

# *OPC Flux recovery unit*

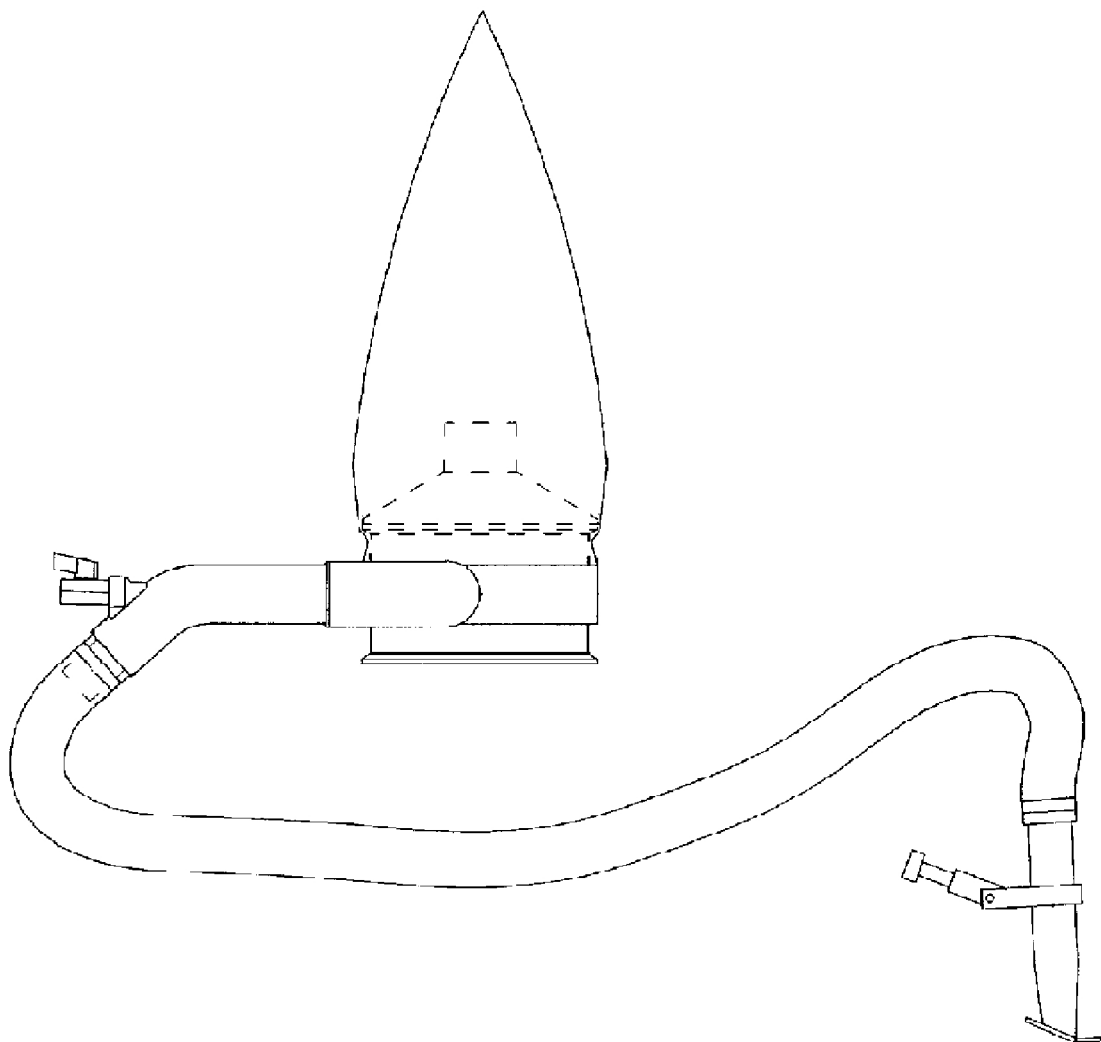


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# 1 SAFETY

## 1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!

**DANGER!**

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

**WARNING!**

Means potential hazards which could result in personal injury or loss of life.

**CAUTION!**

Means hazards which could result in minor personal injury.

**WARNING!**

Before use, read and understand the instruction manual and follow all labels, employer's safety practices and Safety Data Sheets (SDSs).



## 1.2 Safety precautions

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
  - its operation
  - location of emergency stops
  - its function
  - relevant safety precautions
  - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
  - no unauthorised person is stationed within the working area of the equipment when it is started up
  - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
  - be suitable for the purpose
  - be free from drafts

4. Personal safety equipment:
  - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
  - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
  - Make sure the return cable is connected securely
  - Work on high voltage equipment **may only be carried out by a qualified electrician**
  - Appropriate fire extinguishing equipment must be clearly marked and close at hand
  - Lubrication and maintenance must **not** be carried out on the equipment during operation

**WARNING!**

Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting.

**ELECTRIC SHOCK - Can kill**

- Install and ground the unit in accordance with instruction manual.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from work and ground.
- Ensure your working position is safe

**ELECTRIC AND MAGNETIC FIELDS - Can be dangerous to health**

- Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
- Exposure to EMF may have other health effects which are unknown.
- Welders should use the following procedures to minimize exposure to EMF:
  - Route the electrode and work cables together on the same side of your body. Secure them with tape when possible. Do not place your body between the torch and work cables. Never coil the torch or work cable around your body. Keep welding power source and cables as far away from your body as possible.
  - Connect the work cable to the workpiece as close as possible to the area being welded.

