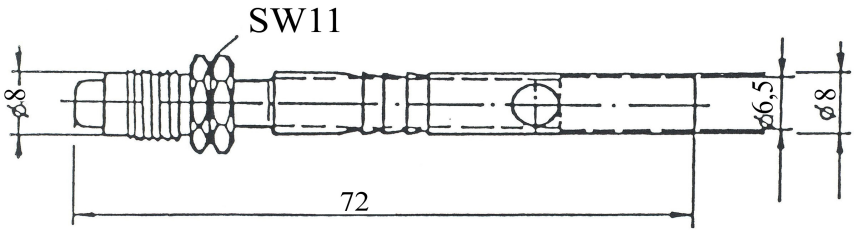
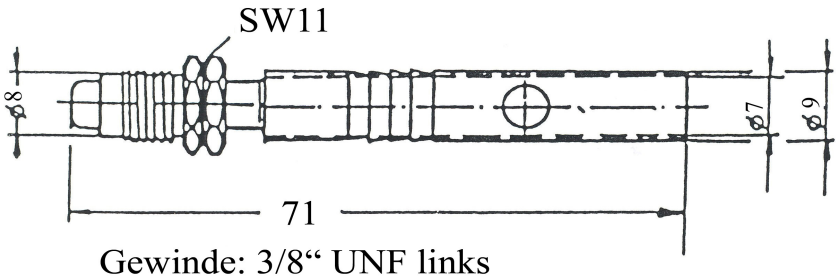
| Order-No. | Description | Ø (in mm) | EUR/piece |
|---|---|---|---|
| N27 **031** 00 | Electrode-adjusting duct | | |
| N27 **032** 10 | Intermediate collet | 1,0 | |
| N27 **032** 16 | Intermediate collet | 1,6 | |
| N27 **032** 24 | Intermediate collet | 2,4 | |
| N27 **032** 32 | Intermediate collet | 3,2 | |
| N27 **032** 40 | Intermediate collet | 4,0 | |
| N27 **033** 00 | Adjusting nut | | |

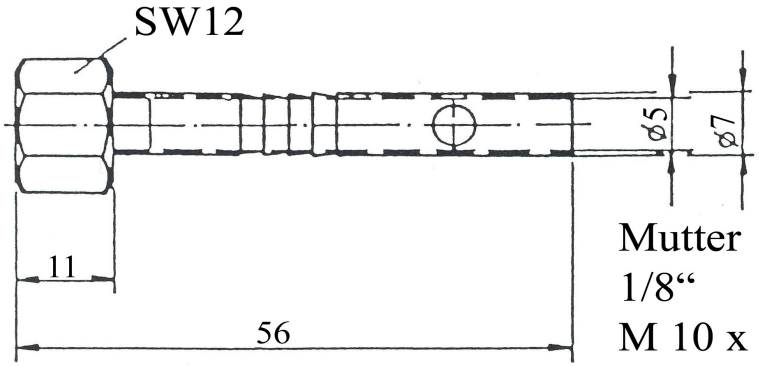
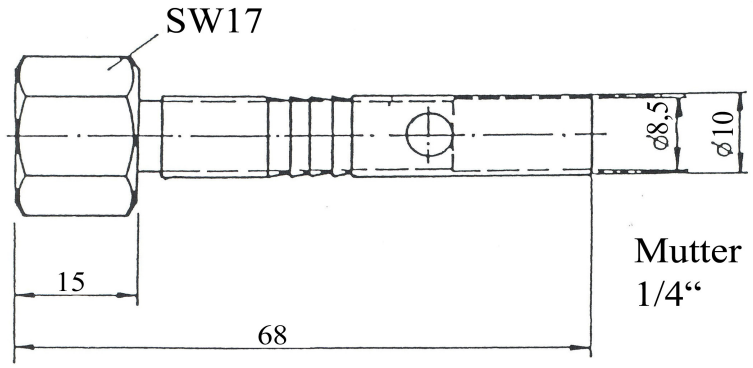
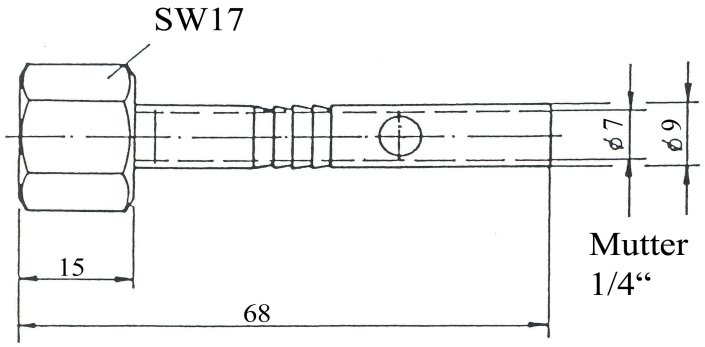
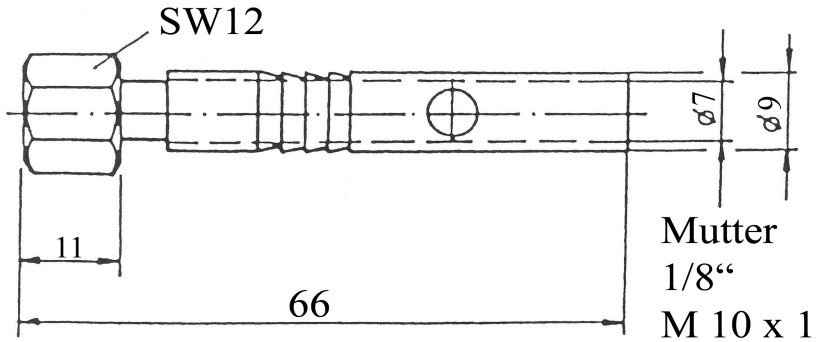
| Order-No. | Description | Ø (in mm) | Length (in mm) | EUR/piece |
|---|---|---|---|---|
| N17 **060** 10G<br>N17 **060** 10A | Collet slotted or bewelled | 1,0 | 50,0 | |
| N17 **060** 16G<br>N17 **060** 16A | Collet slotted or bewelled | 1,6 | 50,0 | |
| N17 **060** 24G<br>N17 **060** 24A | Collet slotted or bewelled | 2,4 | 50,0 | |
| N17 **060** 32G<br>N17 **060** 32A | Collet slotted or bewelled | 3,2 | 50,0 | |
| N17 **060** 40A | Collet bewelled | 4,0 | 50,0 | |

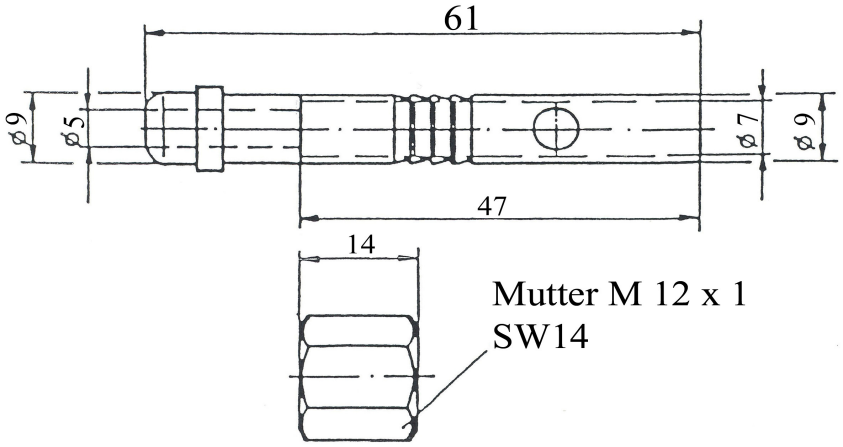
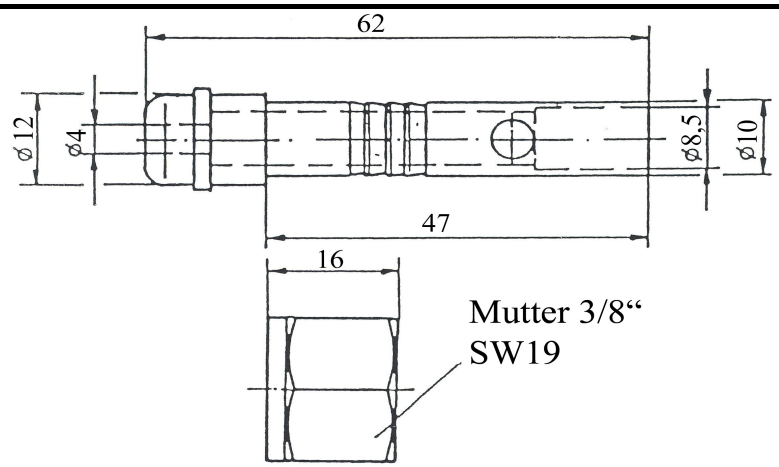
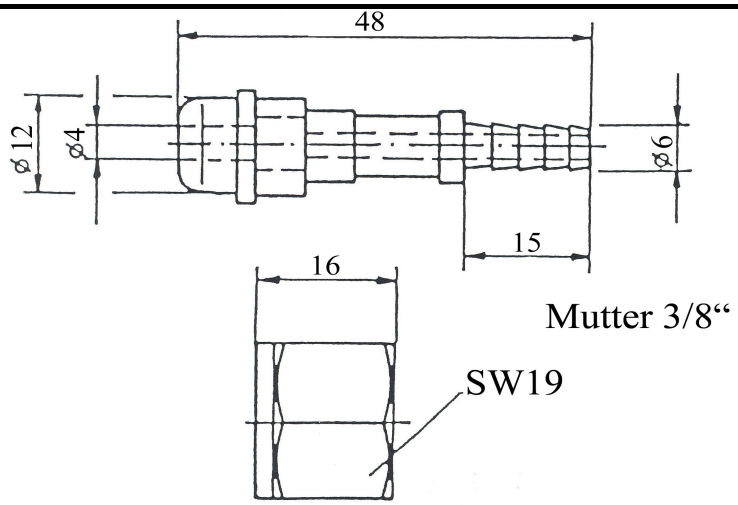
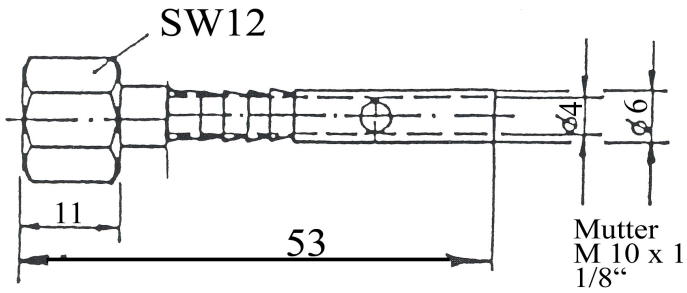
| Order-No. | Description | Ø (in mm) | Length (in mm) | Collet length (in mm) | EUR/piece |
|---|---|---|---|---|---|
| N17 **070** 10 | Collet body | 1,0 | 47,0 | 50,0 | |
| N17 **070** 16 | Collet body | 1,6 | 47,0 | 50,0 | |
| N17 **070** 24 | Collet body | 2,4 | 47,0 | 50,0 | |
| N17 **070** 32 | Collet body | 3,2 | 47,0 | 50,0 | |
| N17 **070** 40 | Collet body | 4,0 | 47,0 | 50,0 | |

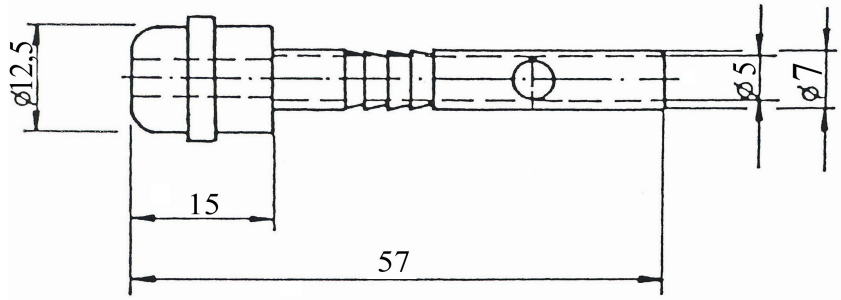
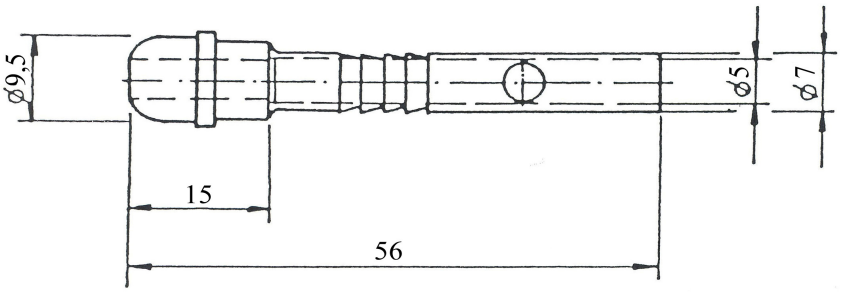
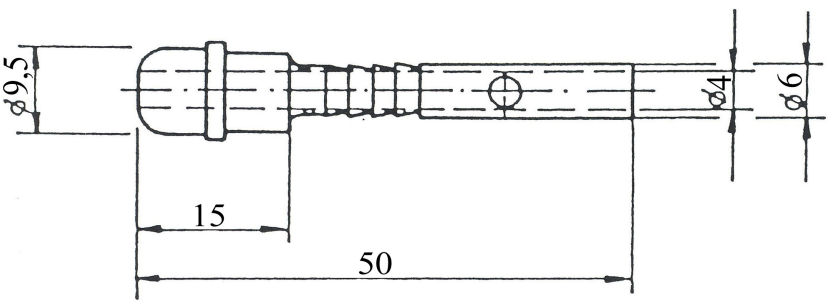
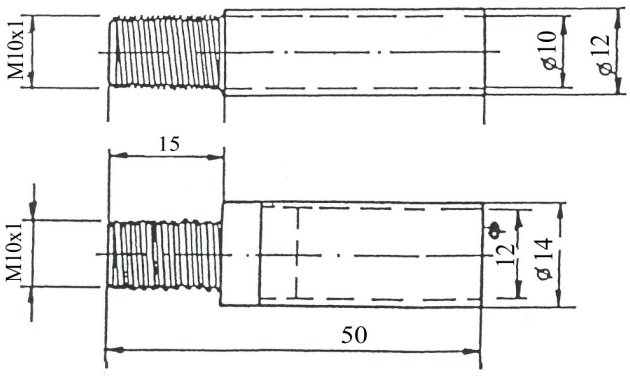
| | | | | | |
|---|---|---|---|---|---|
| N17 **071** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **071** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **071** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **071** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **071** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |

