GB

**Factory-fit option**

# OW SUPPORT 2DVX

# General instructions

**CAUTION**

**Read the operating instructions!**
**The operating instructions provide an introduction to the safe use of the products.**

- Read the operating instructions for all system components!
- Observe accident prevention regulations!
- Observe all local regulations!
- Confirm with a signature where appropriate.

***NOTE***

**In the event of queries on installation, commissioning, operation or special conditions at the installation site, or on usage, please contact your sales partner or our customer service department on +49 2680 181-0.**
**A list of authorised sales partners can be found at www.ewm-group.com.**

Liability relating to the operation of this equipment is restricted solely to the function of the equipment. No other form of liability, regardless of type, shall be accepted. This exclusion of liability shall be deemed accepted by the user on commissioning the equipment.

The manufacturer is unable to monitor whether or not these instructions or the conditions and methods are observed during installation, operation, usage and maintenance of the equipment.
An incorrectly performed installation can result in material damage and injure persons as a result. For this reason, we do not accept any responsibility or liability for losses, damages or costs arising from incorrect installation, improper operation or incorrect usage and maintenance or any actions connected to this in any way.

# 1 Contents

# 2 Safety instructions

## 2.1 For your safety

**DANGER**

**Do not carry out any unauthorised repairs or modifications!**
**To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons!**
**The warranty becomes null and void in the event of unauthorised interference.**

- Appoint only skilled persons for repair work (trained service personnel)!

**WARNING**

**Risk of accidents if these safety instructions are not observed!**
**Non-observance of these safety instructions is potentially fatal!**

- Carefully read the safety information in this manual!
- Observe the accident prevention regulations in your country.
- Inform persons in the working area that they must observe the regulations!

**Validity of this document!**
**This document is only valid in combination with the operating instructions for the power source being used (welding machine)!**

- Read the operating instructions, in particular the safety instructions for the power source (welding machine)!

**CAUTION**

**Obligations of the operator!**
**The respective national directives and laws must be observed for operation of the machine!**

- National implementation of the framework directive (89/391/EWG), as well as the associated individual directives.
- In particular, directive (89/655/EWG), on the minimum regulations for safety and health protection when staff members use equipment during work.
- The regulations regarding work safety and accident prevention for the respective country.
- Setting up and operating the machine according to IEC 60974-9.
- Check at regular intervals that users are working in a safety-conscious way.
- Regular checks of the machine according to IEC 60974-4.

**Damage due to the use of non-genuine parts!**
**The manufacturer's warranty becomes void if non-genuine parts are used!**

- Only use system components and options (power sources, welding torches, electrode holders, remote controls, spare parts and replacement parts, etc.) from our range of products!
- Only insert and lock accessory components into the relevant connection socket when the machine is switched off.

# 3 Overview

## 3.1 Proper usage

**WARNING**

**Hazards due to improper usage!**
**Hazards may arise for persons, animals and material objects if the equipment is not used correctly. No liability is accepted for any damages arising from improper usage!**

- The equipment must only be used in line with proper usage and by trained or expert staff!
- Do not modify or convert the equipment improperly!

## 3.2 General

These instructions apply only for the conversion of the following machines:

- Series Phoenix Expert, Phoenix Progress, alpha Q and Taurus S.

**CAUTION**

**These supplementary sheets are valid in addition to the standard document!**
**These supplementary sheets are only valid in combination with the relevant standard operating instructions and expand on or replace a section in the corresponding standard descriptions.**

***NOTE***

- **Keep the conversion instructions with the machine documentation!**
- **When ordering spare parts, ensure that the item number and serial number of the machine are quoted!**

## 3.3 Transport and installation

**WARNING**

**Incorrect handling of shielding gas cylinders!**
**Incorrect handling of shielding gas cylinders can result in serious and even fatal injury.**

- Observe the instructions from the gas manufacturer and in any relevant regulations concerning the use of compressed air!
- Place shielding gas cylinders in the holders provided for them and secure with fixing devices.
- Avoid heating the shielding gas cylinder!

**Risk of accident due to improper transport of machines that may not be lifted!**
**Do not lift or suspend the machine! The machine can fall down and cause injuries! The handles and brackets are suitable for transport by hand only!**

- The machine may not be lifted by crane or suspended!

**CAUTION**

**Risk of tipping!**
**There is a risk of the machine tipping over and injuring persons or being damaged itself during movement and set up. Tilt resistance is guaranteed up to an angle of 10° (according to IEC 60974-1).**

- Set up and transport the machine on level, solid ground.
- Secure add-on parts using suitable equipment.

**Damage due to supply lines not being disconnected!**
**During transport, supply lines which have not been disconnected (mains supply leads, control leads, etc.) may cause hazards such as connected equipment tipping over and injuring persons!**

- Disconnect supply lines!

# 4 Design and function

## 4.1 General

**WARNING**

**Risk of injury from electric shock!**
**Contact with live parts, e.g. welding current sockets, is potentially fatal!**

- Follow safety instructions on the opening pages of the operating instructions.
- Commissioning may only be carried out by persons who have the relevant expertise of working with arc welding machines!
- Connection and welding leads (e.g. electrode holder, welding torch, workpiece lead, interfaces) may only be connected when the machine is switched off!