**FUMES AND GASES - Can be dangerous to health**

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

**ARC RAYS - Can injure eyes and burn skin**

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

**NOISE - Excessive noise can damage hearing**

Protect your ears. Use earmuffs or other hearing protection.

### MOVING PARTS - Can cause injuries



- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.



- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.

### FIRE HAZARD



- Sparks (spatter) can cause fire. Make sure that there are no inflammable materials nearby.
- Do not use on closed containers.

### HOT SURFACE - Parts can burn



- Do not touch parts bare handed.
- Allow cooling period before working on equipment.
- To handle hot parts, use proper tools and/or insulated welding gloves to prevent burns.

**MALFUNCTION - Call for expert assistance in the event of malfunction.**

**PROTECT YOURSELF AND OTHERS!**



#### CAUTION!

This product is solely intended for arc welding.



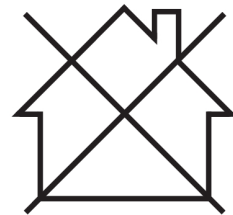
#### WARNING!

Do not use the power source for thawing frozen pipes.



#### CAUTION!

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.





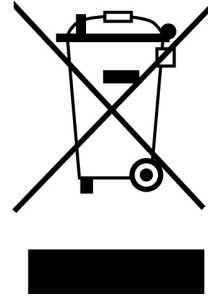
**NOTE!**

**Dispose of electronic equipment at the recycling facility!**

In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.



**ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.**

## 2 INTRODUCTION

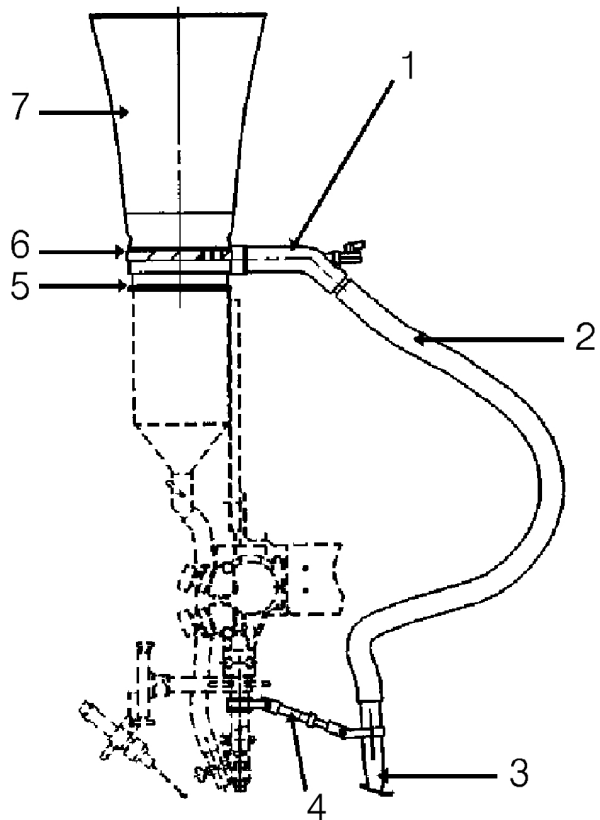
### 2.1 General

Flux recovery unit OPC is used with stationary and self-travelling automatic welding machines when a light and small unit for recovering and returning the flux to the welding place is wanted.

### 2.2 OPC flux recovery unit components

The OPC flux recovery unit consists of:

1. Ejector, air-operated. The side of the ejector to be connected to the cyclone is fitted with a flange. The other side has connections for suction and compressed-air hoses **3/8"**.
2. Suction hose, connects the ejector with the suction nozzle.
3. Suction nozzle, available in four different executions.
  - Butt welding, normal joints.
  - Butt welding, big joints.
  - Fillet welding, left.
  - Fillet welding, right.
4. Nozzle holder, to keep the nozzle in place over the weld joint.
5. Cyclone, to separate the flux from the air and bring it back to the flux container. It is fitted on top of the flux container.
6. Tensioning strap
7. Filter bag



### 3 TECHNICAL DATA

OPC flux recovery unit			
Max permissible air pressure	6 kp/cm <sup>2</sup>		
Continuous A-weighted noise pressure at idle running	78 dB		
Max. continuous A-weighted noise pressure while welding	74 dB		
Max air consumption at different pressures (max working pressure)			
bar	4	5	6
liter/min	175	225	250

See the dimension drawing in the "DIMENSION DRAWING" chapter.

The rubber parts are tried out for welding with pre-heated flux, max 220° and welding object max 350°C.