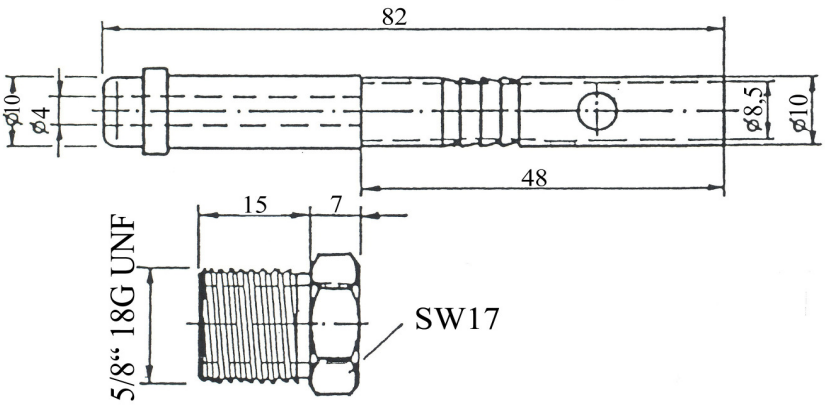
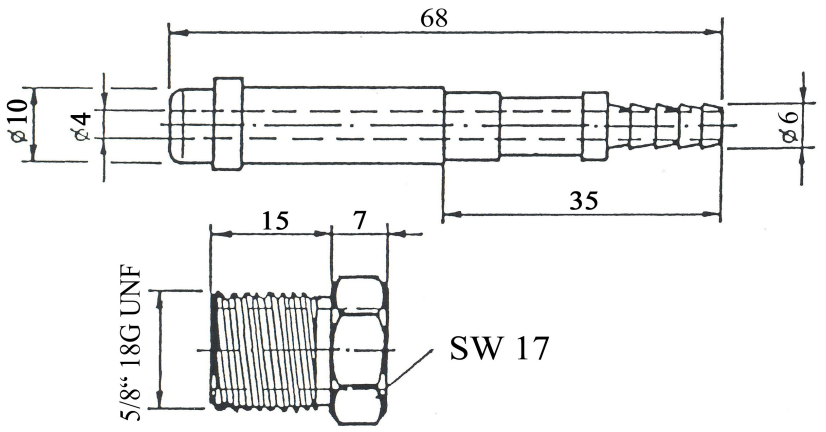
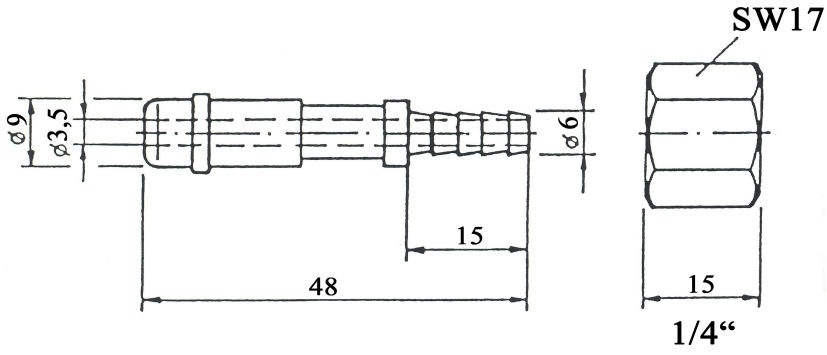
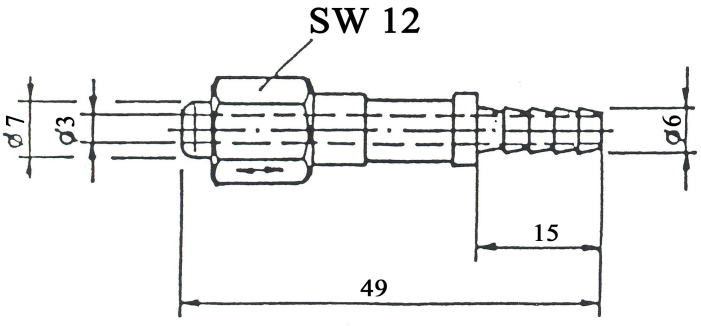
| | | | | | |
|---|---|---|---|---|---|
| N17 **072** 10 | Gas lens | 1,0 | 50,0 | 50,0 | |
| N17 **072** 16 | Gas lens | 1,6 | 50,0 | 50,0 | |
| N17 **072** 24 | Gas lens | 2,4 | 50,0 | 50,0 | |
| N17 **072** 32 | Gas lens | 3,2 | 50,0 | 50,0 | |
| N17 **072** 40 | Gas lens | 4,0 | 50,0 | 50,0 | |

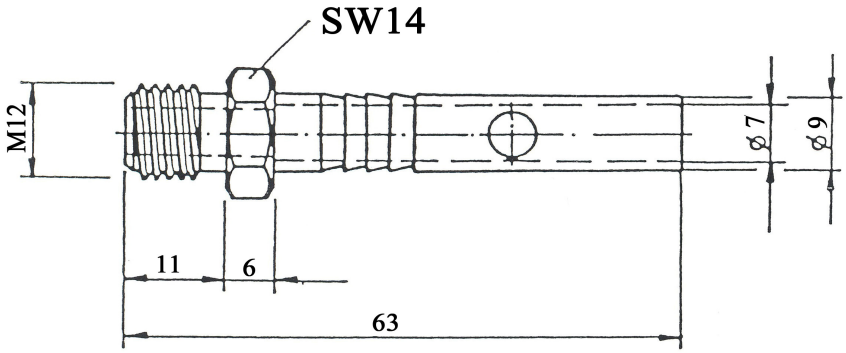
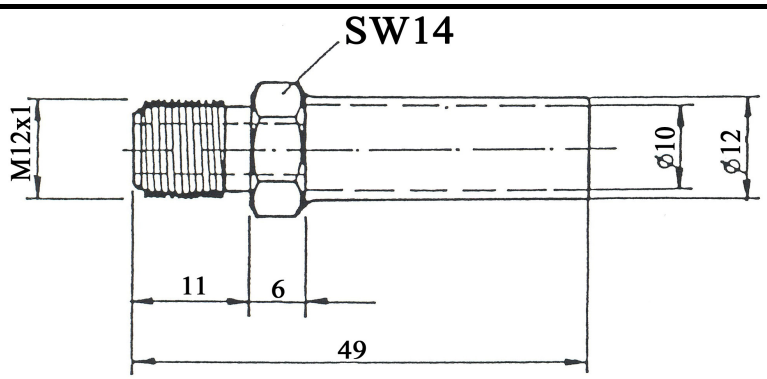
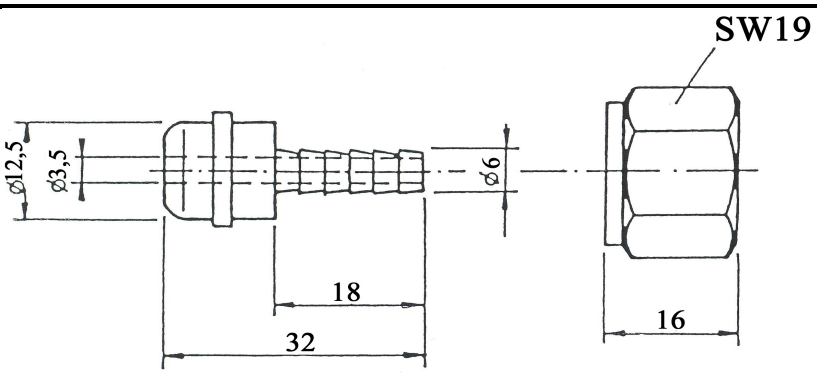
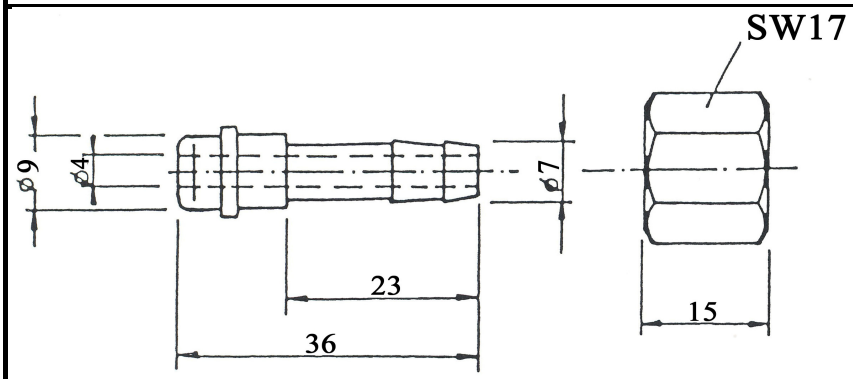
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  <br>Gewinde: 1/4“ UNF | 1) JA 20, JA 24W, JA24WF<br>2) 4 or 6mm²<br><br>3) 1011 | |
|  <br>Aussen-Gewinde: 1/4“ UNF<br>Innen-Gewinde: 1/4“ UNF | 1) JA 20, JA 24W, JA24WF<br>2) 6 or 8mm²<br><br>3) 1012<br>1012 A | |
|  <br>Gewinde: 3/8“ UNF links<br>Gewinge: 3/8“ UNF rechts | 1) JA 18<br>2) 10 mm²<br><br>3) 1013<br>3) 1014 | |
|  <br>Gewinde: 3/8“ UNF links<br>Gewinde: 3/8“ UNF rechts | 1) JA 18<br>2) 16 mm²<br><br>3) 1015<br>3) 1016 | |

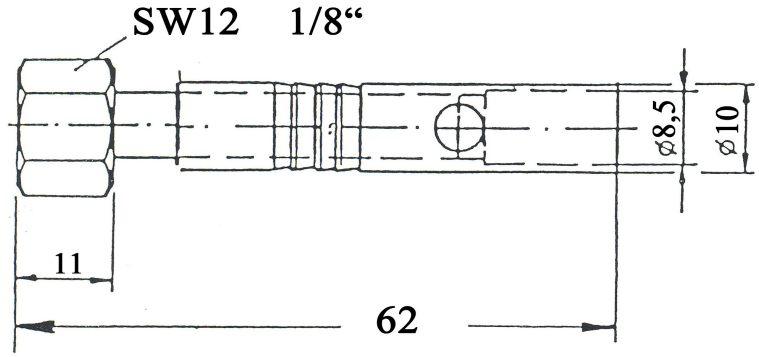
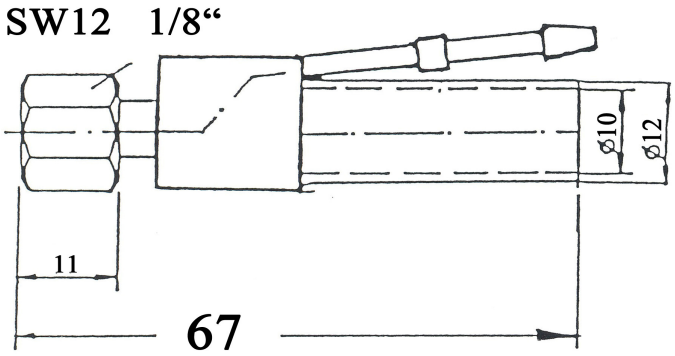
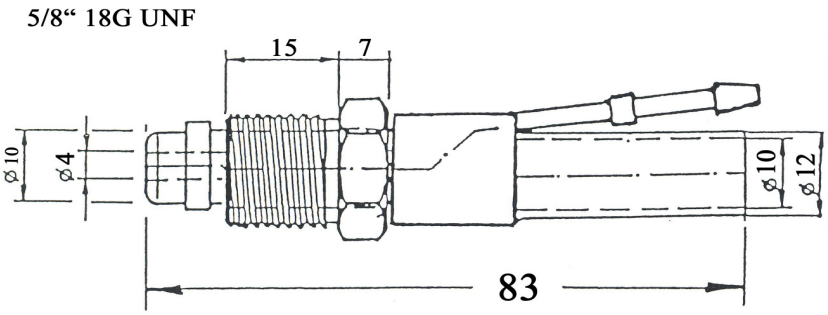
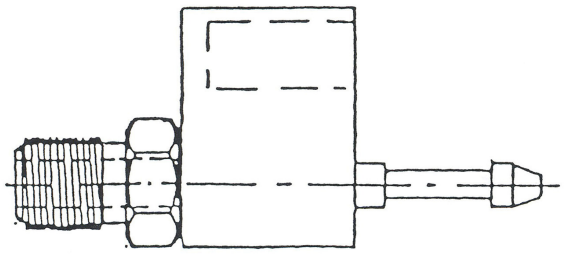
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | 1) equipment connection<br>2) 6 or 8 mm²<br><br>3) 1017<br>3) 1018 | |
|  | 1) equipment connection<br>2) 25 mm²<br><br>3) 1019 | |
|  | 1) equipment connection<br>2) 16 mm²<br><br>3) 1020 | |
|  | 1) equipment connection<br>2) 16 mm²<br><br>3) 1021<br>3) 1022 | |

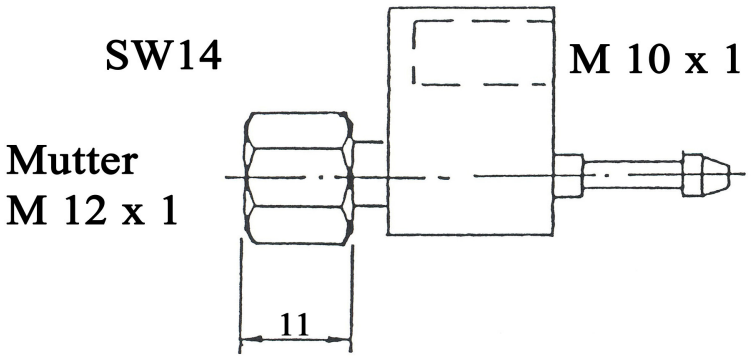
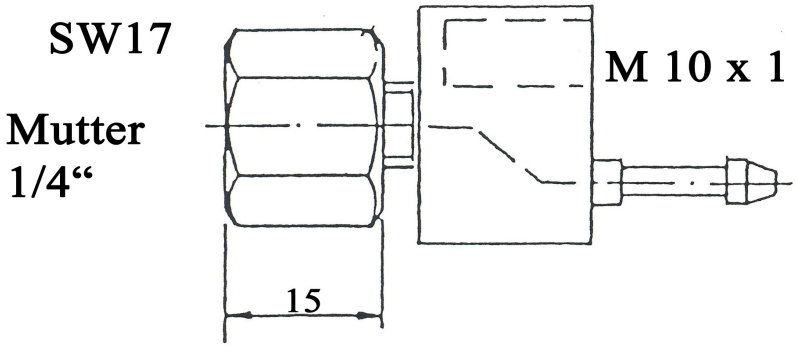
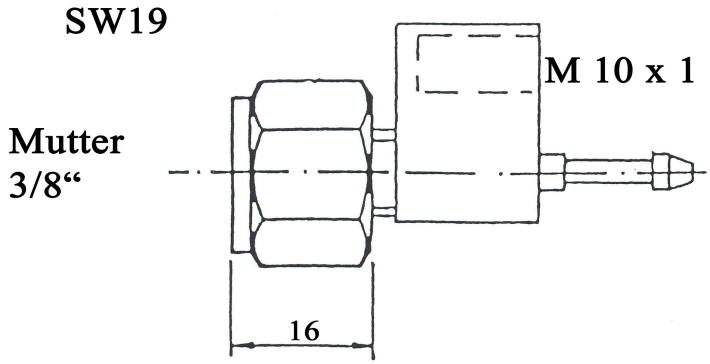
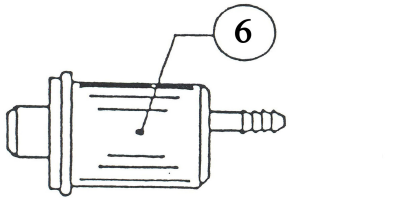
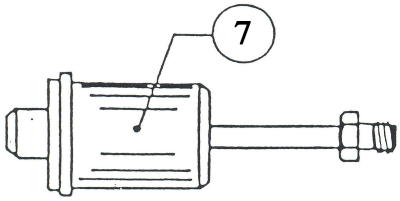
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | 1) equipment connection<br>2) 16 mm²<br><br>3) 1023 | |
|  | 1) equipment connection<br>2) 25 mm²<br><br>3) 1024 | |
|  | 1) equipment connection<br>2) mono cable 35 mm²<br><br>3) 1025 | |
|  | 1) equipment connection<br>2) 4 mm²<br><br>3) 1026<br>3) 1027 | |

