

ELRO



Pumps for hazardous materials
Type GUP 3-1,5 & GP 20/10 Ex

ADERO_{AG}

ELRO-Pumps for hazardous materials

GUP 3-1,5 & GP20/10 Ex

Innovative Technology with Tradition

For over 15 years ELRO pumps for hazardous materials in form of mobile units have established themselves as indispensable products for fire brigades, relief organisations, factory security staff and military.

Day in and day out these pumps demonstrate their reliability and efficiency under the most demanding operational conditions.

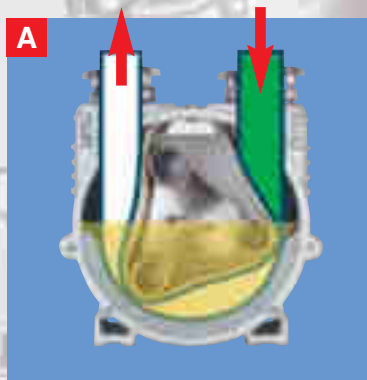
The quality demands of customers as well as ease of operation and maintenance are uppermost in the manufacture of these new products.

Traditional values in combination with long experience and the available pump / application know-how enables market specific solutions in agreed timescales.

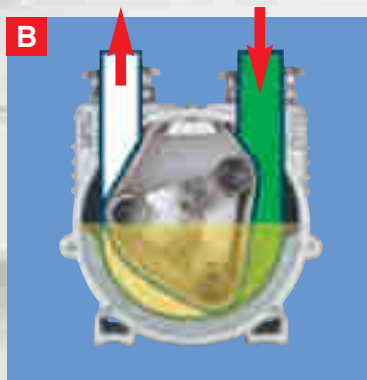
Benefits at a Glance:

- ideal for abrasive, viscous media and media harmful to the environment.
- gentle pumping of liquid and viscous hazardous substances
- constant volume capacity due to vacuum support
- dry running resistant
- pumping of media with entrained solids
- unobstructed fluid flow & easy cleaning
- free of dynamic and pressurised seals
- mobile, easy to transport design
- two-stage adjustment of the pumping capacity possible
- no additional vacuum equipment required
- dry self-priming max. 9.5 m lift

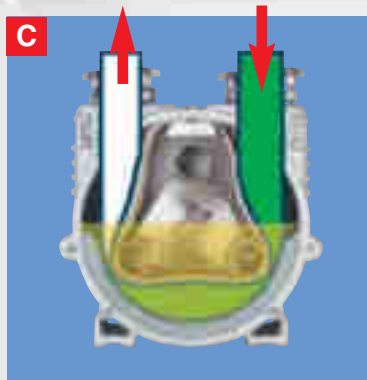
Operation of GUP & GP



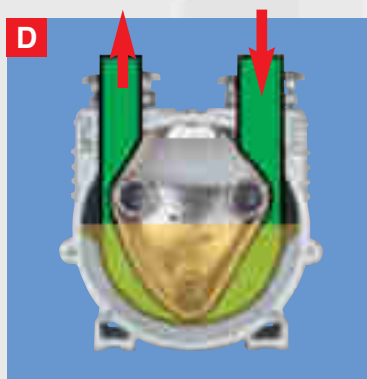
A The rotor turns inside the tightly fixed separator. Which is held in the pump housing filled with lubricant. The separator divides the housing into two completely enclosed areas. This means during compression of the pumping hose the suction and discharge sides are hermetically separated.



B Air from the suction side is pumped over the separator by the turning of the rotor and exhausted outside the pump. This forms a vacuum inside the pump chamber relative to the suction lift, which supports the elasticity of the hose during restoration to its original full cross-section.



C Once the second sliding shoe compresses the hose, a pumping chamber is formed. This volume corresponds exactly to one-third of the pump capacity per rotation. The rotation of the rotor presses the medium inside the hose towards the outlet on the discharge side. During each opening of the hose a vacuum is created on the suction side ensuring constant suction. It also takes place when the hose is empty giving high suction lift conditions.



D With each rotation the pumping chamber is reformed and the suction capability is renewed.

Flexible, Modular System

ELRO pumps for hazardous materials are designed as a flexible, quick to use system.

The modular design reduces spare parts storage and the number of individual parts.

Quick replacement and short downtimes are achieved with lower maintenance costs.

Lubricant filling

Silicon oil
Glycerine

Camlock connections

Stainless steel

Paint finish

Pump housing
Acid proof paint

Hose materials

Hypalone (CSM) electr. conductive
Nitrile (NBR)

Pump cover

For suction port,
right-hand side

Support

CR

Separator

PUR

Drive

Three-phase a.c. motor
1.1ñ 2.75 kW, 400 V
Ex-version

ELRO-Pumps for hazardous materials

GUP 3-1,5 & GP20/10 Ex



Pump DIN 14427-
GUP 3 - 1,5
Approval-number
PVR 360/2/93

ELRO pumps for hazardous materials have been designed for quick, mobile applications in the control of accidents involving hazardous materials.