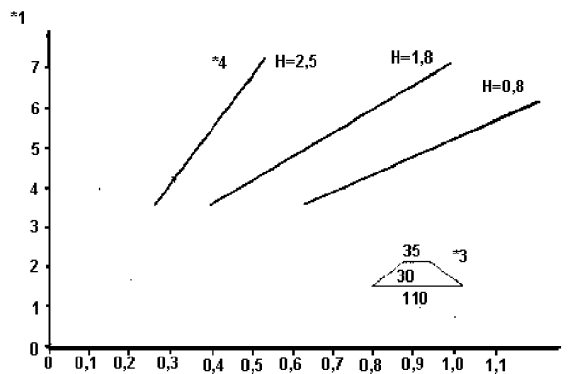


#### NOTE!

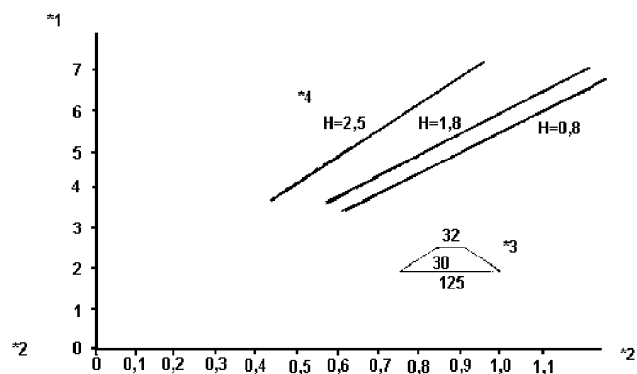
A flux container made of metal must be used.

For suction capacity, see the illustration below.

**Flux type FLUX 10.40**



**Flux type FLUX 10.80**



\*1 Air pressure (bar)

\*2 Welding speed (m/min)

\*3 Flux area (mm)

\*4 H=Lifting height in m

At 0.8 m suction height the welding speed is not affected by the type of flux.

Air pressure, bar	Suction height, m	Welding speed m/min
6	0.8	1.16
5	0.8	1.00
4	0.8	0.75



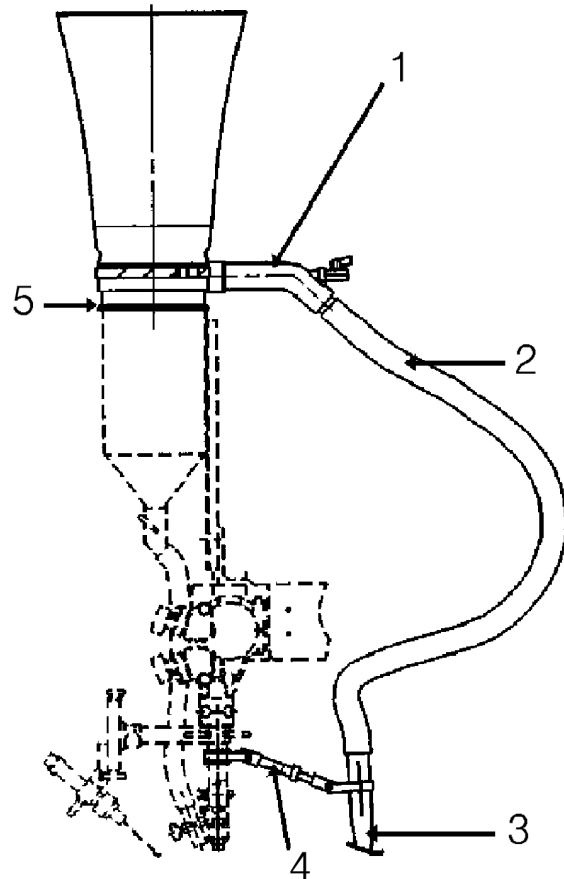
## 4 INSTALLATION

### 4.1 General

The installation must be carried out by a professional.

### 4.2 Connections

- For more information see chapter "DIMENSION DRAWING".
- Fit the sealing ring in the groove on the flux container.
- Press the cyclone (5) on to the container till stop.
- Mount the ejector (1) on the cyclone (5) and fix it with a hose clamp.
- Fasten the compressed-air connection carefully to the nipple of the ejector valve (1).
- Fit the suction hose (2) between the ejector (1) and the suction nozzle (3).
- Choose the right type of nozzle (3) for the work piece and the welding position.
- Fit the holder (4) on the contact device.



#### NOTE!

It is important to make sure that the suction nozzle (3) is electrically insulated from live parts through the insulation of the holder (4) and that it cannot get into contact with other live parts around the contact device.

## 5 OPERATION

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### 5.1 General

General safety regulations for handling the equipment can be found in the "SAFETY" chapter of this manual. Read it through before you start using the equipment!

### 5.2 Starting work

- Make sure that the equipment is properly fitted and that all hoses are attached.
- Check that the flux valve is closed.
- Fill up the flux container with flux.
- Open the flux valve. (The flux runs down to the joint at the contact tip.)
- Start welding and activate the flux recovery unit by opening the compressed-air valve. Unused flux is sucked up through the suction nozzle, the suction hose and the ejector into the cyclone, where the flux is separated from the air. The flux runs through the strainer down into the flux container. The dusty air is cleaned in the filter bag, where the dust will remain.

**WARNING!**

The flux recovery unit must not be started without a filter bag or with a damaged filter bag. The whirling dust can be injurious to your eyes and lungs.

To obtain high suction capacity the filter bag must be replaced when it causes too great pressure drop. The filter bag then becomes inflated and hard.

**NOTE!**

A choked-up filter affects the strength of the filter bag and in the worst case it can press the cyclone off the flux container causing air leakage or bursting of the filter bag. Shake the filter bag now and then.

Replace the filter bag when the pressure drop cannot be remedied by shaking the bag, or after about 8 working hours.

## **6 MAINTENANCE**

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### **6.1 General**



#### **CAUTION!**

All warranty undertakings from the supplier cease to apply if the customer attempts any work to rectify any faults in the product during the warranty period.

### **6.2 Daily**

- Check that the rubber lining of the cyclone is undamaged. Replace the lining as necessary.
- Check packings and hoses for leakage.