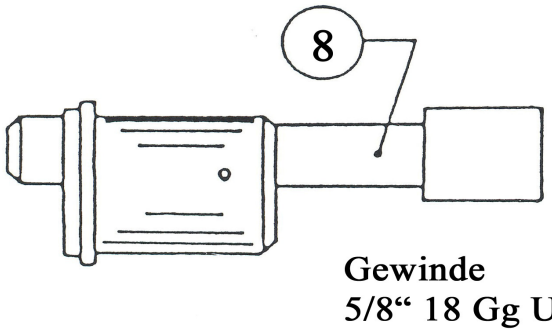
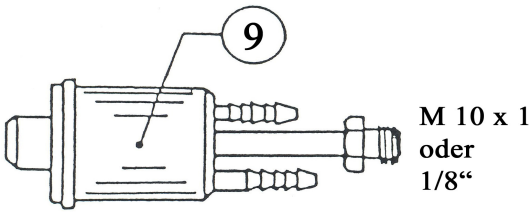
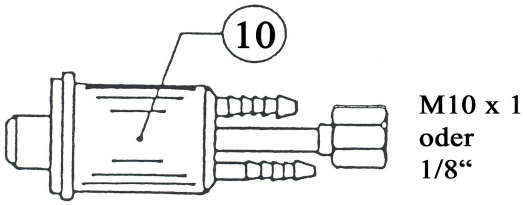
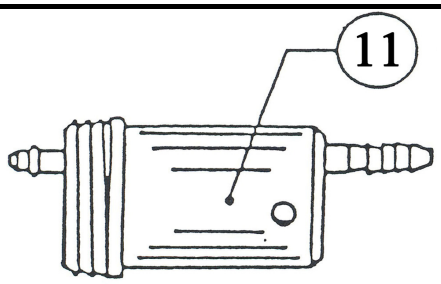
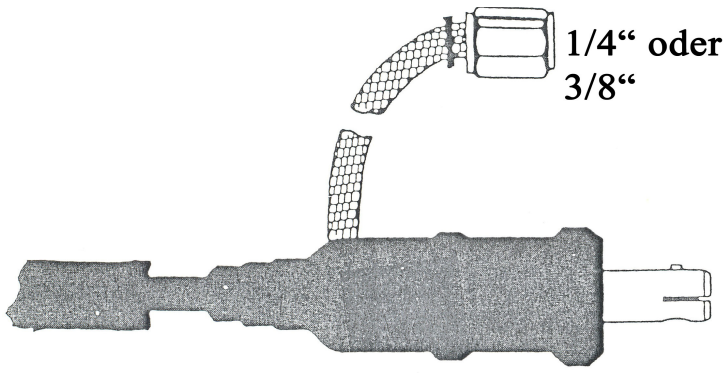
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
| Für Mutter 3/8“<br>  | 1) equipment connection<br>2) 6 or 8 mm²<br>3) 1028 | |
| Für Mutter M 12 x 1<br>  | 1) equipment connection<br>2) 6 or 8 mm²<br>3) 1029 | |
| Für Mutter M 12 x 1<br>  | 1) equipment connection<br>2) 6 or 8 mm²<br>3) 1030 | |
|  | 1) equipment connection<br>2) a. 35 or 50 mm²<br>b. 50 or 70 mm²<br>3) a. 1031<br>b. 1032 | |

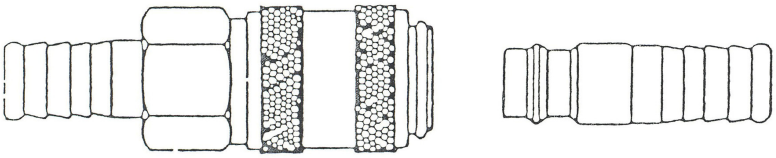
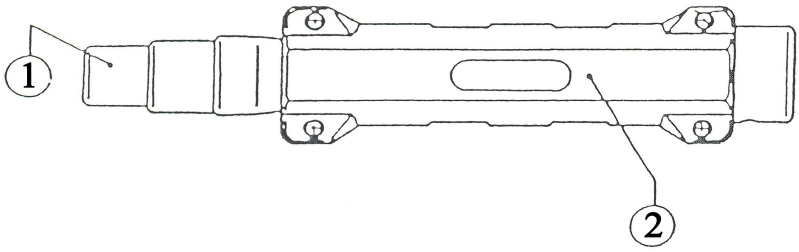
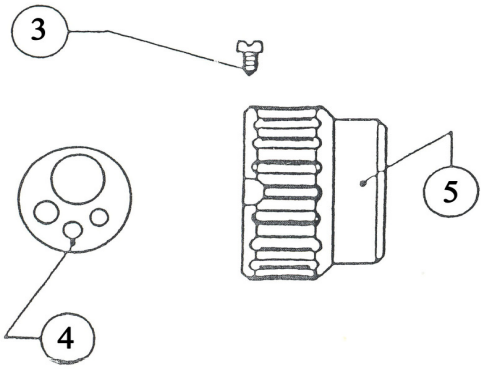
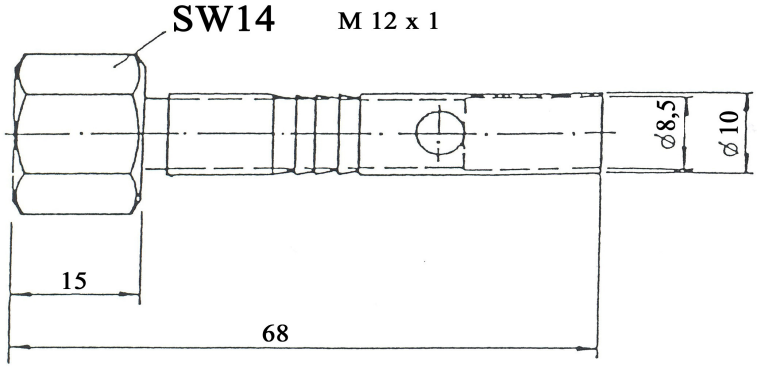
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | 1) JA 26, JA 26 V<br>2) 25 mm²<br><br>3) 1033 | |
|  | 1) JA 26, JA 26 V<br>2) 35 mm² mono cable<br><br>3) 1034 | |
|  | 1) equipment connection<br>2) 35 mm² mono cable<br><br>3) 1035 | |
|  | 1) JA 9, JA 9 F, JA 9 FL,<br>JA 9 V, JA 17, JA 17 V<br><br>2) 35 mm² mono cable<br><br>3) M 10 x1 - 1036<br>3) 1/8" - 1037 | |

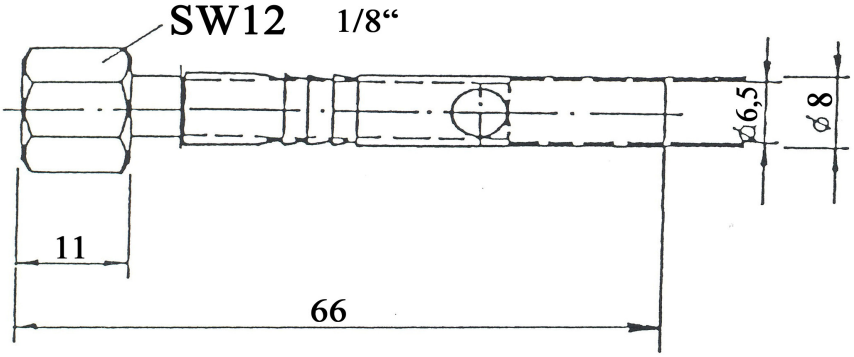
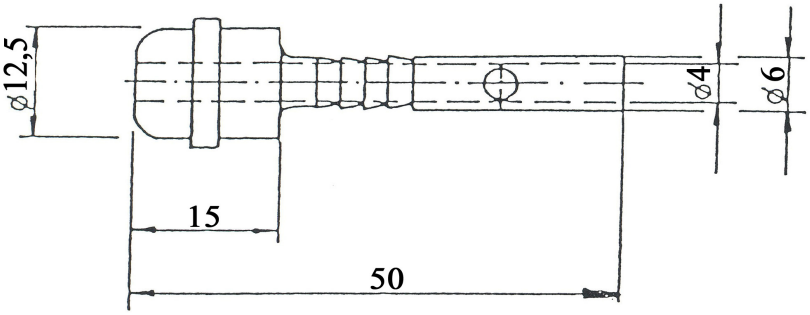
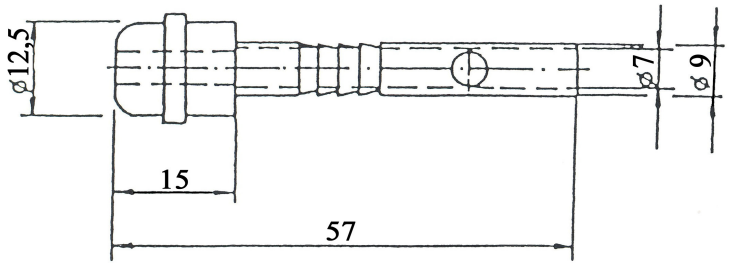
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | 1) equipment connection<br>2) 6 or 8 mm²<br><br>3) 1038 | |
|  | 1) equipment connection<br>2) 35 or 50 mm²<br>welding cable<br><br>3) 1039 | |
|  | <u>hose connection</u><br><br>MS sprout<br>3) 1040<br><br>3/8" MS-screw<br>3) 1041 | |
|  | <u>hose connection</u><br><br>1/4" MS sprout<br>3) 1042<br><br>1/4" MS-screw<br>3) 1043 | |

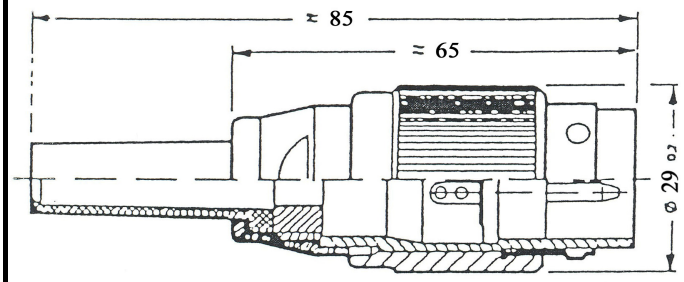
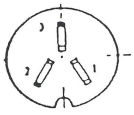
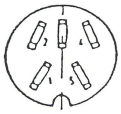
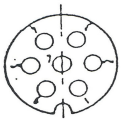
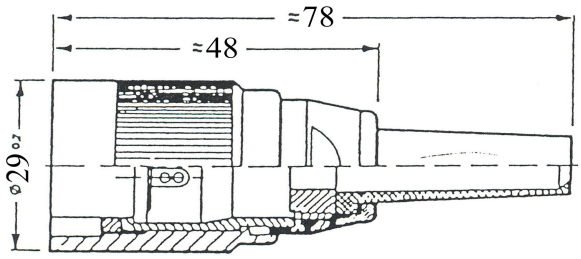
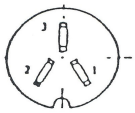
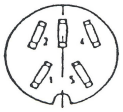
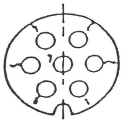
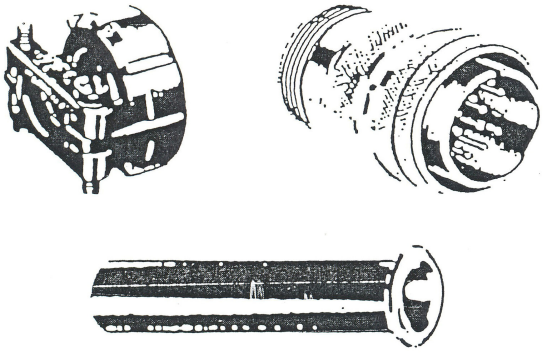
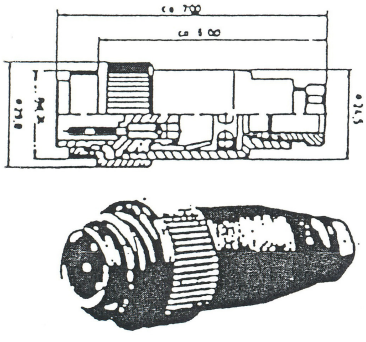
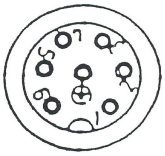
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | 1) JA 9, JA 9 F, JA 9 FL, JA 9 V, JA 17, JA 17 V<br>2) 25 mm²<br>3) 1044 | |
|  | 1) JA 9, JA 9 F, JA 9 FL, JA 9 V, JA 17, JA 17 V<br>2) 25 or 35 mm²<br>3) 1045 | |
|  | 1) JA 26, JA 26 V<br>3) 1046 | |
|  | 1) equipment connection<br>2) 35, 50 or 70 mm²<br>3) 1047<br>3) 1048 | |

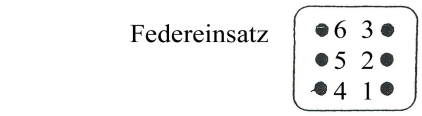
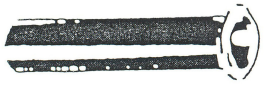
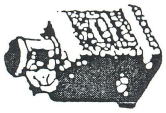
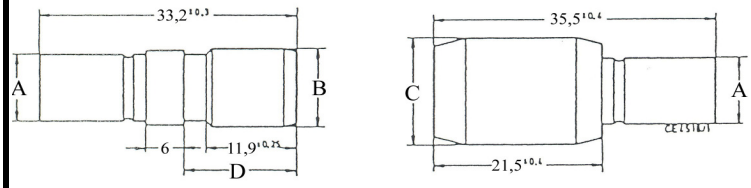
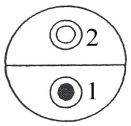
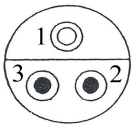
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | 3) 1049 | |
|  | 3) 1050 | |
|  | 3) 1051 | |
|  <br>  | ZA-connection<br><br>3) 1052<br><br>ZA-connection<br>3) M 10 x1 - 1053<br>3) 1/8" - 1054 | |

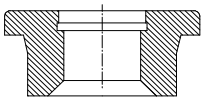
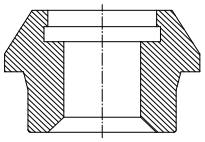
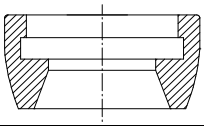
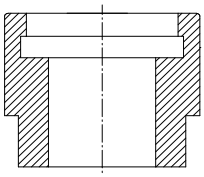
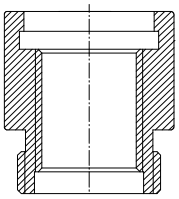
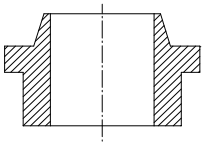
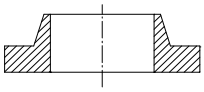
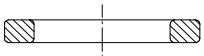
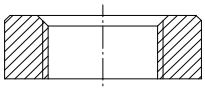
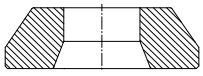
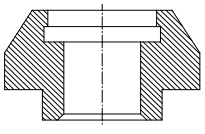
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | ZA-connection<br><br>3) 1055 | |
|  <br>  | ZA-connection<br>Water-cooled<br>3) M 10 x1 - 1056<br>3) 1/8" - 1057<br><br>ZA-connection<br>Water-cooled<br>3) M 10 x1 - 1058<br>3) 1/8" - 1059 | |
|  | ZA-coupling<br>3) 1060 | |
|  | 1) equipment connection<br>2) 35 or 50 mm²<br>3) 1061<br><br>2) 15 or 25 mm²<br>3) 1062 | |

| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
| **Verschlußkupplung Stecktülle**<br>  | MS coupling DN6<br><br>3) 1063<br><br>MS sprout DN 6<br><br>3) 1064 | |
|  | (1) cable pull release<br>ZA-rubber<br>3) 1065<br><br>(2) equipment connection<br>shell pair with<br>4 screws and<br>4 nuts M 3<br>3) 1066 | |
|  | (3) retaining screw<br>ZA M 4<br>3) 1067<br><br>(4) ZA-sealing<br>3) 1068<br><br>(5) ZA-nut<br>MS-metal/plastic<br>3) 1069 | |
|  | 1) equipment connection<br>2) 25 mm²<br><br>3) 1070 | |