**CAUTION**

**Hazards due to electrical current!**
**If two wire feed units are used in turn and both units remain connected to the machine, open circuit or welding voltage is present in all lines.**

- Always make sure to place the torch on an insulated surface when starting or interrupting your work.

**CAUTION**

**Damage due to the use of non-genuine parts!**
**The manufacturer's warranty becomes void if non-genuine parts are used!**

- Only use system components and options (power sources, welding torches, electrode holders, remote controls, spare parts and replacement parts, etc.) from our range of products!
- Only insert and lock accessory components into the relevant connection socket when the machine is switched off.

### 4.1.1 Setting up the wire feed units

**CAUTION**

**Risk of falling!**
**If a machine is not properly positioned on the support, it may fall down, get damaged and subsequently injure persons.**

- Prior to any transport and prior to any commissioning, check secure fit of the accessory components!
- Observe the safety instructions regarding transport, positioning and lifting by crane provided in the operating instructions for the power source or for the wire feeder!
- Do not apply tensile force to the torch hose package! If it can be foreseen that tensile forces cannot be avoided, the wire feeders must be removed from the support!

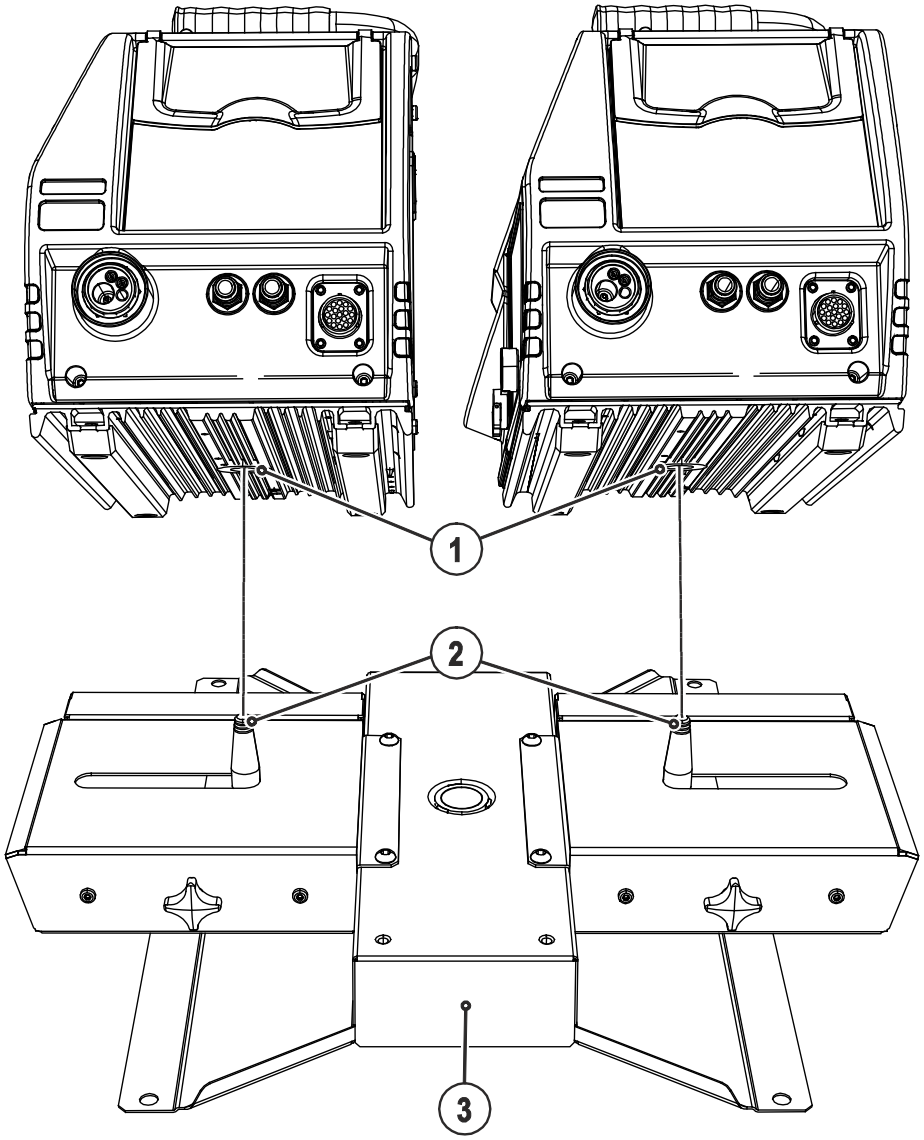



*Figure 4-1*

| Item | Symbol | Description |
|---|---|---|
| 1 | | **Press arbor bracket** |
| 2 | | **Arbor** |
| 3 | | **Support**<br>for two wire feed units |

## 4.2 Notes on the installation of welding current leads

**NOTE**

**Incorrectly installed welding current leads can cause faults in the arc (flickering).**

**Lay the workpiece lead and hose package of power sources without HF igniter (MIG/MAG) for as long and as close as possible in parallel.**