Aggressive fluids escaping during an accident may endanger humans, animals and the environment. Hazardous material must therefore be quickly and completely pumped into safe containers without dirt, stones or leaves affecting the pumping action.

ELRO pumps for hazardous materials are characterised by their patented vacuum system with high suction and pumping capacities. Even viscous and pasty media, as well as media entrained with solids can be completely pumped and disposed of without any problems.

With the application of the comprehensive range of accessories thin liquid layers or minimum amounts can be picked up, even if the suction process is frequently interrupted by the intake of air.

In case of difficult to handle hazardous materials the pump is used as disposal system in combination with the transport drum and accessories. Hazardous material does not directly contact the pump.

ELRO Disposal System



ELRO Transport Drum

made of stainless steel
(1.4435 / 1.4571)
with bolted cover
weight about 48kg
UN 1A/x2.0/700/year/D/
BAM 7906 MR



ELRO-Filling Equipment

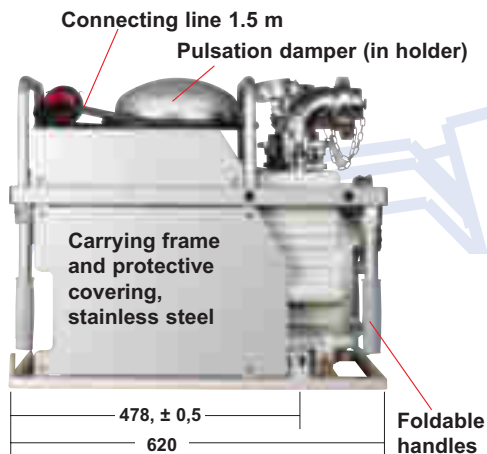
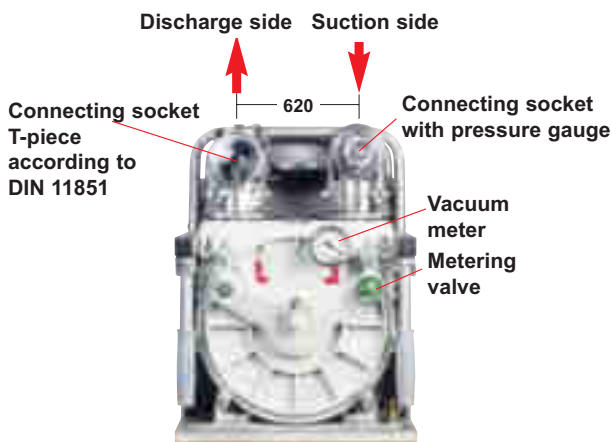
made of stainless steel
(1.4571, glass bead blasted)
also suitable for using the transport
drum as dirt separator

The combination of ELRO pump GUP for hazardous materials and ELRO disposal system enables immediate pumping and safe filling of problematic hazardous material.

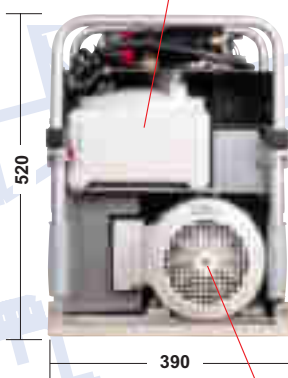
A special device prevents overfilling of the drum. Upon completion of the filling operation, the drum is tightly closed with the cover. For the disposal of hazardous materials the drum can be transported by ordinary road vehicle.

Main Areas of Application:

- Chemical industry
- Fire brigades, rescue services
- Petroleum industry
- Colour and paint industry
- Power stations
- Ports and ships
- Petrol stations and tank vehicles
- Airports



Ex. motor protection switchable
Ex. pump control EEx d II cT6



Three-phase a.c. motor 2,1-2,75 kW,
400 V, EEx e II CT3

Applications



Accident with hazardous material



Fire brigades

Technical Data

The specified data mean values, measured with water under normal conditions.

	Level II	Level I
Pumping capacity l/min	300	150
Rated pumping pressure bar	1,5	2
Rated speed rpm	240	120
Suction time at 7.5m suction height sec	5	10
Motor power kW	2,75	2,1
Amperage A	ca. 6	ca. 4,8
Voltage V	400 three-phase a.c.	
Type of operation	Permanent operation s1 - VDE 0530	
Protection system	EEx e II T3 EEx de II CT6	
Motor	EEx e II T3	
Protective switch	EEx de II CT6	
Connecting plug	BBC - CHG 531 7506 VO	
Sense of rotation	clockwise (see arrow)	
Connecting couplings	conical sleeve DIN 11851 - DN 50 threaded sleeve DIN 11851 - DN50	
Dimensions lxbxh mm	620x390x520 acc. to DIN 14427	
Weight, ready for operation kg	98	
Pumping hose, electr. cond.	Hypalon	