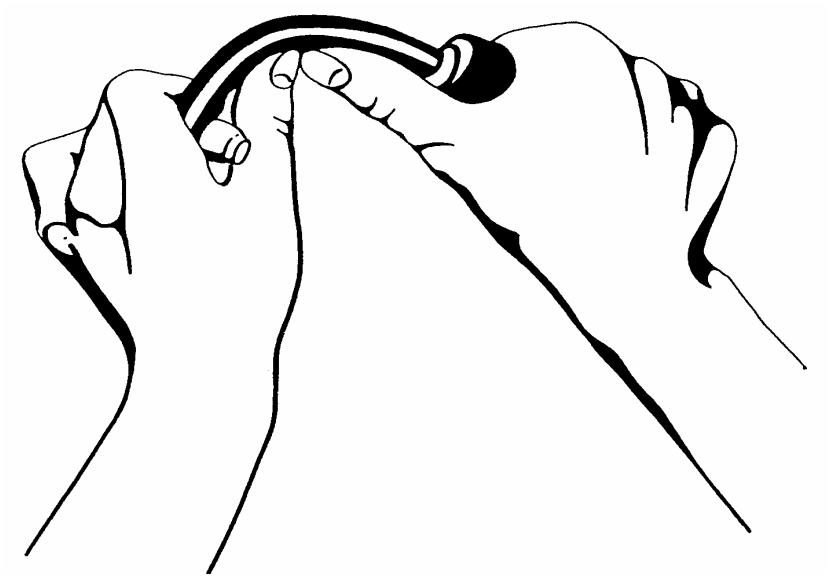
| **Welding torches and equipment connections** | **1) For welding torches and equipment connection<br>2) copper strand / cable<br>3) Order-No.:** | **€/piece** |
|---|---|---|
|  | 1) equipment connection<br>2) 16 mm²<br><br>3) 1071 | |
| Für Mutter 3/8“<br>  | 1) equipment connection<br>2) 4 or 6 mm²<br><br>3) 1072 | |
| Für Mutter 3/8“<br>  | 1) equipment connection<br>2) 16 mm²<br><br>3) 1073 | |
| without illustration<br><br>EURO-central port<br>suitable for ESAB<br><br>water-cooled, COMPLETE<br>gas-cooled, COMPLETE | 1) equipment connection<br><br>3) 1074<br>3) 1075 | |

| CABLE PLUG AND CABLE SOCKET | | EUR / piece netto |
|---|---|---|
| Kupplungsstecker<br>male cable connector<br>  <br><br>BAYONETTVERSCHLUSS | 3<br>**TUCHEL PLUG**<br>  <br>three-pole<br>Order-No.: 1080<br>5<br>  <br>five-pole<br>Order-No.: 1081<br>7<br>  <br>seven-pole<br>Order-No.: 1082 | **On request!** |
| Kupplungsdose<br>female cable connector<br>  <br><br>BAYONETTVERSCHLUSS | 3<br>**TUCHEL SOCKET**<br>  <br>three-pole<br>Order-No.: 1083<br>5<br>  <br>five-pole<br>Order-No.: 1084<br>7<br>  <br>seven-pole<br>Order-No.: 1085 | **On request !** |
|  |  <br>18-4<br>Amphenol-plug<br>compl,<br>four-pole<br>Order-No.: 1086<br>  <br>12S-3<br>Amphenol-plug<br>compl,<br>two-pole<br>Order-No.: 1087 | **On request !** |
|  | 6 + PE<br>  <br>Binder plug<br>seven-pole<br>Order-No.: 1088<br>Binder plug socket<br>Order-No.: 1088 A | **On request !** |

| | | EUR / piece netto |
|---|---|---|
| Federeinsatz      | Harting cable plug<br>complete, six-pole<br>Order-No.: 1089 | **On request!** |
| Mini<br>Stecker<br>Steckdose   |   2-polig<br>mini plug, two-pole<br>Order-No.: 1090<br>mini plug socket<br>Order-No.: 1091<br>   3-polig<br>mini plug, three-pole<br>Order-No.: 1092<br>mini plug socket<br>Order-No.: 1093<br>● Stift<br>○ Buchse<br>Order-No.:1094<br>Order-No.:1095 | **On request!** |

| ISOLATOREN FÜR WIG-BRENNER | INSULATORS FOR TIG-TORCHES | 24.01.2012 | |
|---|---|---|---|
| **Maßstab 1:1<br>Scale 1:1** | **Für Brennertyp<br>For Torch-Type** | **Bestell-Nr.:<br>Order - No.:** | **EUR/Stück<br>EUR/piece** |
|  | JA 9, JA 20 | N09 **050** 00 | |
|  | JA 9, JA 20 | N09 **051** 00 | |
|  | JA 9, JA 20 | N09 **052** 00 | |
|  | JA 9, JA 20 | N09 **053** 00 | |
|  | JA 17, JA 18, JA 26, JA 220V,<br>JA 27 W | N17 **050** 00 | |
|  | JA 17, JA 18, JA 26, JA 220V | N17 **051** 00 | |
|  | JA 17, JA 18, JA 26, JA 220V | N17 **052** 00 | |
|  | JA 17, JA 18, JA 26, JA 220V<br>mit Außen- und Innengewinde<br>für Metalldüse<br>with outside and inside thread<br>for metal nozzle | N17 **053** 00 | |
|  | JA 17, JA 18, JA 26, JA 220V | N17 **054** 00 | |
|  | JA 17, JA 18, JA 26, JA 220V | N17 **056** 00 | |
|  | JA 17, JA 18, JA 26, JA 220V | N17 057 00 | |
|  | JA 24 | N24 050 00 | |
|  | JA 24 | N24 051 00 | |
|  | JA 27 W | N27 051 00 | |
|  | JA 27 W | N27 052 00 | |
|  | JA 2 WT | N02 050 00 | |

# Biege-Handhabung
# Bending Instructions

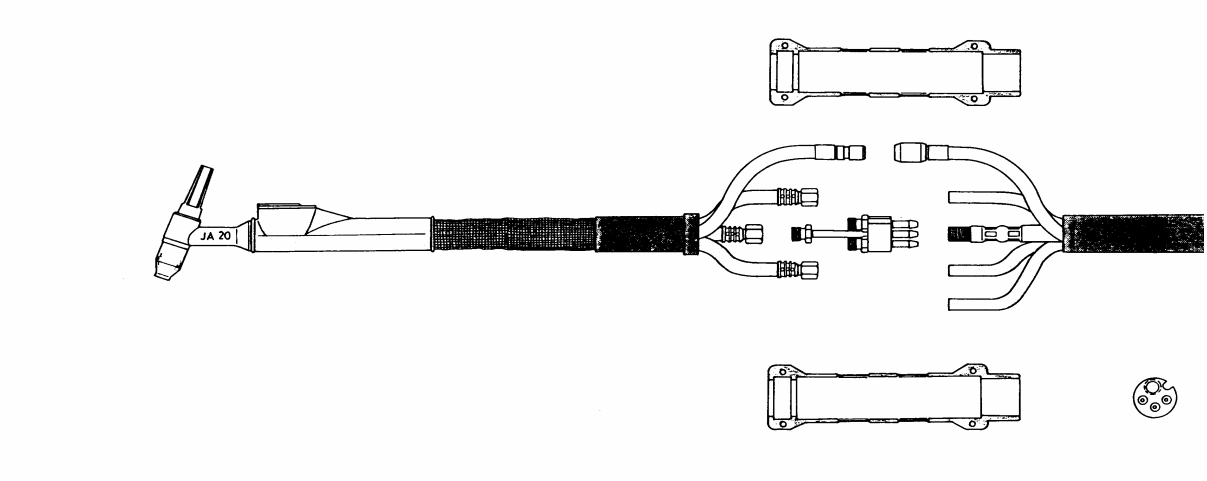


Um die Lebesdauer unserer flexiblen WIG-Brenner zu verlängern,
bitten wir die obige Darstellung unbedingt zu beachten.
Unsachgemäßes Biegen der Brenner führt zu frühen Schäden.

In order to protract the product life of our TIG torches,
we ask you to attend to the bending instructions in the illustration.
Faulty handling of our torches leads to early damage!

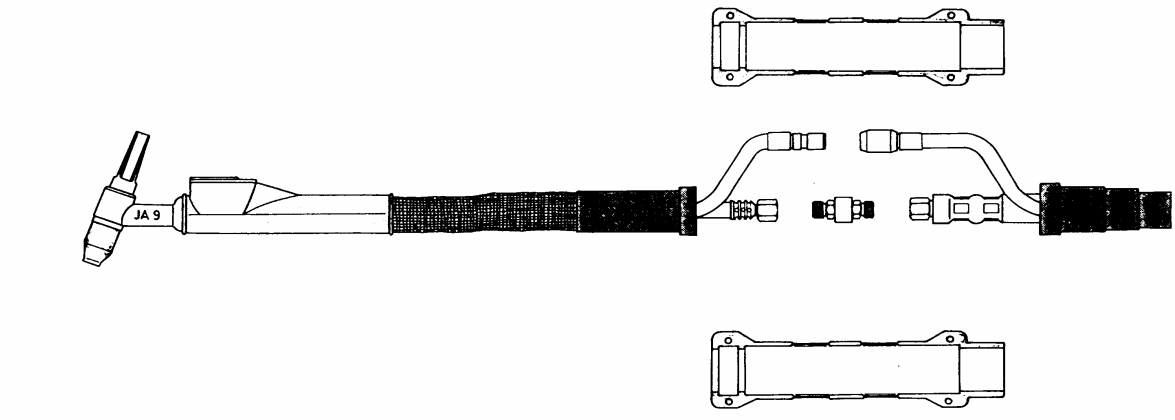
Wassergekühlter Brenner mit hochflexiblem Handkabel und lösbarer Kupplung.
Empfohlene Handkabellänge: 2,0 bis 3,0 Meter.
Sämtliche Kupplungsstücke befinden sich innerhalb der zweiteiligen Schalen.

Water-cooled torch with a highly flexible cord and a detachable coupling.
Recommended cord length: 2.0-3.0 m.
All coupling parts are located inside the two-piece tray.




Gasgekühlter Brenner mit hochflexiblem Handkabel und lösbarer Kupplung.
Empfohlene Handkabellänge: 2,0 bis 3,0 Meter.
Sämtliche Kupplungsstücke befinden sich innerhalb der zweiteiligen Schalen.

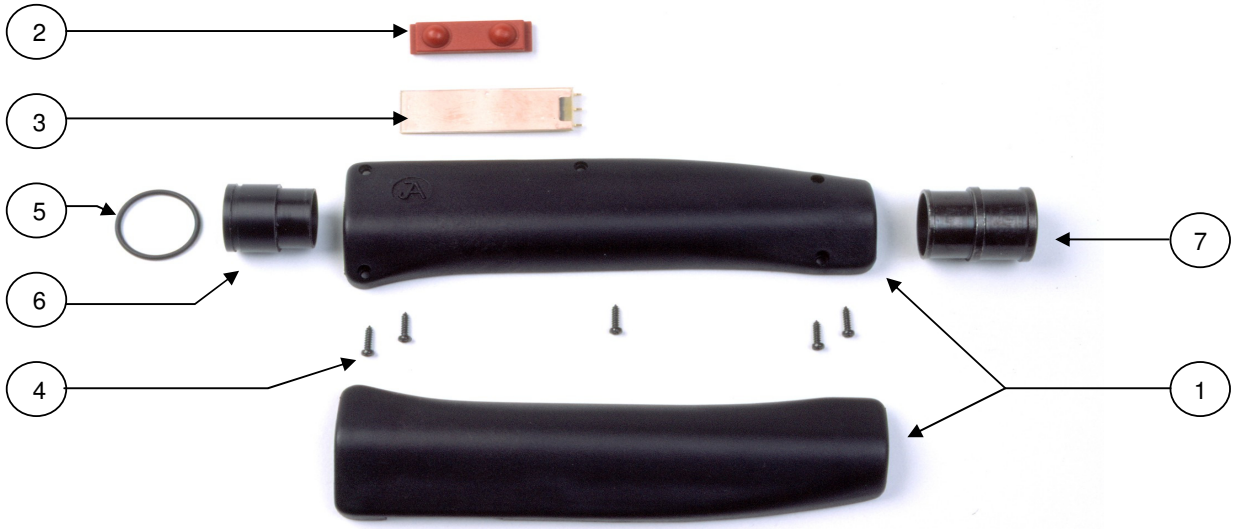
Gas-cooled torch with a highly flexible cord and a detachable coupling.
Recommended cord length: 2.0-3.0 m.
All coupling parts are located inside the two-piece tray.



# Pistol stock for TIG- torch

Type: JA 9, JA 9 F, JA 9 FL, JA 17, JA 17 F, JA 24 G, JA 24 GF, JA 24 G 90°, JA 20, JA 20 L, JA 20 LF, JA 20 M, JA 20 MF, JA 20 MT, JA 20 MTF, JA 24 W, JA 24 W 90°, JA 24 WFM 90°

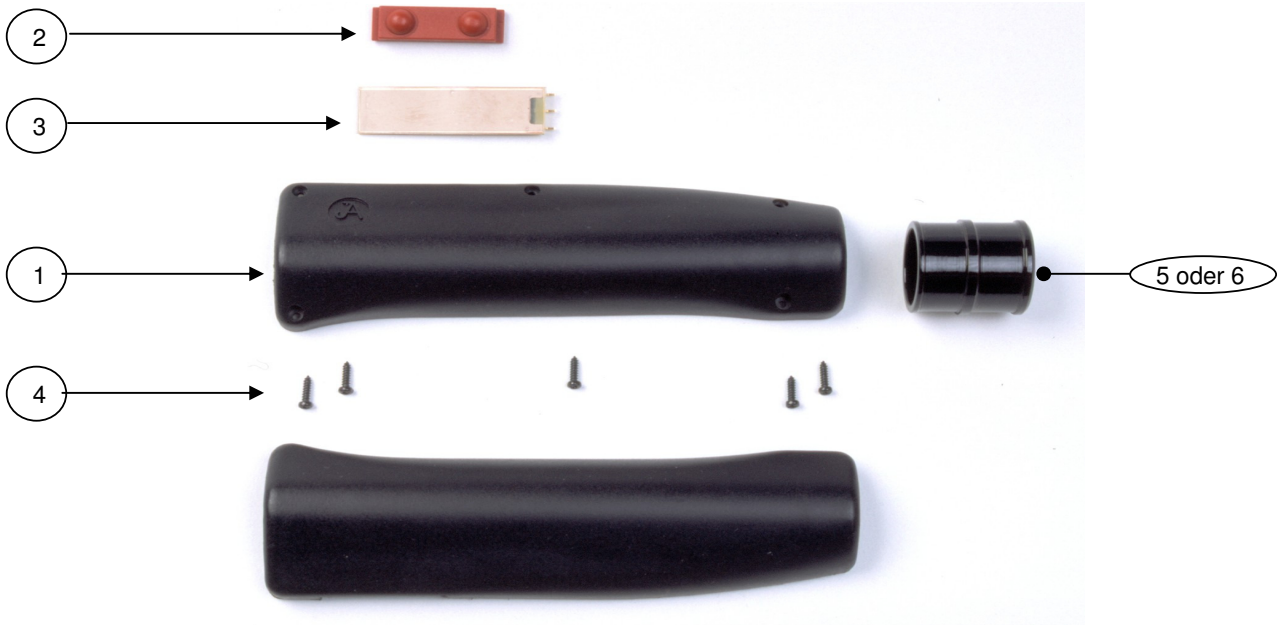
| Item | Order-No. | Description | Qty. | EUR/pc. | EUR total |
|---|---|---|---|---|---|
| 1 | J 05 2 09 01 | JA pistol stock for TIG torch, small | 1 | | |
| 2 | J 05 2 09 02 | JA-key button | 1 | | |
| 3 | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | 1 | | |
| 4 | J 05 2 13 01 | JA-screws | 5 | | |
| 5 | J 05 2 15 01 | JA-O-Ring | 1 | | |
| 6 | J 05 2 09 03 | JA-intermediate sleeve for hose | 1 | | |
| 7 | J 05 2 07 01 | JA-sleeve for hose | 1 | | |
| | J 05 0 00 01 | JA pistol stock for TIG torch, small, complete | 1 | | |