**Lay the workpiece lead and hose package of power sources with HF igniter (TIG) for as long as possible in parallel with a distance of 20 cm to avoid HF sparkover.**

**Always keep a distance of at least 20 cm to leads of other power sources to avoid interferences.**

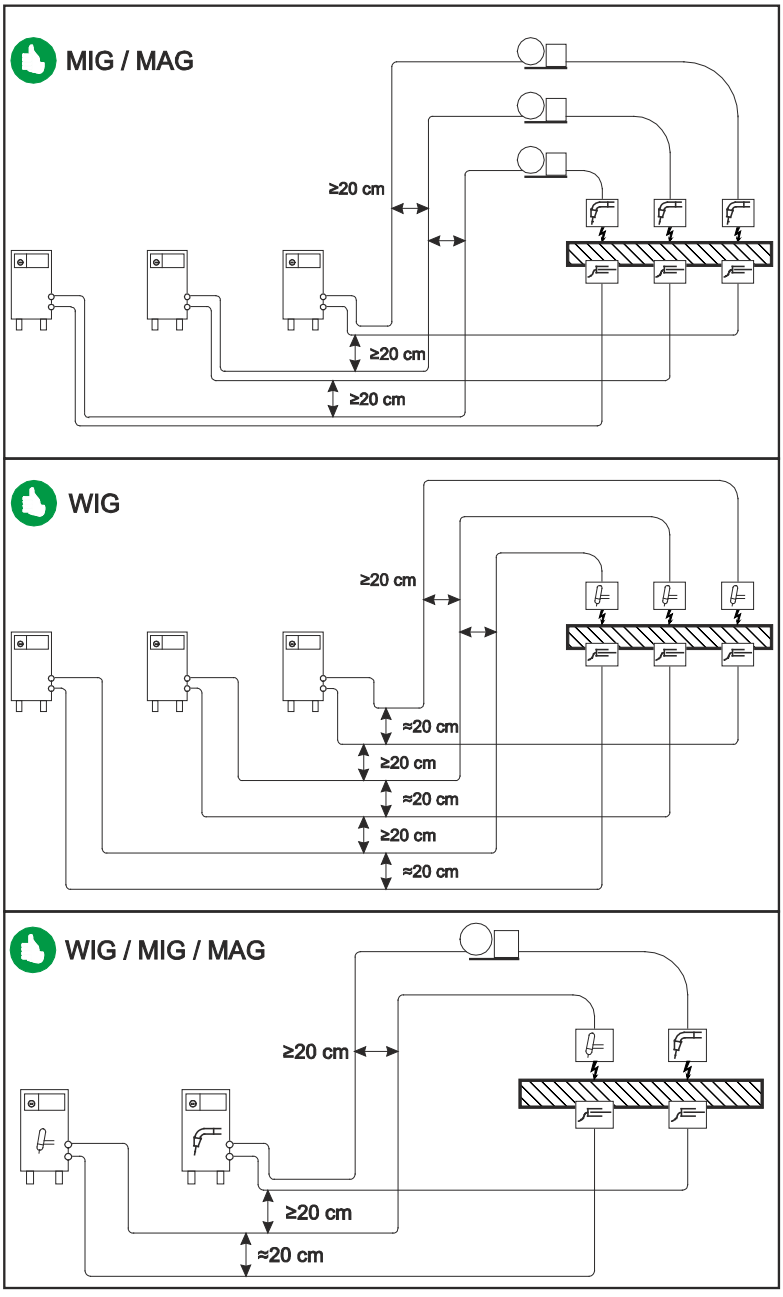



*Figure 4-2*

**NOTE**

**Use an individual welding lead to the workpiece for each welding machine!**

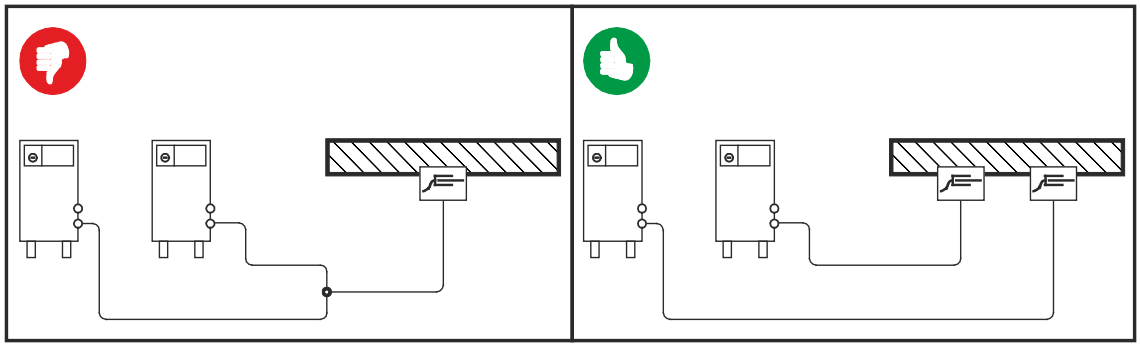


*Figure 4-3*

**NOTE**

**Fully unroll welding current leads, torch hose packages and intermediate hose packages. Avoid loops!**

**Always keep leads as short as possible!**

**Lay any excess cable lengths in meanders.**

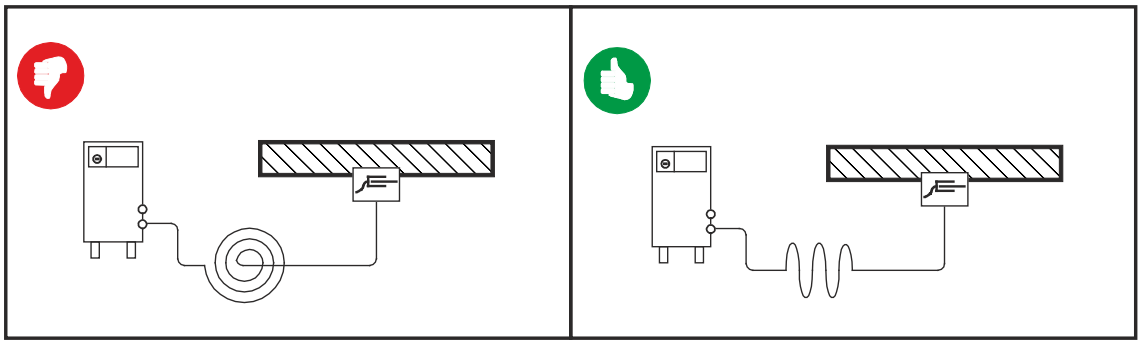


*Figure 4-4*

## 4.3 Intermediate hose package connection

**NOTE**

**Observe the operating instructions for the wire feed unit and for the power source!**
The steps
- connect the intermediate tube package to the wire feed unit,
- connect the welding torch,
- connect the wire supply,
- shielding gas connection

and other steps are described in the operating instructions for the wire feed unit and the power source.

**Note the polarity of the welding current!**
**Some wire electrodes (e.g. self-shielding cored wire) are welded using negative polarity. In this case, the welding current lead should be connected to the "-" welding current socket, and the workpiece lead should be connected to the "+" welding current socket.**
- Observe the information from the electrode manufacturer!