### **6.3 As necessary**

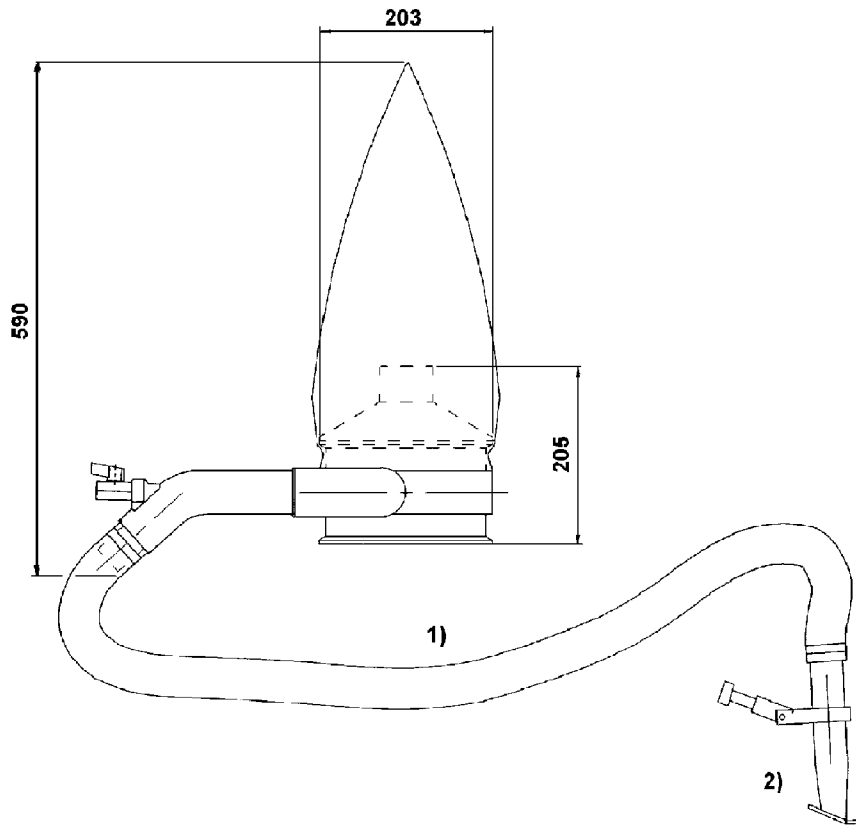
- Replace the filter bag when the suction capacity is insufficient or after about 5-8 working hours. Shake the filter bag as necessary.

## **7 ORDERING SPARE PARTS**

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Spare parts and wear parts can be ordered through your nearest ESAB dealer, see [esab.com](https://www.esab.com). When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