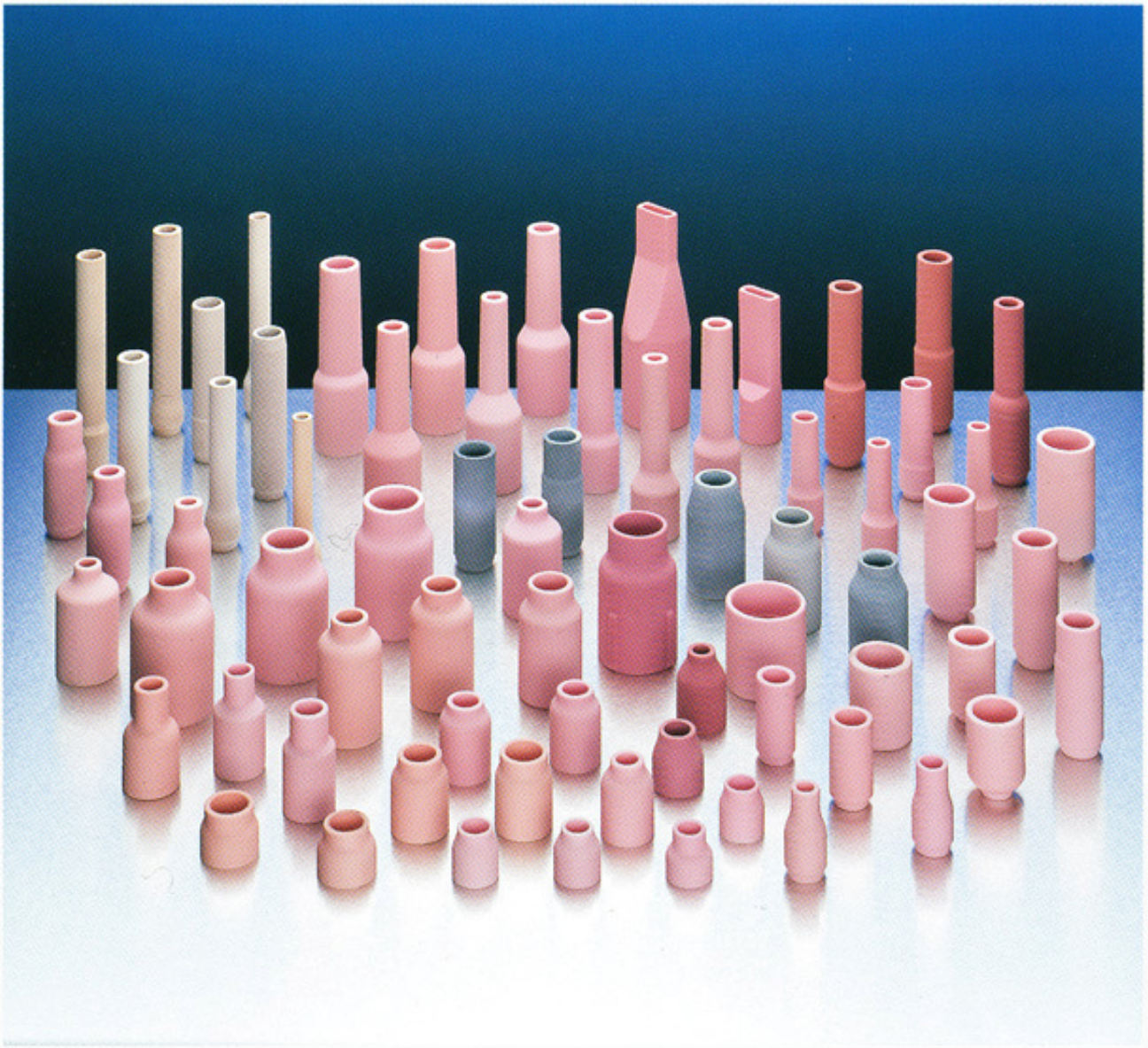

# Pistol stock for TIG- torch

Type: JA 26, JA 26 F, JA 18, JA 18 L

| Item | Order-No. | Description | Qty. | EUR/pc. | EUR total |
|---|---|---|---|---|---|
| 1 | J 05 2 09 04 | JA pistol stock for TIG torch, small | 1 | | |
| 2 | J 05 2 09 02 | JA-key button | 1 | | |
| 3 | J 05 1 01 01 | JA-Micro-switch ( one-or two way switch ) | 1 | | |
| 4 | J 05 2 13 01 | JA-screws | 5 | | |
| 5 | J 05 2 07 02 | JA-sleeve for hoses D = li 25 mm + 28 mm | 1 | | |
| 6 | J 05 2 07 03 | JA-sleeve for hoses D = li 20 mm + 22.5 mm | 1 | | |
| | J 05 0 00 02 | JA pistol stock for TIG torch, small, complete | 1 | | |



# Keramische Hochleistungs-Gasdüsen
# Ceramic Nozzles



Keramikdüsen kürzen wir nach Ihren Wünschen
We shorten ceramic nozzles on request



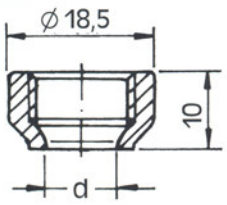
WiG JA-Schweißbrenner individuell mit Düsen und passenden Isolatoren bestückt
JA-TiG-Torches equipped with individual nozzles and suitable insolators

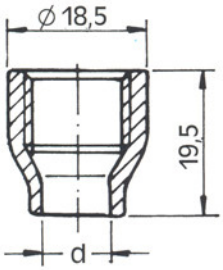
Kleinste Düsen für flexible
WiG JA-Schweißbrenner
Smallest nozzles for flexible
JA-TiG-Torches

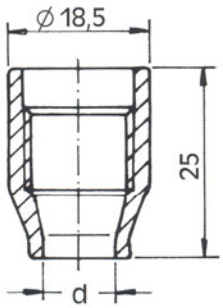


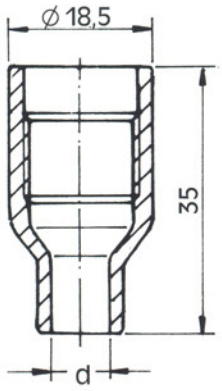
Düsen im WiG Zubehörkoffer
Nozzles with TiG-accessory box

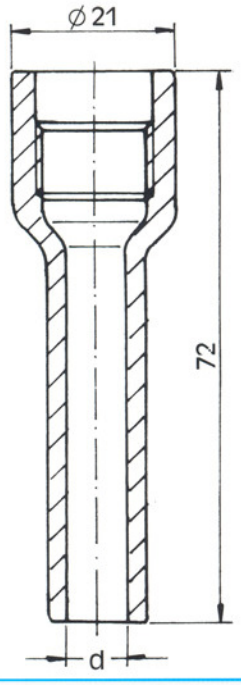




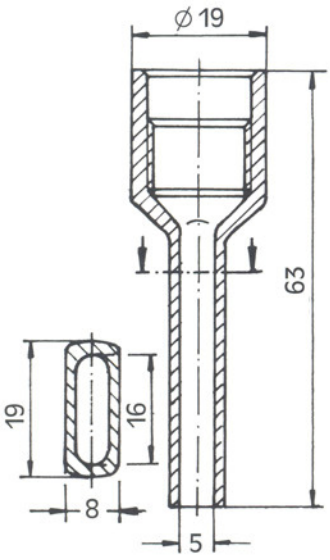



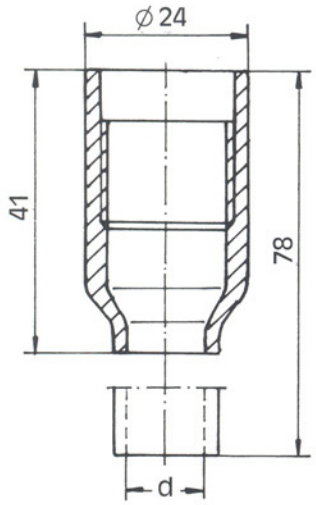



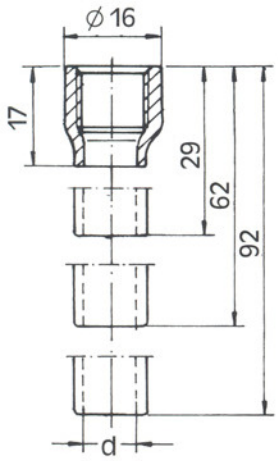

| Düsentyp<br>Nozzle type | Größe<br>Dimension | dø mm | Preisgruppe<br>Price group |
|---|---|---|---|
| 53 N 59 ES | 5 10 mm lg. | 7,95 | 1 |
| 53 N 60 ES | 6 10 mm lg. | 9,50 | |
| Für Gaslinse bei Brennertypen Serie 9, 20, 24<br>Suitable for gas lens torch series 9, 20, 24 | | | |
| 53 N 59 MS | 5 19,5 mm lg. | 7,95 | 2 |
| 53 N 60 MS | 6 19,5 mm lg. | 9,50 | |
| 53 N 61 MS | 7 19,5 mm lg. | 11,10 | |
| Für Gaslinse bei Brennertypen Serie 9, 20, 24<br>Umbausatz Serie 17, 18, 26, 27, 220<br>Suitable for gas lens torch series 9, 20, 24<br>Reequipment set series 17, 18, 26, 27, 220 | | | |
| 53 N 58 S | 4 25 mm lg. | 6,35 | 3 |
| 53 N 59 S | 5 25 mm lg. | 7,95 | |
| 53 N 60 S | 6 25 mm lg. | 9,50 | |
| 53 N 61 S | 7 25 mm lg. | 11,10 | |
| 53 N 62 S | 8 25 mm lg. | 12,70 | |
| Für Gaslinse bei Brennertypen Serie 9, 20, 24<br>Umbausatz Serie 17, 18, 26, 27, 220<br>Suitable for gas lens torch series 9, 20, 24<br>Reequipment set series 17, 18, 26, 27, 220 | | | |
| 53 N 59 L | 5 35 mm lg. | 7,95 | 4 |
| 53 N 60 L | 6 35 mm lg. | 9,50 | |
| Für Gaslinse bei Brennertypen Serie 9, 20, 24<br>Umbausatz Serie 17, 18, 26, 27, 220<br>Suitable for gas lens torch series 9, 20, 24<br>Reequipment set series 17, 18, 26, 27, 220 | | | |
| 53 N 58 XL | 4 72 mm lg. | 6,35 | 5 |
| 53 N 59 XL | 5 72 mm lg. | 7,95 | |
| 53 N 60 XL | 6 72 mm lg. | 9,50 | |
| Für Gaslinse bei Brennertypen Serie 9, 20, 24<br>Umbausatz Serie 17, 18, 26, 27, 220<br>Suitable for gas lens torch series 9, 20, 24<br>Reequipment set series 17, 18, 26, 27, 220 | | | |

Keramikdüsen kürzen wir nach Ihren Wünschen. Darstellung der Düsengröße 1 : 1, Ausnahme: a) unterbrochene Längen, b) variierender Durchmesser.

Shortening of ceramic nozzles on request. Illustration of nozzles 1 : 1, except a) interrupted length, b) various diameters




| Düsentyp<br>Nozzle type | Größe<br>Dimension | dø mm | Preisgruppe<br>Price group |
|---|---|---|---|
| 53 N 58 XL | spezial<br>special | 5x16 mm lg.<br>▭ | 6 |

Für Gaslinse bei Brennertypen Serie 9, 20, 24
Umbausatz Serie 17, 18, 26, 27, 220
Suitable for gas lens torch series 9, 20, 24
Reequipment set series 17, 18, 26, 27, 220

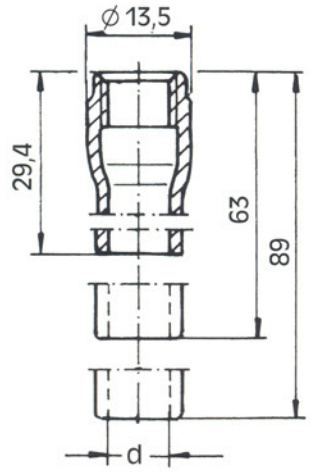
| | | | |
|---|---|---|---|
| 54 N 18 | 4 41 mm lg. | 6,35 | 7 |
| 54 N 17 | 5 41 mm lg. | 7,95 | |
| 54 N 16 | 6 41 mm lg. | 9,50 | |
| 54 N 15 | 7 41 mm lg. | 11,10 | |
| 54 N 14 | 8 41 mm lg. | 12,70 | |
| 54 N 18 L | 4 78 mm lg. | 6,35 | 8 |
| 54 N 17 L | 5 78 mm lg. | 7,95 | |
| 54 N 16 L | 6 78 mm lg. | 9,50 | |
| 54 N 15 L | 7 78 mm lg. | 11,10 | |
| 54 N 14 L | 8 78 mm lg. | 12,70 | |

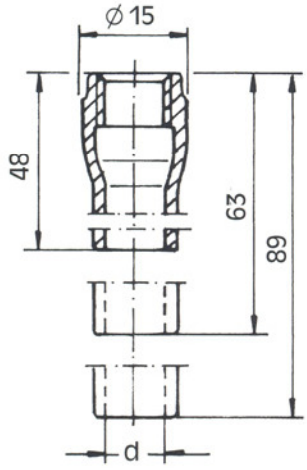
Für Gaslinse bei Brennertypen Serie 17, 18, 26, 27, 220
Suitable for gas lens torch series 17, 18, 26, 27, 220

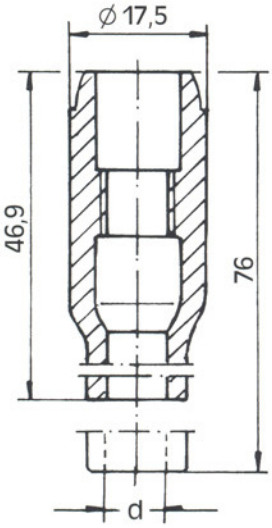
| | | | |
|---|---|---|---|
| 53 N 25 | 5 17 mm lg. | 7,95 | 9 |
| 53 N 26 | 6 17 mm lg. | 9,50 | |
| 53 N 28 | 4 29 mm lg. | 6,35 | 10 |
| 53 N 26 | 6 29 mm lg. | 9,50 | |
| 53 N 28 | 4 62 mm lg. | 6,35 | 11 |
| 53 N 25 | 5 92 mm lg. | 7,95 | 12 |

Für Spannhülsengehäuse und Gaslinsen-Mini
Brennertyp 24 und 24er Umbausatz Brenner Serie 9, 20
Suitable for collet body and gas lens mini
Torch type 24 and suitable reequipment set for torch series 9, 20

Keramikdüsen kürzen wir nach Ihren Wünschen. Darstellung der Düsengröße 1 : 1, Ausnahme: a) unterbrochene Längen, b) variierender Durchmesser.
Shortening of ceramic nozzles on request. Illustration of nozzles 1 : 1, except a) interrupted length, b) various diameters