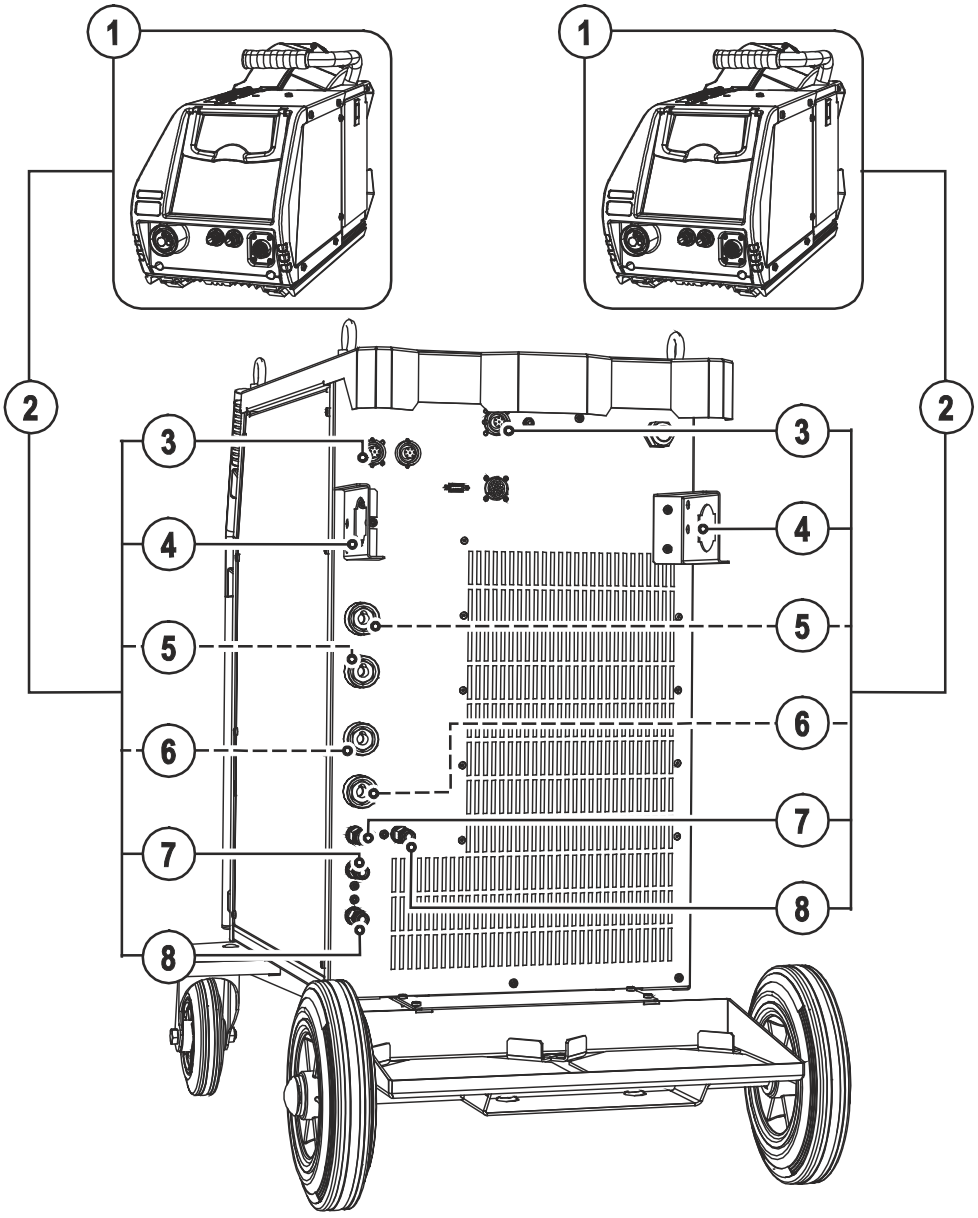



*Figure 4-5*

| Item | Symbol | Description |
|---|---|---|
| 1 | | **Wire feed unit** |
| 2 | | **Intermediate hose package** |
| 3 |  | **7-pole connection socket (digital)**<br>Wire feed unit connection |
| 4 | | **Intermediate hose package strain relief** |
| 5 |  | **Connector plug, welding current "+"**<br>Welding current connection on wire feed unit |
| 6 |  | **Connection socket, “-” welding current**<br>• MIG/MAG cored wire welding: Welding current to wire feed/torch |
| 7 |  | **Quick connect coupling (red)**<br>coolant return |
| 8 |  | **Quick connect coupling (blue)**<br>coolant supply |

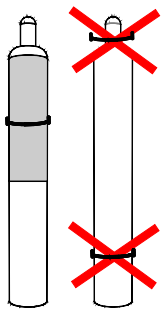
- Insert the end of the hose package through the strain relief of the hose package and lock by turning to the right.
- Insert the plug on the welding current lead into the welding current connection socket "+" and lock.
- Insert cable plug on the control lead into the 7-pole connection socket and secure with crown nut (the plug can only be inserted into the connection socket in one position).
- Lock connecting nipples of the cooling water tubes into the corresponding quick connect couplings:
  Return line red to quick connect coupling, red (coolant return) and
  supply line blue to quick connect coupling, blue (coolant supply).

### 4.3.1 Shielding gas supply (shielding gas cylinder for welding machine)

**WARNING**

**Risk of injury due to improper handling of shielding gas cylinders!**
**Improper handling and insufficient securing of shielding gas cylinders can cause serious injuries!**

- Secure shielding gas cylinders using the standard fastening elements on the unit (chain/belt)!
- The fastening elements must tightly enclose the shielding gas cylinder!
- Attach the fastening elements within the upper half of the shielding gas cylinder!