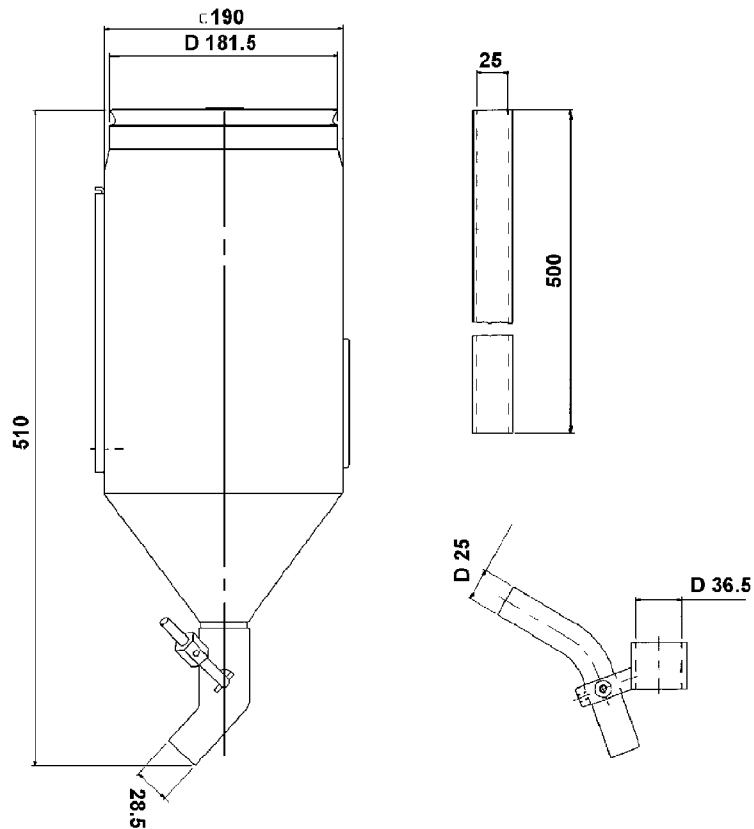
# DIMENSION DRAWING



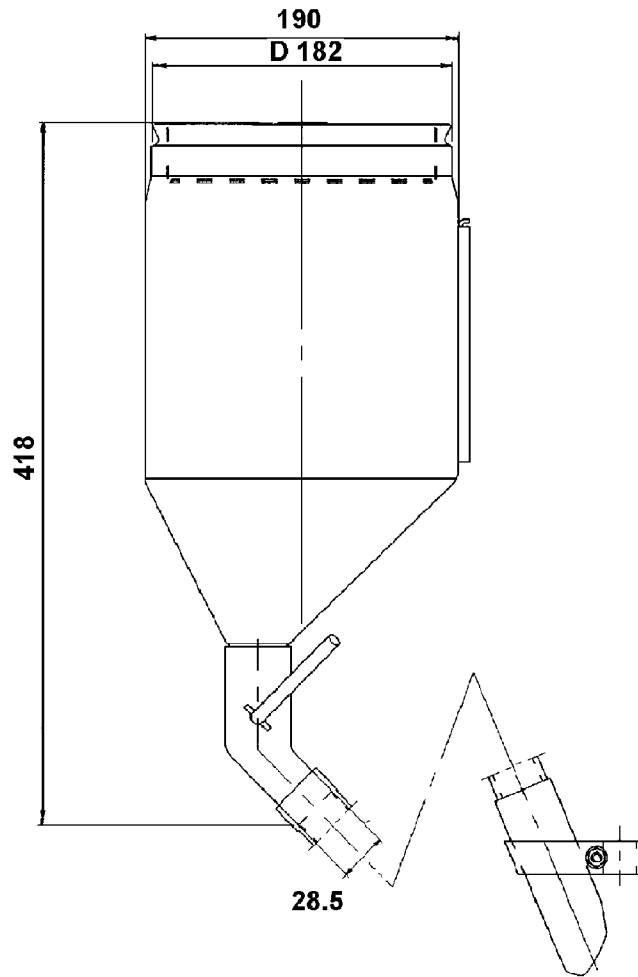
1. Hose L= 1000 mm

2. Nozzle L= 210 mm

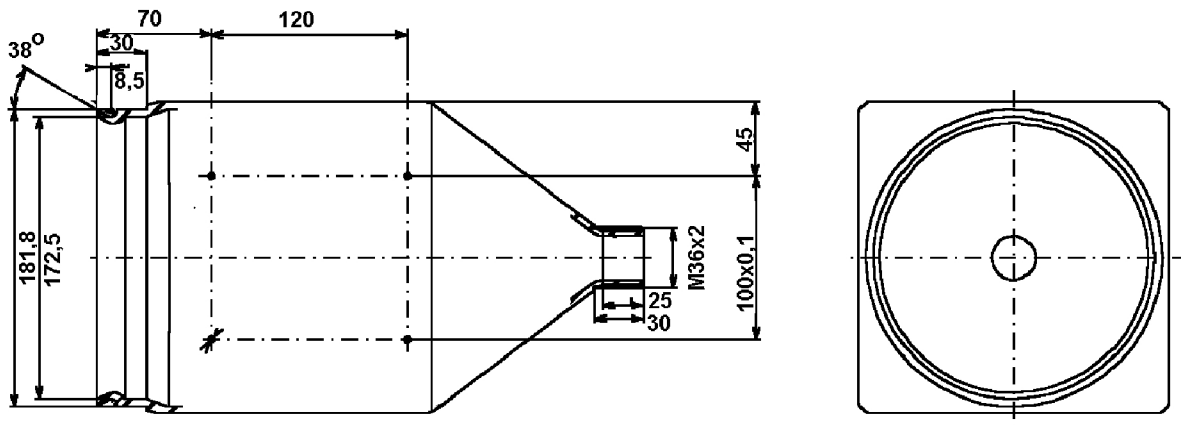
## Flux container 10 l (0147649881)



Flux container 7 l (0332994xxx)