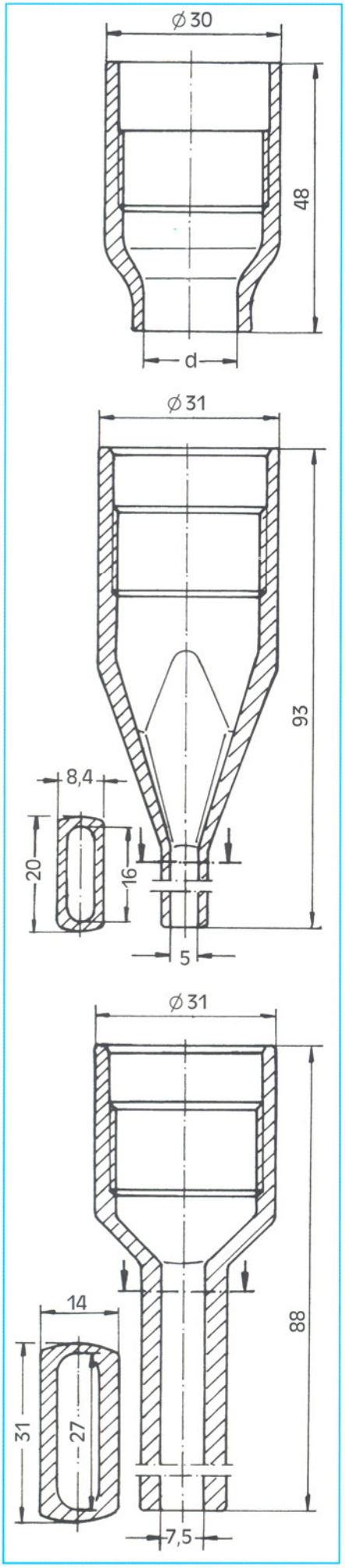

| Düsentyp<br>Nozzle type | Größe<br>Dimension | dØ mm | Preisgruppe<br>Price group |
|---|---|---|---|
| 13 N 08 | 4 29,4 mm lg. | 6,35 | |
| 13 N 09 | 5 29,4 mm lg. | 7,95 | |
| 13 N 10 | 6 29,4 mm lg. | 9,50 | |
| 13 N 11 | 7 29,4 mm lg. | 11,10 | 13 |
| 13 N 12 | 8 29,4 mm lg. | 12,70 | |
| 13 N 13 | 10 29,4 mm lg. | 15,90 | |
| 796 F 70 | 3 48,0 mm lg. | 4,76 | |
| 796 F 71 | 4 48,0 mm lg. | 6,35 | |
| 796 F 72 | 5 48,0 mm lg. | 7,95 | 14 |
| 796 F 73 | 6 48,0 mm lg. | 9,50 | |
| 796 F 74 | 3 63,0 mm lg. | 4,76 | |
| 796 F 75 | 4 63,0 mm lg. | 6,35 | |
| 796 F 76 | 5 63,0 mm lg. | 7,95 | 15 |
| 796 F 77 | 6 63,0 mm lg. | 9,50 | |
| 796 F 78 | 7 63,0 mm lg. | 11,10 | |
| 796 F 79 | 4 89,0 mm lg. | 6,35 | |
| 796 F 80 | 5 89,0 mm lg. | 7,95 | 16 |
| 796 F 81 | 6 89,0 mm lg. | 9,50 | |

Für Spannhülsengehäuse bei Brennertypen Serie 9, 20
Suitable for collet body torch series 9, 20

| | | | |
|---|---|---|---|
| 10 N 50 | 4 46,9 mm lg. | 6,35 | |
| 10 N 49 | 5 46,9 mm lg. | 7,95 | |
| 10 N 48 | 6 46,9 mm lg. | 9,50 | |
| 10 N 47 | 7 46,9 mm lg. | 11,10 | 17 |
| 10 N 46 | 8 46,9 mm lg. | 12,70 | |
| 10 N 45 | 10 46,9 mm lg. | 15,90 | |
| 10 N 44 | 12 46,9 mm lg. | 19,05 | |
| 10 N 49 L | 5 76 mm lg. | 7,95 | |
| 10 N 48 L | 6 76 mm lg. | 9,50 | 18 |
| 10 N 47 L | 7 76 mm lg. | 11,10 | |

Für Spannhülsengehäuse bei Brennertypen
Serie 17, 18, 26, 27, 220
Suitable for collet body torch series 17, 18, 26, 27, 220

Keramikdüsen kürzen wir nach Ihren Wünschen. Darstellung der Düsengröße 1 : 1, Ausnahme: a) unterbrochene Längen, b) variierender Durchmesser.
Shortening of ceramic nozzles on request. Illustration of nozzles 1 : 1, except a) interrupted length, b) various diameters




| Düsentyp<br>Nozzle type | Größe<br>Dimension | dø mm | Preisgruppe<br>Price group |
|---|---|---|---|
| 57 N 75 | 6 48 mm lg. | 9,50 | |
| 57 N 74 | 8 48 mm lg. | 12,70 | |
| 53 N 88 | 10 48 mm lg. | 15,90 | |
| 53 N 87 | 12 48 mm lg. | 19,05 | 19 |
| 53 N 89<br>short | 16 31 mm lg. | 25,40 | |

Für Titan-Gaslinsen Brennertypen
Serie 9, 20, 17, 18, 26, 27, 220
Suitable for Titan gas lens torch series 9, 20, 17, 18, 26, 27, 220

| | | | |
|---|---|---|---|
| 57 N 75 | Spezial 93<br>Special 93 | 5x16 mm lg.<br>▭ | 20 |

Für Titan-Gaslinsen Brennertypen
Serie 9, 20, 17, 18, 26, 27, 220
Suitable for Titan gas lens torch series 9, 20, 17, 18, 26, 27, 220

| | | | |
|---|---|---|---|
| 57 N 75 | Spezial 88<br>Special 88 | 7,5x27 mm lg.<br>▭ | 21 |

Für Titan-Gaslinsen Brennertypen
Serie 9, 20, 17, 18, 26, 27
Suitable for Titan gas lens torch series 9, 20, 17, 18, 26, 27

Keramikdüsen kürzen wir nach Ihren Wünschen. Darstellung der Düsengröße 1 : 1, Ausnahme: a) unterbrochene Längen, b) variierender Durchmesser.
Shortening of ceramic nozzles on request. Illustration of nozzles 1 : 1, except a) interrupted length, b) various diameters

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# Keramische Hochleistungs-Gasdüsen, Aluminium Oxid, rosa
# Ceramic nozzles, Aluminium Oxide, pink

| Preisgruppe<br>Price group | Keramikdüsentyp<br>ceramic nozzle type | Preis<br>price | |
|---|---|---|---|
| 1 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 2 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 3 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 4 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 5 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 6 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 7 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 8 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 9 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 10 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 11 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 12 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 13 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 14 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 15 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 16 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 17 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 18 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 19 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 20 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |
| 21 | Aluminium Oxid, rosa<br>Aluminum oxide, pink | | |

# Keramische Hochleistungs-Gasdüsen, Siliziumnitrid, grau
# Ceramic nozzles, Silicon nitride, grey

| Preisgruppe<br>Price group | Keramikdüsentyp<br>ceramic nozzle type | Nettopreis<br>net price |
|---|---|---|
| 2 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 3 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 4 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 5 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 7 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 9 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 10 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 13 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 16 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 17 | Siliziumnitrid, grau<br>Silicon nitride, grey | |
| 19 | Siliziumnitrid, grau<br>Silicon nitride, grey | |

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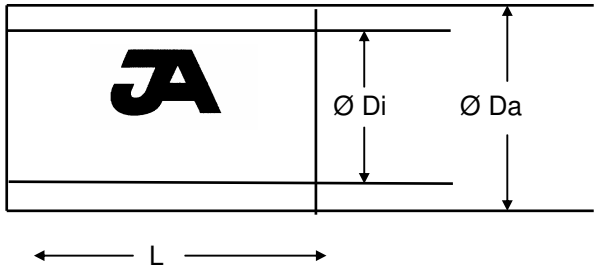


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Preise auf Anfrage

# Messing-Schlauch-Quetschhülsen
# Kupferkabel-Quetschhülsen
# Hose clips made of brass
# Sleeves for copper-cables




| | Alle Maße in mm<br>All dimensions in mm | | | |
|---|---|---|---|---|
| **Pos.** | **Ø Di** | **Ø Da** | **L** | **EUR/Stück<br>EUR/piece** |
| ***Messing-Schlauch-Quetschhülsen<br>Hose clips made of brass*** | | | | |
| 1 | 9,00 | 10,00 | 15,00 | |
| 2 | 10,00 | 11,00 | 17,50 | |
| 3 | 11,00 | 12,00 | 15,00 | |
| 4 | 12,00 | 13,00 | 19,00 | |
| 5 | 13,00 | 14,00 | 20,00 | |
| 6 | 14,00 | 15,00 | 20,00 | |
| 7 | 15,00 | 16,00 | 20,00 | |
| ***Kupferkabel-Quetschhülsen<br>Sleeves for copper-cables*** | | | | |
| 10 | 15,50 | 17,00 | 35,00 | |
| 11 | 18,00 | 20,00 | 35,00 | |

# Schläuche und Schutzschläuche
# Hoses and Safety hoses

| Bestell-Nr.:<br>Order-No.: | Abmessung<br>Dimensions | Meter / Rolle<br>meter / roll | EUR / Meter, Nettopreis<br>EUR / meter, net price |
|---|---|---|---|
| **Gummi-Schutzschlauch ohne Gewebe<br>Rubber hose without fabric** | | | |
| 35001751 | 20,0 liØ x 1,5 mm WD.<br>20,0 liØ x 1,5 mm WALL | 55 | |
| 35001752 | 22,5 liØ x 1,5 mm WD.<br>22,5 liØ x 1,5 mm WALL | 40 | |
| 35001753 | 25,0 liØ x 1,5 mm WD.<br>25,0 liØ x 1,5 mm WALL | 40 | |
| 35001754 | 28,0 liØ x 1,5 mm WD.<br>28,0 liØ x 1,5 mm WALL | 40 | |
| **Gummi-Schutzschlauch mit Gewebe<br>Rubber hose with fabric** | | | |
| 35002751 | 20,0 liØ x 1,0 mm WD.<br>20,0 liØ x 1,0 mm WALL | | |
| 35002757 | 22,0 liØ x 1,0 mm WD.<br>22,0 liØ x 1,0 mm WALL | | |
| 35002752 | 25,0 liØ x 1,0 mm WD.<br>25,0 liØ x 1,0 mm WALL | | |
| 35002753 | 28,0 liØ x 1,0 mm WD.<br>28,0 liØ x 1,0 mm WALL | | |
| 35002754 | 32,0 liØ x 1,0 mm WD.<br>32,0 liØ x 1,0 mm WALL | | |
| **Textil-Schutzschlauch<br>Textile hose** | | | |
| 35003753 | 20,0 liØ x 1,0 mm WD. Gelb<br>20,0 liØ x 1,0 mm WALL yellow | | |
| 35003754 | 25,0 liØ x 1,0 mm WD. Gelb<br>25,0 liØ x 1,0 mm WALL yellow | | |
| **Gummi-Gewebeschlauch<br>Fabric-coated rubber hose** | | | |
| 35004757 | 3,5 liØ x 1,5 mm WD.<br>3,5 liØ x 1,5 mm WALL | ca. 200 | |
| 35004751 | 5,0 liØ x 1,5 mm WD.<br>5,0 liØ x 1,5 mm WALL | ca. 200 | |
| 35004752 | 6,0 liØ x 1,5 mm WD.<br>6,0 liØ x 1,5 mm WALL | ca. 200 | |
| 35004753 | 7,0 liØ x 1,5 mm WD.<br>7,0 liØ x 1,5 mm WALL | ca. 200 | |
| 35004754 | 8,0 liØ x 1,5 mm WD.<br>8,0 liØ x 1,5 mm WALL | ca. 100 | |
| 35004755 | 9,0 liØ x 2,0 mm WD.<br>9,0 liØ x 2,0 mm WALL | ca. 100 | |
| 35004756 | 10,0 liØ x 2,0 mm WD.<br>10,0 liØ x 2,0 mm WALL | ca. 100 | |
| **Gummi-Argonschlauch, ohne Gewebe<br>Argon hose, rubber, without fabric** | | | |
| 35005751 | 3,5 liØ x 1,5 mm WD.<br>3,5 liØ x 1,5 mm WALL | ca. 200 | |
| **PVC-Gewebeschlauch<br>Fabric-coated PVC-hoses** | | | |
| 35006751 | 5,0 liØ x 1,5 mm WD. rot<br>5,0 liØ x 1,5 mm WALL red | ca. 100 | |
| 35006752 | 5,0 liØ x 1,5 mm WD. blau<br>5,0 liØ x 1,5 mm WALL blue | ca. 100 | |
| 35006753 | 5,0 liØ x 1,5 mm WD. schwarz<br>5,0 liØ x 1,5 mm WALL black | ca. 100 | |
| 35006754 | 6,0 liØ x 1,5 mm WD. blau<br>6,0 liØ x 1,5 mm WALL blue | ca. 100 | |
| 35006755 | 7,0 liØ x 1,5 mm WD. blau<br>7,0 liØ x 1,5 mm WALL blue | ca. 100 | |
| 35006755r | 7,0 liØ x 1,5 mm WD. rot<br>7,0 liØ x 1,5 mm WALL red | ca. 100 | |

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# Schweisskabel und Steuerleitungen
# Welding cable and pilot wires

| Bestell-Nr.:<br>Order-No.: | Abmessung<br>Dimensions | | EUR / Meter, Nettopreis<br>EUR / meter, net price |
|---|---|---|---|
| **Hochflexible Kupferlitze**<br>**High-flexible copper-stranded wire** | | | |
| 35010751 | 4,0 $mm^2$ blank<br>4,0 $mm^2$ bare | | |
| 35010752 | 6,0 $mm^2$ blank<br>6,0 $mm^2$ bare | | |
| 35010753 | 6,0 $mm^2$ VZ<br>6,0 $mm^2$ tin-plated | | |
| 35010754 | 8,0 $mm^2$ blank<br>8,0 $mm^2$ bare | | |
| 35010755 | 8,0 $mm^2$ VZ<br>8,0 $mm^2$ tin-plated | | |
| 35010756 | 10,0 $mm^2$ blank<br>10,0 $mm^2$ bare | | |
| 35010757 | 10,0 $mm^2$ VZ<br>10,0 $mm^2$ tin-plated | | |
| 35010758 | 16,0 $mm^2$ blank<br>16,0 $mm^2$ bare | | |
| 35010759 | 16,0 $mm^2$ VZ<br>16,0 $mm^2$ tin-plated | | |
| 35010760 | 25,0 $mm^2$ blank<br>25,0 $mm^2$ bare | | |
| **Steuerleitung**<br>**Pilot wire** | | | |
| 35011751 | 2 x 0,75 $mm^2$ PVC, hochflexibel<br>2 x 0,75 $mm^2$ PVC, high flexible | | |
| 35011752 | 3 x 0,75 $mm^2$ PVC, hochflexibel<br>3 x 0,75 $mm^2$ PVC, high flexible | | |
| 35011753 | 2 x 0,5 $mm^2$ abgeschirmt<br>2 x 0,5 mm2 with shielding | | |
| 35011754 | 3 x 0,5 $mm^2$ abgeschirmt<br>3 x 0,5 $mm^2$ with shielding | | |
| **Schweisskabel**<br>**Welding cable** | | | |
| 35010771 | 25$mm^2$ / hochflexibel<br>25$mm^2$ / high flexible | | |
| 35010772 | 35$mm^2$ / hochflexibel<br>35$mm^2$ / high flexible | | |
| 35010773 | 50$mm^2$ / hochflexibel<br>50$mm^2$ / high flexible | | |
| **Monokabel**<br>**Mono cable** | **- mit integriertem Gasschlauch und Steuerleitungen**<br>**- with integrated gas hose and pilot wires** | | |
| 35010771 | 35$mm^2$ / hochflexibel<br>35$mm^2$ / high flexible | | |
| 35010772 | 50$mm^2$ / hochflexibel<br>50$mm^2$ / high flexible | | |

# Sauerstoff-Meßgeräte für die Schweißtechnik

1) AERO$_2$-MAT 4115
2) AERO$_2$-MAT 4120 **Nicht mehr erhältlich**

Die Sauerstoff-Meßgeräte dienen zur Restsauerstoff-Bestimmung (kleinster Meßwert 1 ppm Vol.) in den zum Einsatz kommenden Schutzgasen. Diese Geräte sind eine unverzichtbare Hilfe bei der Qualitätssicherung.
Sie sind ferner eine unverzichtbare Hilfe bei der Aufspürung von Sauerstoffleckagen und bei der Ermittlung von Schweißparametern für Verfahrensprüfungen.