- Do not attach any element to the shielding gas cylinder valve!
- Observe the instructions from the gas manufacturer and any relevant regulations concerning the use of compressed air!
- Avoid heating the shielding gas cylinder!



**CAUTION**

**Faults in the shielding gas supply.**
**An unhindered shielding gas supply from the shielding gas cylinder to the welding torch is a fundamental requirement for optimum welding results. In addition, a blocked shielding gas supply may result in the welding torch being destroyed.**

- Always re-fit the yellow protective cap when not using the shielding gas connection.
- All shielding gas connections must be gas tight.

***NOTE***

**Before connecting the pressure regulator to the gas cylinder, open the cylinder valve briefly to expel any dirt.**

### 4.3.2 Connection

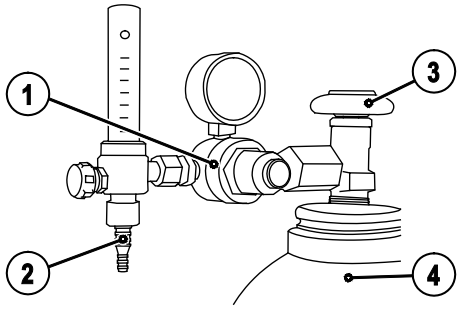



*Figure 4-6*

| Item | Symbol | Description |
|---|---|---|
| 1 | | **Pressure regulator** |
| 2 | | **Shielding gas cylinder** |
| 3 | | **Output side of the pressure regulator** |
| 4 | | **Cylinder valve** |

- Place the shielding gas cylinder into the relevant cylinder bracket.
- Secure the shielding gas cylinder using a securing chain.
- Tighten the pressure regulator screw connection on the gas bottle valve to be gas-tight.
- Screw the gas hose (intermediate hose package) to the pressure regulator ensuring that it is gas tight.

### 4.3.3 Gas test

- Slowly open the gas cylinder valve.
- Open the pressure regulator.
- Switch on the power source at the main switch.
- Initiate gas test function on the machine control.
- Set the relevant gas quantity for the application on the pressure regulator.
- The gas test is triggered on the machine control by pressing the button briefly.

Shielding gas flows for around 25 seconds or until the button is pressed again.