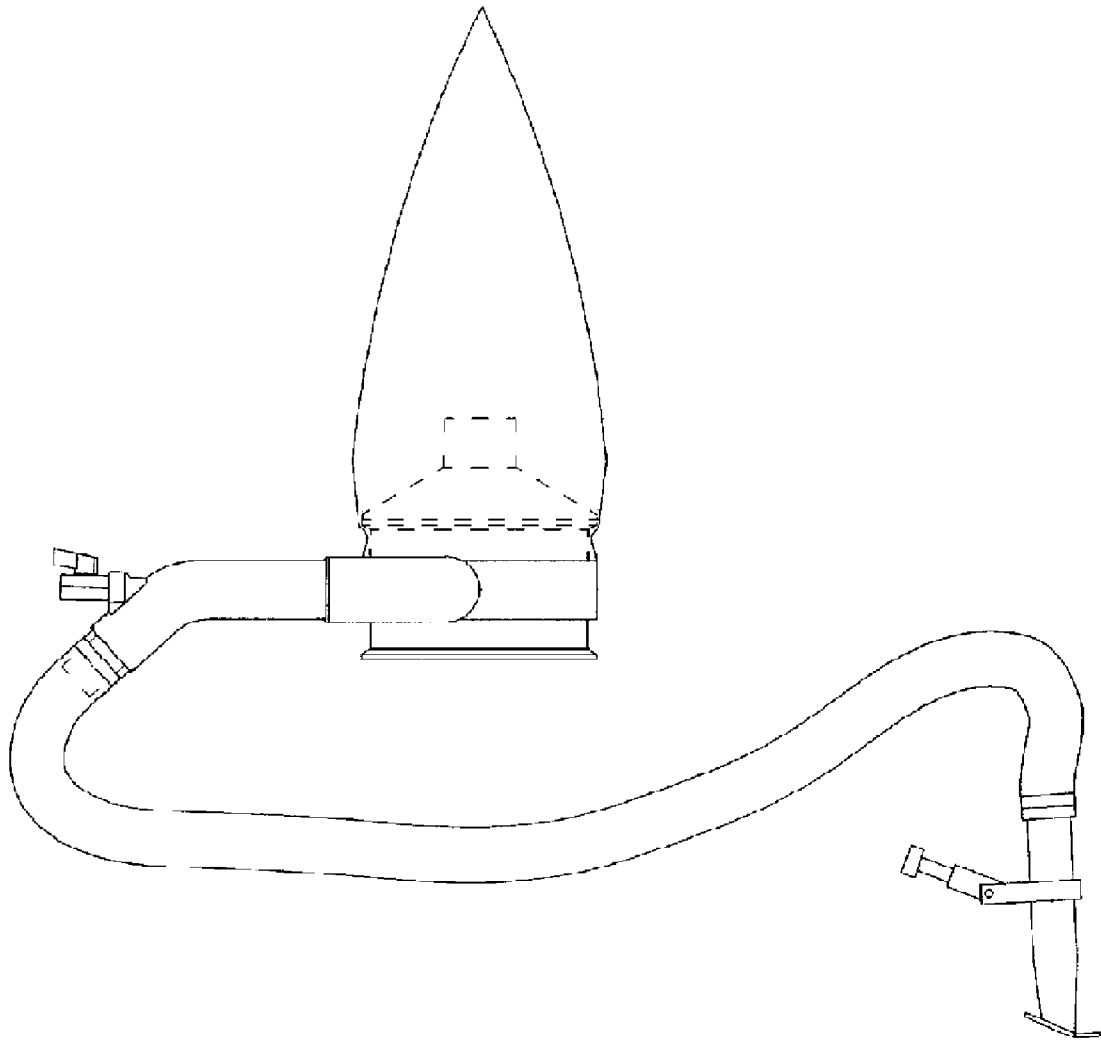


Flux container 7 l (0413315xxx)



## ORDERING NUMBERS

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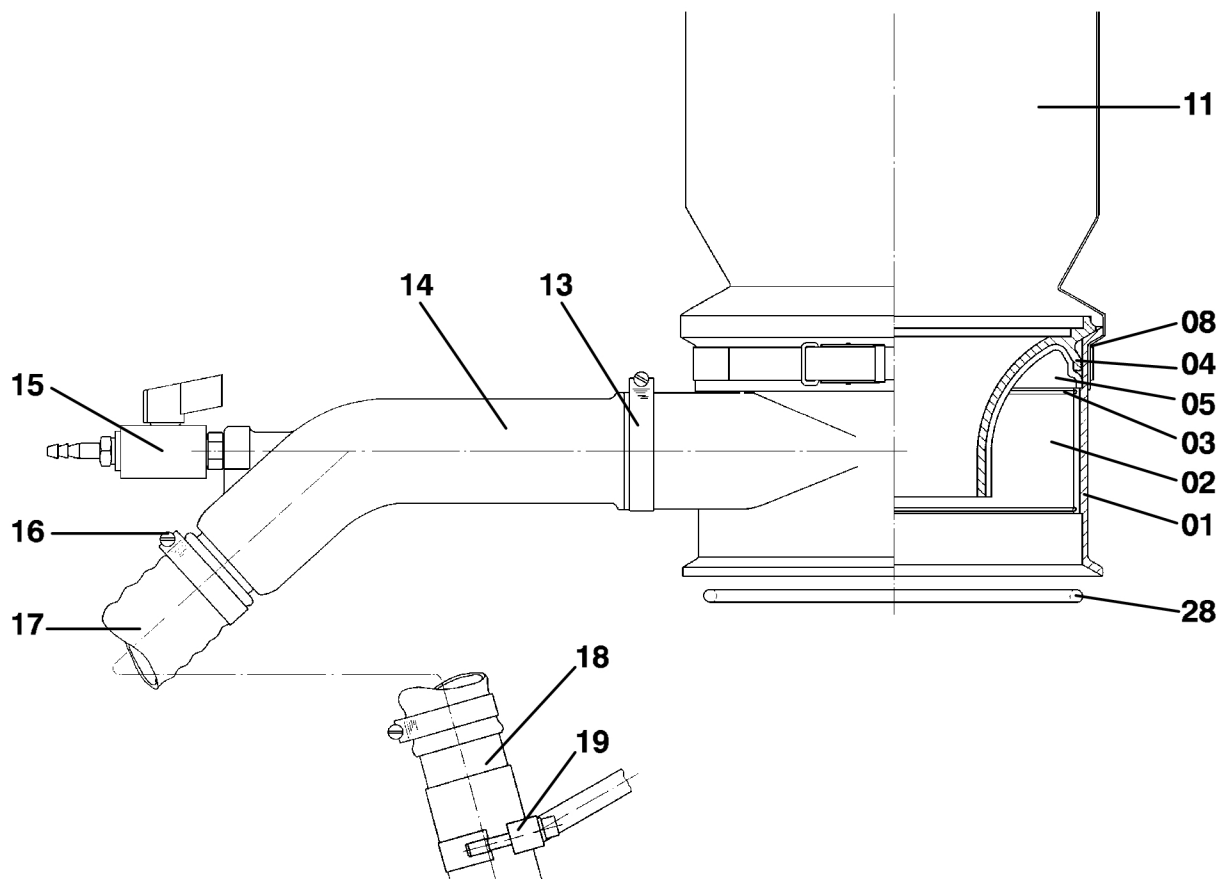
Ordering number	Denomination	Type
0148 140 880	OPC Flux recovery unit	A2 / A6 / EWH 1000