**Made in Germany**



Die Qualität einer Schweißnaht ist unmittelbar vom Restsauerstoff-Gehalt in handelsüblichen Schutzgasen abhängig. Die Menge des vorhandenen Restsauerstoffs festzustellen, war bisher nicht immer problemlos möglich. Deshalb sind der $AERO_2$-MAT 4115 und der $AERO_2$-MAT 4120 entwickelt worden. Mit diesen Meßgeräten läßt sich der Restsauerstoff-Gehalt schnell und präzise feststellen. Ihre Handhabung ist problemlos und gestattet zudem den mobilen Einsatz.
Als Ergänzung sind zum Zweck der Datenerfassung Aufzeichnungsgeräte anschließbar, mit denen Meßwerte dokumentiert werden können.

| Technische Daten: | $AERO_2$-MAT 4115 | $AERO_2$-MAT 4120 |
|---|---|---|
| Netz: | 230 V AC ± 20% 15 VA<br>oder<br>115 V AC ± 20% 15 VA | 230 V AC ± 20% 15 VA<br>oder<br>115 V AC ± 20% 15 VA |
| Sicherung: | 1,0 A | 1,0 A |
| Meßbereich: | 100%–1000 ppm Vol.,<br>Autorange | 100%–1000 ppm Vol.,<br>Autorange |
| Schreiberausgang: | 100%/1000 ppm Vol.,<br>entspricht 1000 mV | 100%/1000 ppm Vol.,<br>entspricht 1000 mV |
| Alarmgebung: | LED-GRÜN: 0–70 ppm Vol.,<br>Arbeitsbereich<br>LED-ROT: 70–140 ppm Vol.,<br>Wartebereich mit Warnton „ein"<br>Die Alarmgebung kann auf<br>Wunsch des Kunden ab Werk<br>geändert werden. | LED-GRÜN: 0–70 ppm Vol.,<br>Arbeitsbereich<br>LED-ROT: 70–140 ppm Vol.,<br>Wartebereich mit Warnton „ein"<br>Die Alarmgebung kann auf<br>Wunsch des Kunden ab Werk<br>geändert werden. |
| Gewicht: | 2,17 kg | 3,00 kg |
| incl. Tragekoffer: | 4,65 kg | 6,15 kg |
| Gerät-Maße: | L x B x H = 250 x 200 x 80 mm | L x B x H = 350 x 190 x 150 mm |
| Koffer-Maße: | L x B x H = 350 x 310 x 160 mm | L x B x H = 400 x 280 x 200 mm |

## Bedienungsanleitungen der Sauerstoff-Meßgeräte für die Schweißtechnik: $AERO_2$-MAT 4115 und $AERO_2$-MAT 4120

1. Die $AERO_2$-MATEN 4115 und 4120 sind für das Messen des beim Schweißen unerwünschten Restsauerstoff-Gehaltes in handelsüblichen Schutzgasen entwickelt worden.
2. Beide $AERO_2$-MATEN sind handlich, wartungsarm und dienen zur Qualitätssicherung bei Schweißarbeiten in der Werkstatt und bei der Montage. Hervorzuheben ist der Einsatz bei der Erstellung von Qualitätsschweißnähten im Rohrleitungs- und Behälterbau, welche unter Verwendung von Wurzelschutzgas-Vorrichtungen geschweißt werden.
3. Die LCD-Anzeige ist bei der Inbetriebnahme sofort aktiv und zeigt den vom $O_2$-selektiven Sensor gemessenen $O_2$-Gehalt an.
4. Der Meßbereich von 100% bei Außenluft bis hinunter zum kleinsten Meßwert 1 ppm Vol.
5. Der Meßbereich wird ab 140 ppm Vol. bis 70 ppm Vol. durch eine ROTE LED-Anzeige angezeigt. Dieser Übergangsbereich wird begleitet von einem Signalton, der am Gerät einstellbar ist.
   Ab weniger als 140 ppm Vol. wird der Arbeitsvorgang automatisch überwacht. Die Meßwerte können über einen separaten Schreiber erfaßt und dokumentiert werden.
6. Ab weniger als 70 ppm Vol. schaltet sich der Signalton automatisch ab. Die gleichzeitig aufleuchtende GRÜNE LED-Anzeige deutet das Erreichen des zur Qualitätssicherung empfohlenen Restsauerstoff-Gehaltes von weniger als 70 ppm Vol. an.
   Der optimale Schweißbereich ist erreicht! Dieses gilt sowohl für die Einlagen- als auch für die Mehrlagenschweißung.
7. Auf Wunsch lassen sich die Grenzwerte für den Arbeits- und Wartebereich im Werk individuell einstellen.

8. Die Überprüfung der Eichung sollte einmal pro Monat am Einsatzort erfolgen. Dabei wird die Außenluft mit der eingebauten Meßgaspumpe angesaugt und die LCD-Anzeige mit dem Eichregler (mittels eines kleinen Schraubendrehers) auf 100 % eingestellt.
9. Die Schlauchverbindung der $AERO_2$-MATEN 4115 bzw. 4120 sollte 10 m nicht übersteigen.
10. Service-Empfehlung: Um einen einwandfreien Betrieb zu gewährleisten, empfehlen wir einen halbjährlichen Service, der fachkundig im Werk durchgeführt wird.
11. Service vor Ort: Anleitung beachten!
12. Die Betriebstemperatur sollte 50 °C max. nicht überschreiten. 50 °C ist auch die Höchstgrenze für Gase, die auf Restsauerstoff geprüft werden. Saugschläuche aus Metall kühlen heiße Gase auf zulässige Temperaturen ab.

Der Mindestabstand, den die $AERO_2$-MATEN 4115 und 4120 zu der Schweißstromquelle und den Schweißbrennern mit kontaktloser Lichtbogenzündung mittels Hochfrequenz einhalten sollten, beträgt 5 bis 10 Meter. Die sehr hohe Leistungsfreisetzung, die je nach Schweißmaschinentyp unterschiedlich ist, kann die Meßdaten beeinträchtigen und die Geräte beschädigen.

## Meßgastemperaturen und Betriebstemperaturen

Die Betriebstemperatur ist abhängig von:

a. der Umgebungstemperatur
b. von der Gastemperatur des auf Restsauerstoff zu messenden Gases. Bei Schweißarbeiten ohne Vorwärmtemperaturen treten üblicherweise Gastemperaturen unter 50 °C auf. 50 °C max. sollten auch für die $AERO_2$-MATEN 4115 und 4120 nicht überschritten werden. Bei höheren Gastemperaturen, die z. B. bei Vorwärmarbeiten bis 300 °C entstehen, sollte als Saugschlauch ein Metallschlauch DN 6 verwendet werden. Durch die große Oberfläche und eine Mindestlänge von 10 m kühlt dieser das Meßgas auf unter 50 °C ab!

Unbedingt beachten!
Die Gaspumpe und die Meßzelle in den $AERO_2$-MATEN 4115 und 4120 sollten keinem Überdruck ausgesetzt werden. Überdruck führt zu Fehlmessungen und zerstört Gaspumpe und Meßzelle!

## Darstellung von Testergebnissen einer Untersuchungsreihe von WiG-Verbindungsschweißungen an austenitischem Chrom-Nickel-Stahl X6 CrNiMoTi 17 122

### 1.4571/TP 316

Zum Einsatz kamen folgende Schutzgase

1. Argon 99,995 4.6
2. Stickstoff-Wasserstoff 90 $N_2$/10 $H_2$
3. Stickstoff $N_2$

Beachten Sie bitte, daß es sich bei dieser Testreihe um Einlagenschweißungen mit dem WiG-Verfahren handelt. Die Anlauffarben können bei Mehrlagenschweißungen je nach Restsauerstoff-Gehalt ppm Vol. im Schutzgas zunehmen. Je nach Schweißverfahren und der damit verbundenen unterschiedlichen Energieeinbringung beeinflussen weitere Füllagen bis zu einer Nahtstärke von 12–15 mm evtl. eine Zunahme der Anlauffarben.
**Gasschutz bis zur Abkühlungstemperatur von 180 °C erhalten!**
Die einzelnen Darstellungen dienen lediglich für die schweißtechnische Praxis als Orientierung, um Schutzgase je nach Qualitätsmaßstäben fachmännisch zu dosieren. Sämtliche Messungen wurden mit dem $AERO_2$-MAT 4120 durchgeführt.

Bitte beachten Sie, daß wir unsere Produkte stetig verbessern.

Wir behalten uns das Recht vor, Änderungen auch ohne vorherige Ankündigungen vorzunehmen.

1. Korrosion [lat. Zernagung] Werkstoffkunde
   Von der Oberfläche ausgehende, allmähliche Zerstörung metallischer und nichtmetallischer Werkstoffe durch unbeabsichtigte chemische oder elektrochemische Einwirkung von außen.
2. Es heißt seit 1959 Oxid und nicht mehr Oxyd.

Copyright · Nachdruck nur mit vorheriger schriftlicher Genehmigung

# Oxidation/Anlauffarben

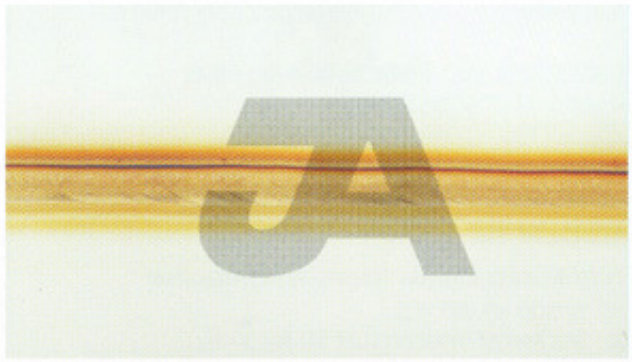
## Testergebnisse an Werkstoff 1.4571/TP 316



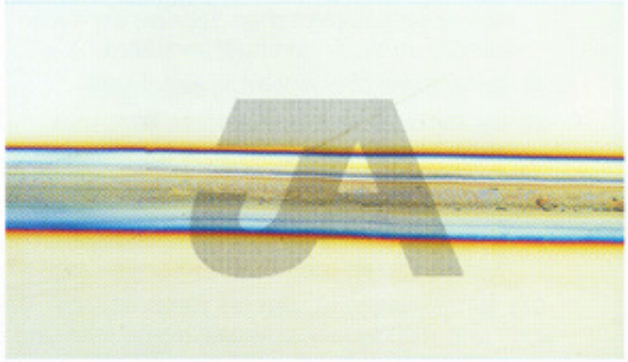
Argon 12 ppm Vol.



Argon 60–70 ppm Vol.



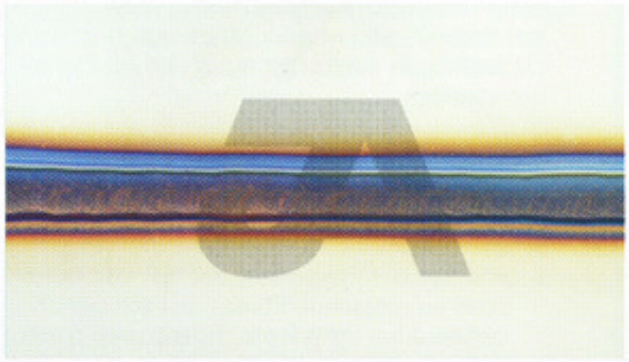
Argon 70–90 ppm Vol.



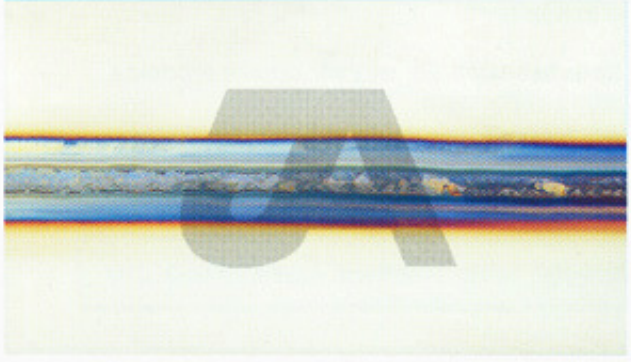
Argon 200 ppm Vol.



Argon 250 ppm Vol.



Argon 500 ppm Vol.



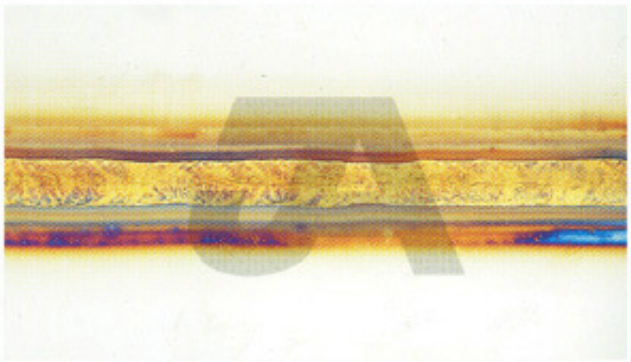
Argon 900 ppm Vol.

# Anlauffarben

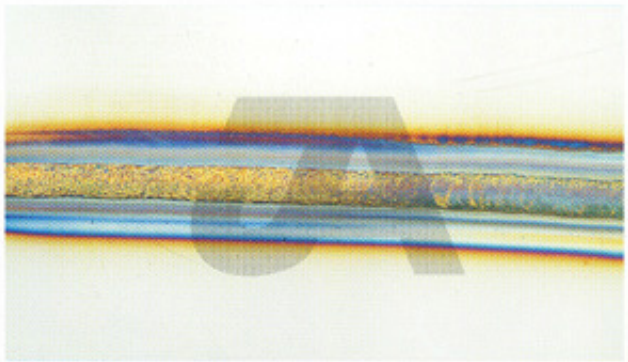
## Testergebnisse an Werkstoff 1.4571/TP 316



Formiergas 90 $N_2$/10 $H_2$ 15 ppm Vol.



Formiergas 90 $N_2$/10 $H_2$ 90 ppm Vol.



Formiergas 90 $N_2$/10 $H_2$ 500 ppm Vol.

# Anlauffarben

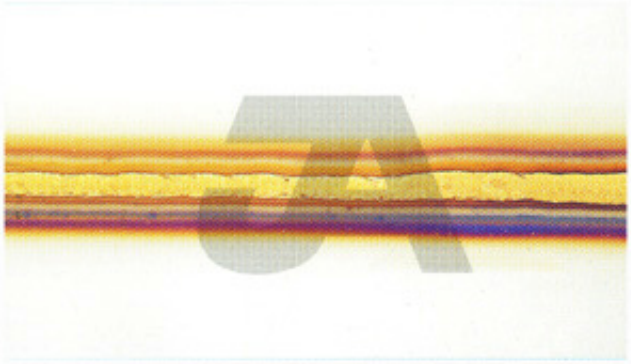
## Testergebnisse an Werkstoff 1.4571/TP 316



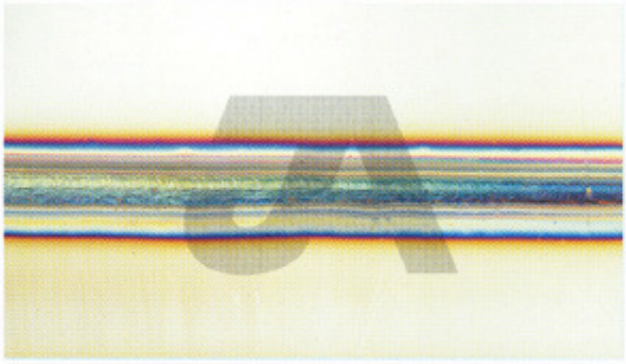
Stickstoff $N_2$ 4.0 15 ppm Vol.



Stickstoff $N_2$ 4.0 40 ppm Vol.



Stickstoff $N_2$ 4.0 90 ppm Vol.



Stickstoff $N_2$ 4.0 900 ppm Vol.

# Sauerstoff-Gasmonitor SGM 4

dient der Restsauerstoffmessung in Schutzgasen für die Schweißtechnik bis zum Minimalwert von 1 Vppm.