### 4.3.4 “Rinse hose package” function

| Operating Element | Action | Result |
|---|---|---|
| | 5 s | Select rinse hose package.<br>Shielding gas flows continuously until the Gas Test button is pressed again. |

### 4.3.5 Setting the shielding gas quantity

| Welding process | Recommended shielding gas quantity |
|---|---|
| MAG welding | Wire diameter x 11.5 = l/min |
| MIG brazing | Wire diameter x 11.5 = l/min |
| MIG welding (aluminium) | Wire diameter x 13.5 = l/min (100 % argon) |

**Helium-rich gas mixtures require a higher gas volume!**

The table below can be used to correct the gas volume calculated where necessary:

| Shielding gas | Factor |
|---|---|
| 75% Ar/25% He | 1.14 |
| 50% Ar/50% He | 1.35 |
| 25% Ar/75% He | 1.75 |
| 100% He | 3.16 |

***NOTE***

**Incorrect shielding gas setting!**
**If the shielding gas setting is too low or too high, this can introduce air to the weld pool and may cause pores to form.**

- Adjust the shielding gas quantity to suit the welding task!

## 4.4 Changing the wire spool

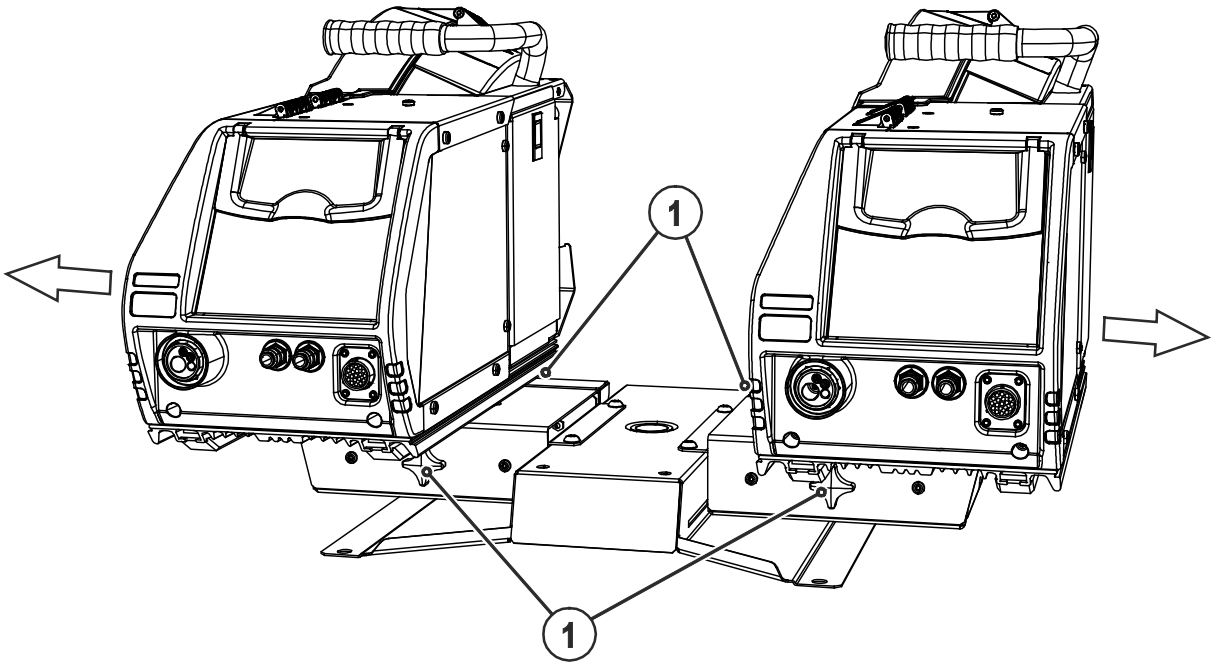



*Figure 4-7*

| Item | Symbol | Description |
|---|---|---|
| 1 | | **Star handle**<br>M8x20 |

- Release the two star handles at the front and rear.
- Remove machine carrier plates from the side.