Technical documentation is available on the Internet at: [www.esab.com](http://www.esab.com)

## SPARE PARTS

(W) = Wear part

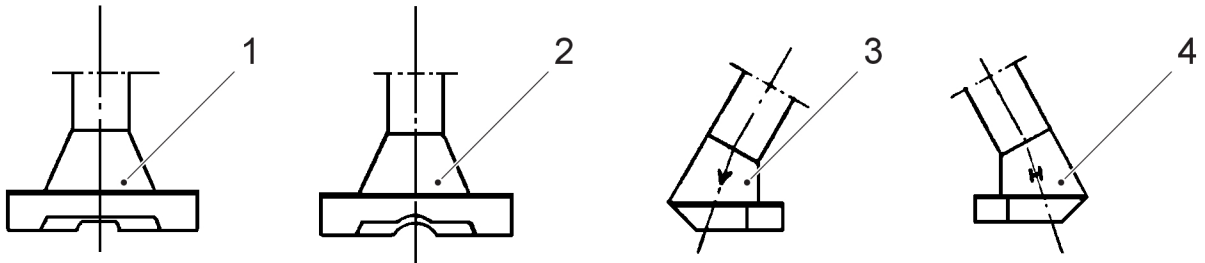
Item	Qty	Ordering no.	Denomination	Notes
		<b>0148140880</b>	<b>Flux recovery unit</b>	
1	1	0148141001	Cyclone	
2	1	0145073001	Rubber lining (cyclone)	(W)
3	2	0145815001	Locking ring	(W)
4	1	0148142001	Funnel	
5	1	0145565001	Rubber lining	(W)
8	1	0192855002	Securing strap	(W)
11	2	0332448001	Filter bag	(W)
13	1	0252900411	Hose clamp	
14	1	0147640880	Ejector	(W)
15	1	0145824881	Valve	
16	2	0252900410	Hose clamp	(W)
17	1	0191813801	Hose	
18	1	0145740880	Suction nozzle kit	More information on next page.
19	1	0147384881	Nozzle holder kit	More information on next page.
28	1	0215201345	O-ring	(W)



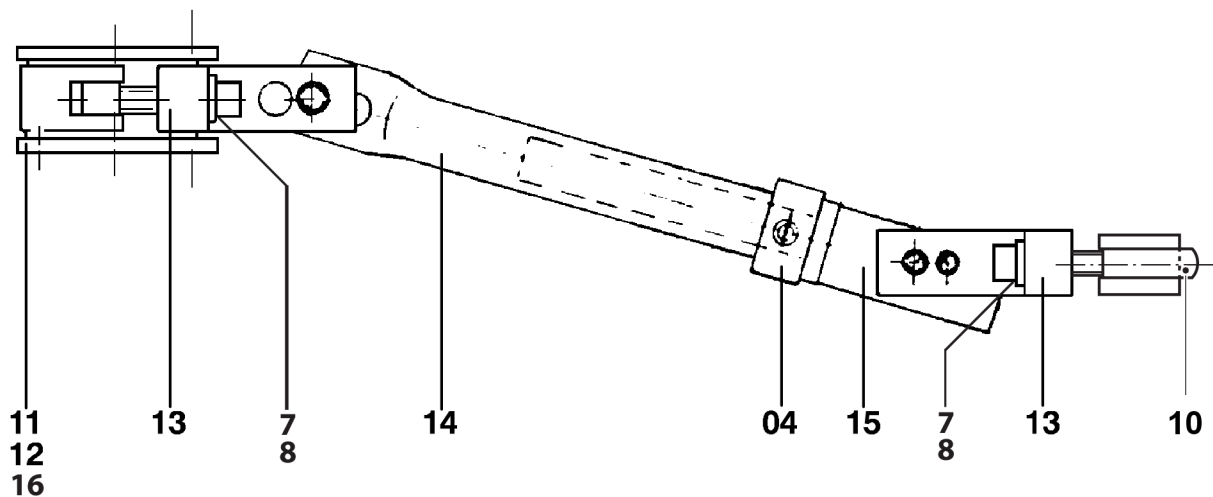


(W) = Wear part

Item	Qty	Ordering no.	Denomination	Notes
		<b>0145740880</b>	<b>Suction nozzle kit</b>	
1	1	0145501001	Suction nozzle	(W) type 10
2	1	0145502001	Suction nozzle	(W) type 25
3	1	0145504001	Suction nozzle	(W) type V
4	1	0145505001	Suction nozzle	(W) type H