DIESER ARTIKEL IST NICHT MEHR ERHÄLTLICH

- Handliches Gerät für einfacher Bedienung mehrerer Meßfunktionen
- Kontinuierliche Messung der Sauerstoff-Konzentration in Industrie-, Labor- und Schutzgasen **von 20,6 Vol.-% bis 1 Vppm**
- Schweißbereichs- und Arbeitsbereichseinstellungen sind mit akustischen und optischen Kontrollen jederzeit durch einfache Schalterfunktionen vom Anwender möglich
- Funktionsprüfungen nach längerem Einsatz jederzeit vor Ort durch den Anwender möglich
- Rekorderanschluß/Analogausgang
- Optional: RS 232 Schnittstelle für direkten Anschluß eines PC's
- Optional: Interner Datenspeicher für nachträgliche Datenauswertung
- Sämtliche JA-Schutzgassysteme sind mit einem Sauerstoff-Meßanschluß bereits ausgerüstet oder nachrüstbar

Zur schweißtechnischen Qualitätssicherung bei Schweißarbeiten von Edelstählen, Titan, Zirkon usw. sind Meßwerte **weit unter 0,1 Vol.-% Sauerstoff erforderlich!**

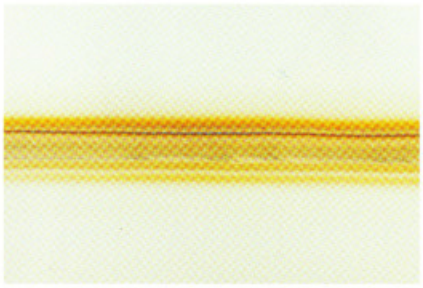
## Oxidation/Anlauffarben

### Testergebnisse an Werkstoff 1.4571/TP 316

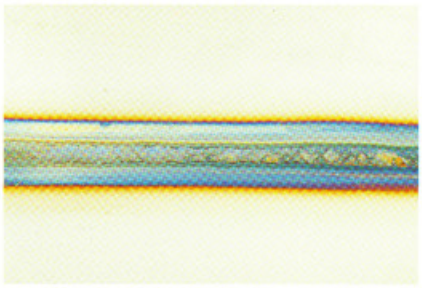
Vergleichen Sie bitte:



Argon 12 Vppm Sauerstoff



Argon 80 Vppm Sauerstoff



Argon 0,1 Vol.-% Sauerstoff

Beachten Sie bitte: 0,1 Vol.-% Sauerstoff entspricht circa 1000 Vppm.
Inerte Gase und Formiergase haben im Lieferzustand bis ca. 10 Vppm Sauerstoff. Diese geringe Sauerstoff-Konzentration sollte auch beim Formieren angestrebt und meßtechnisch überwacht werden!
Wir verweisen in diesem Zusammenhang auf unsere „Praktischen Hinweise" in der Kategorie 2 unseres Kataloges.

## Technische Daten

| | |
|---|---|
| **1. Kenndaten** | |
| Bezeichnung: | Schutzgasmeßgerät SGM 4 |
| Einsatz: | Messung der Sauerstoffkonzentration in Schutzgasen |
| **2. Meßdaten** | |
| Meßbereich: | 0–1000 Vol.-ppm $O_2$ (optional 0–20,6 Vol.-%)<br>(Anzeige bis 20,6 Vol.-%) |
| Meßgenauigkeit bei Normaldruck: | rel. Meßfehler < 5% ± 5 ppm |
| Meßgasdurchsatz: | 5–10 l/h (wird bei Nutzung der internen Pumpe automatisch geregelt) |
| Max. zulässiger Druck des Meßgases: | 20 mbar Überdruck |
| Max. zulässige Temp. des Meßgases: | 80° C |
| **3. Mechanische Daten** | |
| Abmessungen: | 13,5 x 10 x 24 (B x H x T in cm) |
| Masse, netto: | 2,3 kg |
| Masse, brutto: | 4,6 kg (im stoßfesten Tragekoffer mit Zubehör (Meß-Schlauch, Sonde und Prüfanschluß ¼") |
| **4.0 Elektrotechnik/Elektronik** | |
| *4.1 Allgemeine Daten* | |
| Schutzgrad: | IP 40 |
| Stromversorgung | |
| Spannung: | 230 V/50–60 Hz (Standard), 115 V/50–60 Hz (auf Anforderung) |
| Leistungsaufnahme: | 20 VA |
| Heizung Meßzeile: | ca. 18 V AC, ca. 10 W (intern geregelt) |
| Tastatur und Anzeige | |
| Tastatur: | 3 Tasten |
| Klartextanzeige: | LCD-Punktmatrix |
| *4.2 Analogausgang* | |
| Gleichstromausgang: | 4–20 mA entsprechend 0–1000 ppm<br>(im Fehlerzustand auf Null gehend, optional 0–20,6 Vol.-%) |
| *4.3 Optional:* | RS 232 Schnittstelle für direkten Anschluß eines PC's per mitgelieferter Software und umfangreicher Dokumentationsmöglichkeit |
| *4.4 Optional:* | Interner Meßwertspeicher (4000 Meßwerte) für nachträgliche Datenauswertung |
| 4-polige Rundbuchse DIN 41524, Pin 1 GND, Pin 2 $I_{out}$ | |
| **5.0 Umgebungsbedingungen** | |
| Umgebungstemperatur: | min. 0° C, max. 40° C |
| Relative Luftfeuchtigkeit: | bis 80 % |
| Lagerbedingungen: | min. –10° C, max. 60° C, rel. Luftfeuchte < 85 % |

CE-Zulassung

Jedem Gerät liegt bei: 1 Kurzbedienanweisung SGM 4, 1 ausführliches Gerätehandbuch

Catalog
08.12.2011
Prices on request

# Spare parts for
## $AERO_2$-MAT 4115, $AERO_2$-MAT 4120 + SGM 4 + $JAero_2$

| Order-No. | Description | EUR/pc<br>EUR/meter |
|---|---|---|
| 50000022A | largely oxygen diffusion proof hose<br>3.0 mm IDØx 5.0 mm ODØ | |
| J 09 1 01 01 | diaphragm pump 4115/4120 | |
| J 09 1 01 02 | measuring electrode 4115/4120 | |
| J 09 1 01 03 | diaphragm cap 4115/4120 | |
| J 09 1 01 04 | elektrolyte, bottle 30 ml 4115/4120 | |
| J 09 1 01 05 | disposable filter | |
| J 09 1 01 06A | oxygen measuing probe, VA tube 2.5mmØ, 135 mm lg. M7x0.75 | |
| J 09 1 01 06B | oxygen measuing probe, VA tube 1.5mmØ, 135 mm lg. M7x0.75 | |
| J 09 2 06 01 | Stainless steel - corrugated hose DN6 (useable as a cooling hose) | |
| J 09 0 00 02 | storage box 4115/ SGM 4 | |
| J 09 1 01 07 | alarm horn 4115/4120 | |
| J 09 1 01 08 | bottle control connector<br>Argon 1/4" R with nipple for 3.0 mm IDØx 5.0mm ODØ | |
| J 09 1 01 09 | bottle control connector<br>purge gas 3/8" L with nipple for 3,0 mm IDØx 5,0mm ODØ | |
| J 09 1 01 10 | device fuse 4115/4120 | |
| J 09 1 01 12 | screw driver 4115/4120 | |
| | service+ inspection+ calibration+ certificate 4115/4120 | |
| | service+ inspection+ calibration+ certificate SGM 4 | |
| | | |
| | oxygen circuit board 4115/4120 | |
| | electronic construction kit 4115/4120 | |
| | pump service 4115/4120 | |
| J 09 1 01 20 | | |
| J 09 1 01 21 | | |
| J 09 1 01 22 | | |
| J 09 1 01 23 | | |
| J 09 1 01 24 | | |
| J 09 1 01 25 | | |

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Prices on request

# *OXYGEN-INDICATORS*

## LOWEST MEASUREMENT VALUE 1 VPPM

| Order-No. | Description | | EUR/pc |
|---|---|---|---|
| | Technical Data **AERO$_2$-MAT 4115 "C":** | | |
| **JA 4115 C** | Current voltage: | 230 V AC ± 20% 15 VA or<br>115 V AC ± 20% 15 VA | |
| | Fuse: | 1A | |
| | Measuring range: | 20.6% - 0.01%., Autorange | |
| | Monition: | **none** | |
| | Pump capacity: | 4 Liter/min. | |
| | Weight: | 1.6 kg incl. Storage box 4.2 kg | |
| | Dims. of indicator: | LxWxH = 250x200x 80 mm | |
| | Dims. Storage box: | LxWxH = 370x310x145 mm | |
| | Technical Data **AERO$_2$-MAT 4115 "B":** | | |
| **JA 4115 B** | Current voltage: | 230 V AC ± 20% 15 VA or<br>115 V AC ± 20% 15 VA | |
| | Fuse: | 1A | |
| | Measuring range: | 100% - 1000 ppm Vol., Autorange<br>100% / 1000 ppm Vol. corresponding to 1000 mV | |
| | Monition: | **none** | |
| | Pump capacity: | 4 Liter/min. | |
| | Weight: | 1.9 kg incl. Storage box 4.38 kg | |
| | Dims. of indicator: | LxWxH = 250x200x80 mm | |
| | Dims. Storage box: | LxWxH = 370x310x145 mm | |
| | Technical Data **AERO$_2$-MAT 4115:** | | |
| **JA 4115** | Current voltage: | 230 V AC ± 20% 15 VA or<br>115 V AC ± 20% 15 VA | |
| | Fuse: | 1A | |
| | Measuring range: | 100% - 1000 ppm Vol., Autorange<br>100% / 1000 ppm Vol. corresponding to 1000 mV | |
| | Monition: | LED-GREEN: 0-70 ppm Vol., working range<br>LED-RED: 70-140 ppm Vol., stand-by range<br>with warning sound signal „on"<br>if necessary, the setting can be changed<br>EXW. | |
| | Pump capacity: | 4 Liter/min. | |
| | Weight: | 1.9 kg incl. storage box 4.38 kg | |
| | Dims. of indicator: | LxWxH = 250x200x80 mm | |
| | Dims. Storage box: | LxWxH = 370x310x145 mm | |
| | Technical Data **Oxygen-Gasmonitor SGM 4:** | | |
| **JA SGM 4** | Current voltage: | 230 V AC oder 115 V AC | |
| | Measuring range: | 0-1000 Vol.-ppm $O_2$ (optional 0···20.6 Vol.-%) | |
| | Measuring gas throughput: | 5-10 l/h (automatically regulated at use of the pump) Alarm setting by the user | |
| | Monition: | Max. permitted gas preasure: 20 mbar<br>Max. permitted gas preasure: 80°C<br>Current voltage: 230 V/50 … 60 Hz (Standard)<br>Direct current outout: 4-20 mA corresponds to 0-1000 ppm<br>4-pol. round socket DIN 41524, Pin 1 GND, Pin 2 $I_{out}$ | |
| | Weight | 2.3 kg incl. Storage box 4.65 kg | |
| | Dims. of indicator: | LxWxH = 135x100x240 mm | |
| | Dims. Storage box: | LxWxH = 370x310x145 mm | |

Catalog
08.12.2011
Prices on request

# *SAUERSTOFF-MESSGERÄT JAero2*

## Für Restsauerstoffmessungen in Inertgasen (Argon, Helium etc.) sowie in Formiergasen ab 1 VPPM

- handliches Gerät bei einfacher Bedienung mehrerer Messfunktionen
- kontinuierliche Messung der Sauerstoffkonzentration in Industrie-, Labor- und Schutzgasen von 20,6 % bis 1 ppm
- Schweiß- und Arbeitsbereichseinstellungen sind mit akustischen und optischen Kontrollen jederzeit durch einfache Schalterfunktionen vom Anwender möglich
- Intelligenter Datenlogger mit USB - Schnittstelle für automatische Speicherung aller Messwerte
- DIN - ISO - gerechte Messwerterfassung und Auswertung
- Einfachste Bedienung mittels Touch Screen Bedienung
- Möglichkeit der Steuerung von Schweißstromquellen bsw. Orbitalschweißanlagen
- einfache logische Menüsteuerung mit Untermenüs über mitgelieferte Software
- Möglichkeit der Eingabe von persönlichen Parametern wie Namen, Datum, Werkstoff, Baustelle, Schweißnaht etc. zur eindeutigen Zuordnung aller gespeicherten Messwerte
- Integriertes austauschbares Filterelement im Ansaugkanal
- Sämtliche JA-Schutzgassysteme sind mit einem Sauerstoff-Meßanschluß bereits ausgerüstet oder nachrüstbar

*Zur schweißtechnischen Qualitätssicherung bei Schweißarbeiten von Edelstählen, Titan, Zirkon usw. sind Messwerte weit unter 100 ppm (**p**arts **p**er **m**illion) Sauerstoff erforderlich. Inerte Gase und Formiergase enthalten im Lieferzustand bis ca. 10 Vppm Sauerst*




| Bestell-Nr. | | Beschreibung | | € / Stück |
|---|---|---|---|---|
| | | Technische Daten **Sauerstoff-Gasmonitor JAero2:** | | |
| **JAero2** | **1. Kenndaten** | Bezeichnung | Schutzgasmessgerät JAero2 | |
| | | Einsatz | Messung der Sauerstoffkonzentration in Schutzgasen | |
| | **2. Messdaten** | Messbereich | 0-1000 Vol.-ppm O2 (optional 0- 20,6 Vol.-%) | |
| | | | (Anzeige bis 20,6 Vol.-%) | |
| | | Messgenauigkeit bei Normaldruck | rel. Messfehler < 5 % +/- 5 ppm | |
| | | Messgasdurchsatz | 5…10 l/h (mit interner Pumpe automatisch geregelt) | |
| | | max. zul. Druck des Messgases: | 20 mbar Überdruck | |
| | | max. zul. Temp. des Messgases: | 80° C | |
| | **3. Mechanische Daten** | Abmessungen: | 135 mm x 100 mm x 240 mm (B x H x T) | |
| | | Masse: | 2 kg | |
| | | Gaseintritt: | Schnellverschlusskupplung D = 5 mm | |
| | | Gasaustritt: | Schnellverschlusskupplung D = 5 mm | |
| | **4. Elektronik** | | | |
| | **4.1 Allgemeine Daten** | Schutzgrad: | IP 40 | |
| | | Spannung: | 230 V / 50 … 60 Hz Steckernetzteil | |
| | | | 24 V DC Geräteversorgung | |
| | | | 115 V / 50 … 60 Hz (auf Anforderung) | |
| | | Leistungsaufnahme: | 20 VA | |
| | | Heizung Messzelle: | ca. 18 V AC, ca. 10 W (intern geregelt) | |
| | | Tastatur: | Touch Screen | |
| | | Klartextanzeige: | LCD-Display 124 x 64 PX, white LED, black front | |
| | **4.2 Analogausgang** | Gleichstromausgang | 0/4 - 20 mA entsprechend xxx …xxx ppm | |
| | | | (im Fehlerzustand auf Null gehend) | |
| | | 4-polige Rundbuchse DIN 41524 | Pin 1 + 24 V, Pin 2 - 24 V | |
| | | | Pin 3 GND, Pin 2 Iout | |
| | **5. Umgebungsbedingungen** | Umgebungstemperatur: | min. 0° C, max. 40° C | |
| | | relative Luftfeuchtigkeit: | bis 80 % | |
| | | Lagerbedingungen: | min. - 10° C, max. 60° C rel. | |
| | | | Luftfeuchte < 85% | |
| | | CE-Zulassung | | |

Jedem Gerät liegt bei: 1 Bedienungsanleitung, 1 Messsonde, 1 Flaschenprüfanschluss. 5 m PA- Schlauch, 1 Filter (eingebaut), 1 Filter (lose beiliegend), 1 Vorrichtung zum Ein- und Ausbau des Filters, Software, USB-Kabel, Netzteil, Transportkoffer