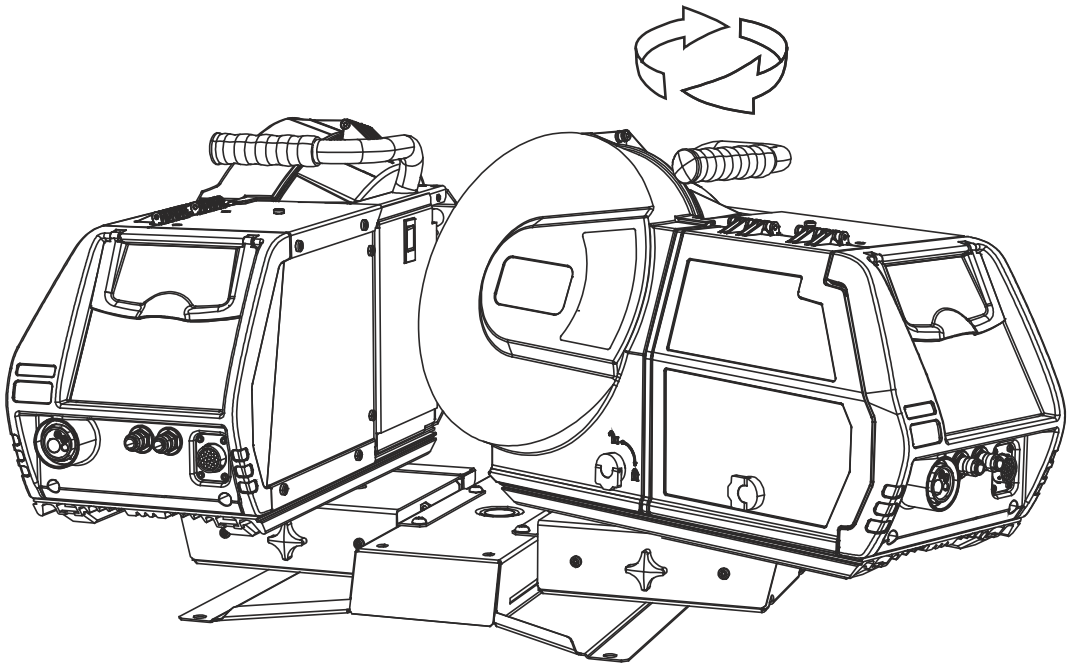


*Figure 4-8*

- Turn the wire feeder into the desired position.

Changing the wire spool

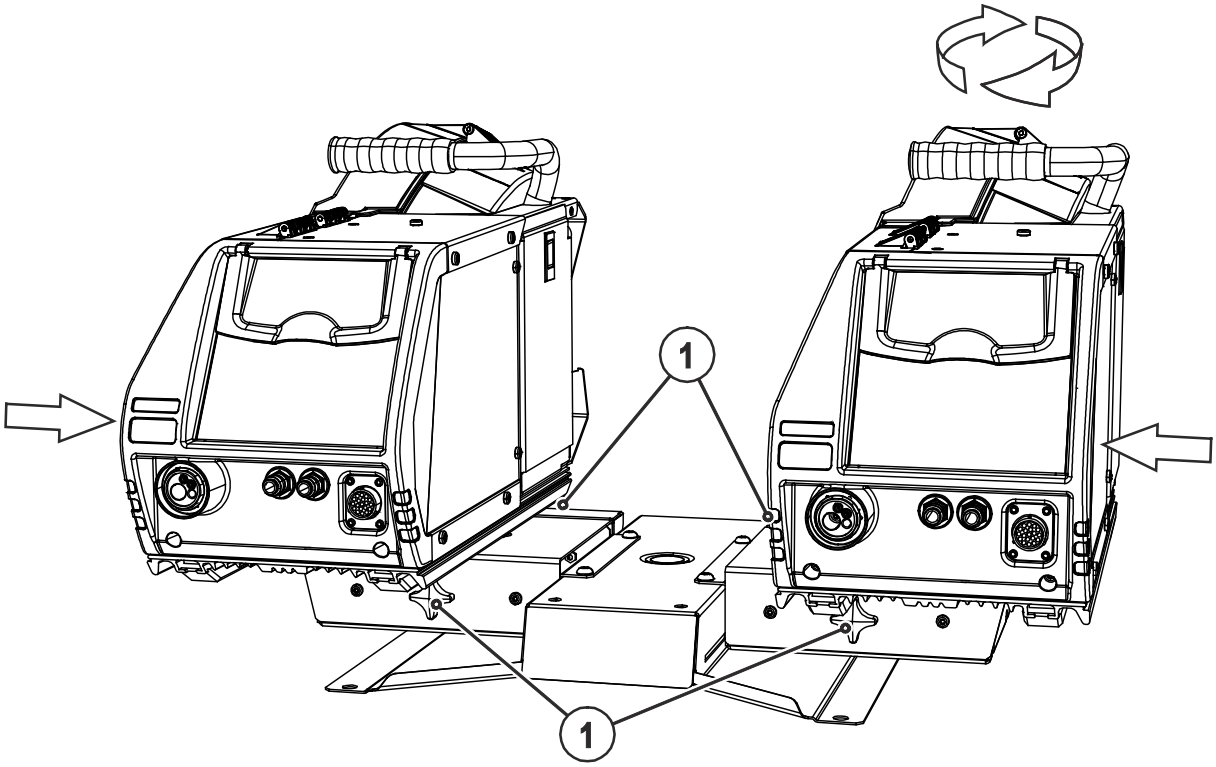



*Figure 4-9*

| Item | Symbol | Description |
|---|---|---|
| 1 | | **Star handle**<br>M8x20 |

- Re-insert machine carrier plates as far as they go.
- Secure machine carrier plates with the star handles you released earlier.

**WARNING**

**Risk of accidents due to removed machine carrier plates!**
**When moving or setting up, the power source can tip over and injure persons or become damaged itself.**

- After cleaning or conversion operations, insert machine carrier plates completely and secure.