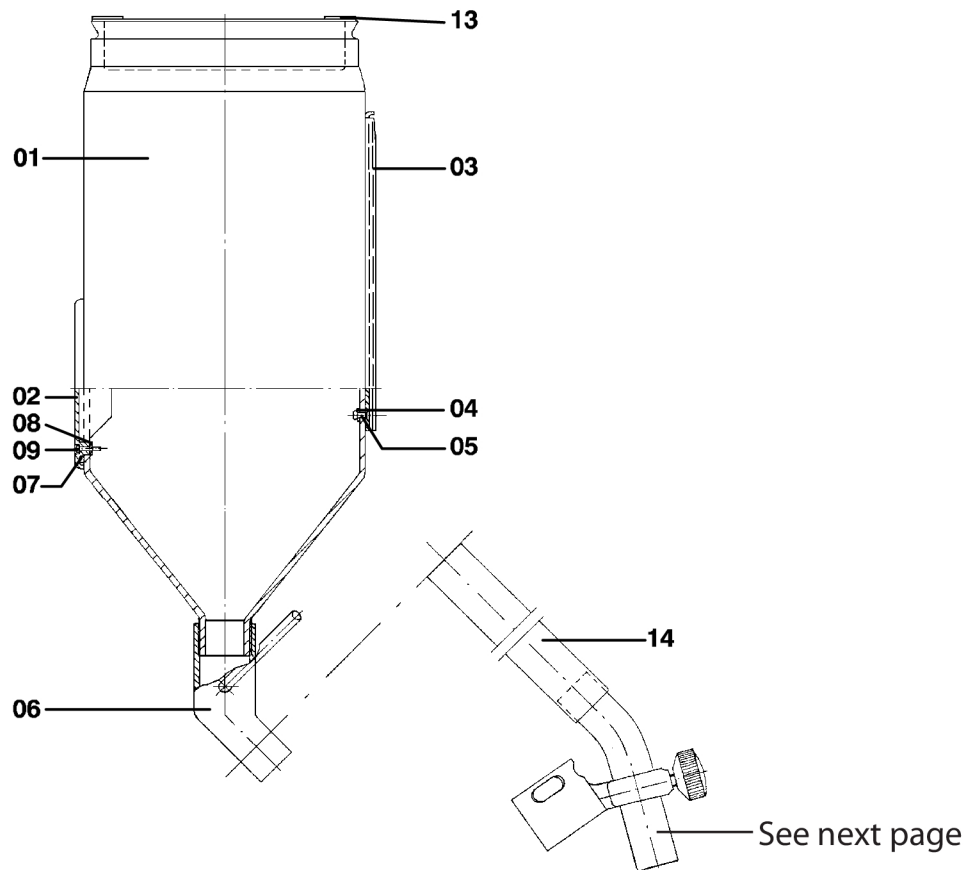


Item	Qty	Ordering no.	Denomination	Notes
		<b>0147384881</b>	<b>Nozzle holder kit</b>	
4	1	0193733012	Stop ring	
7	4		Nut	M6
8	4		Washer	12×6.4 T=1.5
10	2	0456601001	Clamp	
11	1	0145131002	Insulating sleeve	Inner diameter 35 mm
12	1	0145131003	Insulating sleeve	Inner diameter 25 mm
13	2	0154739001	Attachment	
14	1	0154738001	Boom	
15	1	0154737001	Boom	
16	1	0145131004	Insulating sleeve	Inner diameter 20 mm



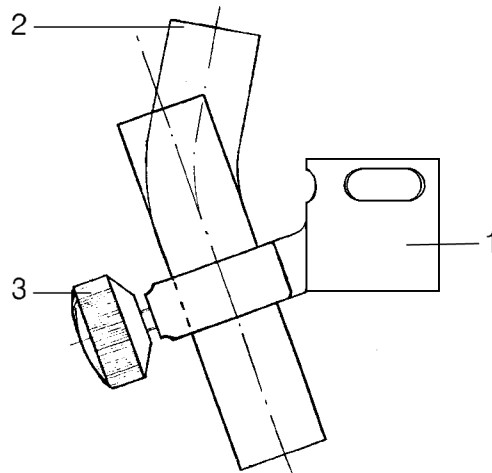
SPARE PARTS

Item	Qty	Ordering no.	Denomination	Notes
		<b>0147649881</b>	<b>Flux hopper complete</b>	<b>10 l (optional equipment)</b>
01	1	0154007001	Hopper for flux	
02	1	0148837001	Window	
03	1	0147645001	Fitting	
04	4		Washer	D8/4.3×0.8
05	4	0191898108	Rivet	
06	1	0153347880	Flux valve	
07	1	0215201232	O-ring	
08	2	0148799001	Washer	
09	2		Screw	M3×16
13	1	0020301780	Flux strainer	
14	1	0443383002	Flux hose	L=500



SPARE PARTS

Item	Qty	Ordering no.	Denomination	Notes
		<b>0153299880</b>	<b>Flux nozzle</b>	<b>(optional equipment)</b>
1	1	0153290002	Pipe holder	
2	1	0153296001	Pipe bend	
3	1	0153425001	Wheel	



## ACCESSORIES

0147649881	<b>Flux container</b> , 10 litres, (increased temperature, flux temp. max 220°, see in the "DIMENSION DRAWING" chapter)	
0413315xxx	<b>Flux container</b> , 7 litres, (increased temperature, flux temp. max 220°, see in the "DIMENSION DRAWING" chapter)	
0332994xxx	<b>Flux container</b> , plastic, 7 litres (A2), see in the "DIMENSION DRAWING" chapter	
0443383001	<b>Flux hose</b>	
0443373001	<b>Flux hose</b>	
0190789801	<b>Suction hose (1)</b>	
0148143001	<b>Cover (2)</b>	
0215201353	<b>O-ring (3)</b>	
0148144001	<b>Profile strap (4)</b>	





# A WORLD OF PRODUCTS AND SOLUTIONS.



For contact information visit [esab.com](http://esab.com)

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[manuals.esab.com](http://manuals.esab.com)