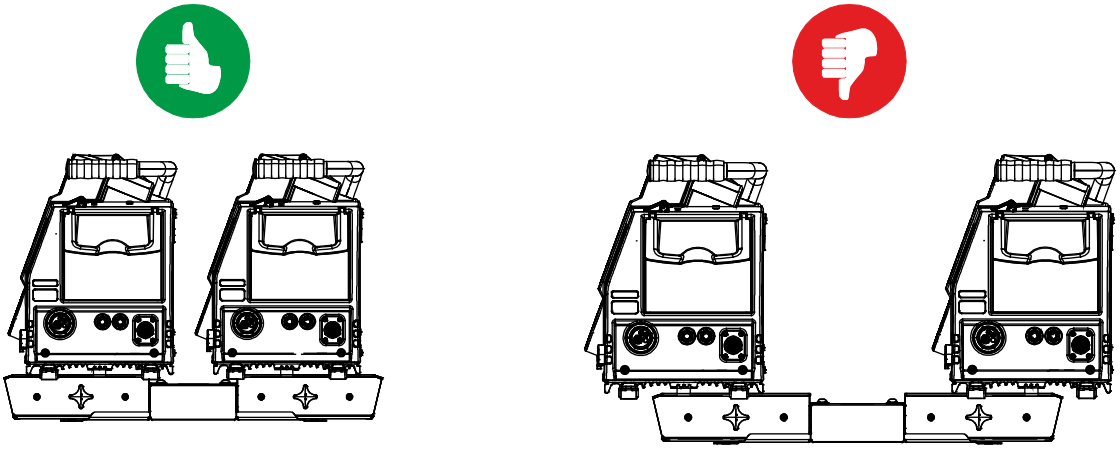


*Figure 4-10*

## 4.5 Basic settings for operation with two wire feed units

**NOTE**

**Before operating for the first time, the wire feed controls must be configured for operation with a second unit.**

- One wire feed needs to be set up as the master, and the second as a slave.
- Wire feed units with a key switch (optional) must be configured as the master.

The special parameter P10 determines the settings for single or dual operation of the machines.
It is located in the menu levels that are not directly accessible on the wire feed or welding machine control.

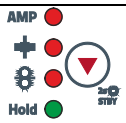
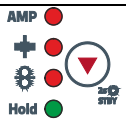
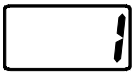
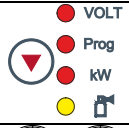
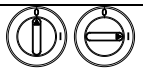
**Assignment of parameter setting and operating mode:**

| P10 | Meaning |
|---|---|
| 0 | Single operation |
| 1 | Dual operation as master |
| 2 | Dual operation as slave |

The following settings should be carried out in sequence on both wire feeds (with compact units, on the welding machine and wire feed), or checked:

- open the special parameters menu on the machine control,
- set special parameter P10 on a wire feed (or welding machine) to "Master" and
- set special parameter P10 on the other wire feed to "Slave".

The "Master" or "Slave" setting does not mean a difference in function. The unit configured as the master is active after switching on. (Tapping the torch trigger on the inactive unit will change over units.)

| Operating element | Action | Result | Displays | |
|---|---|---|---|---|
| | | | Left | Right |
|  |  | Switch off the welding machine | - | |
|  |  | Keep the key button pressed | - | |
|  |  | Switch on welding machine | - | |
|  |  | Release the key button |  |  |
|  |  | Parameter selection (P10) |  |  |
|  |  | Parameter setting (P10)<br><br>0 = Single operation<br>1 = Dual operation as the master<br>2 = Dual operation as the slave |  <br>  |  |
|  | 1 x  | Save the special parameters |  |  |
|  |  | Switch off the welding machine and restart in order to put the changes into effect. | - | |

**NOTE**

**Please note!**
- The system is not designed for simultaneous welding.
- Do not connect any further accessories to the 7-pole connection socket.
- Set the wire feed control to single operation if no second wire feed is connected.

### 4.5.1 Switching between wire feed units

On the welding torch of the inactive wire feed
- Tap torch trigger (press briefly)

**Changeover is only carried out if no welding current is flowing!**

**NOTE**

- **Keep the conversion instructions with the machine documentation!**
- **When ordering spare parts, ensure that the item number and serial number of the machine are quoted!**

### 4.5.2 Special points when operating with two wire feed units

Operation with two wire feed units allows you to weld different materials alternately with one welding machine (e.g. welding steel and CrNi).

The machines can be equipped with different filler materials and the corresponding shielding gases.

The corresponding welding task is set at the respective machine control of the wire feed unit (see chapter "Selecting MIG/MAG welding tasks").

**NOTE**

**During the start procedure, the controls of the wire feed unit will show the last active JOB for about three seconds. The unit is then ready to weld.**

The start procedure is carried out
- at the control configured as master, after switching on
- at the control configured as slave, after switching over for the first time

# 5 Technical data

## 5.1 OW SUPPORT 2DVX

**NOTE**

**The technical data given here completes or replaces the respective values in the standard operating instructions.**

| | |
|---|---|
| **Cooling output at 2 l/min** | 1500 W |
| **Max. flow rate** | 20 l/min |
| **Max. coolant output pressure** | 4.5 bar |
| **Dimensions L x W x H in mm** | 1100 x 680 x 1088 |
| **Weight** | +12,5 kg |