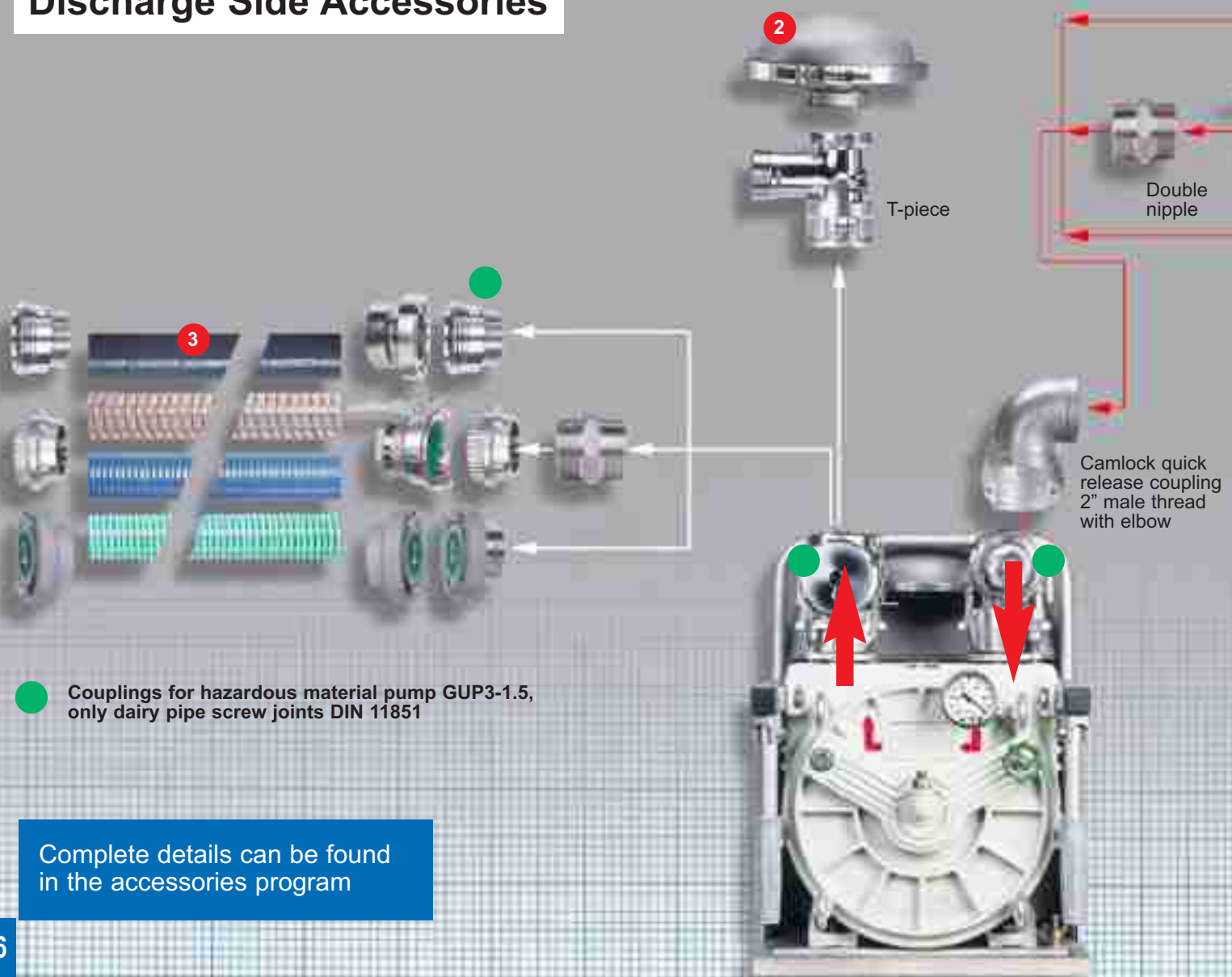
ELRO-Pumps for hazardous materials

GUP 3-1,5 & GP20/10 Ex

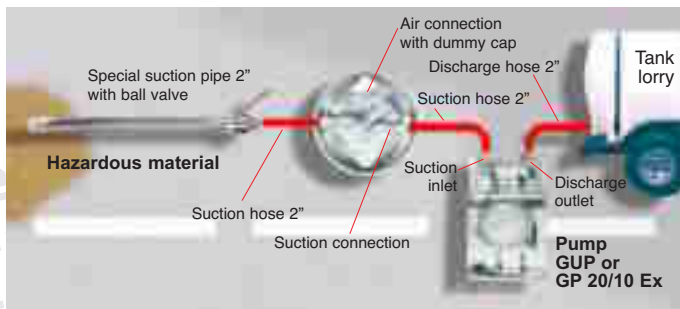
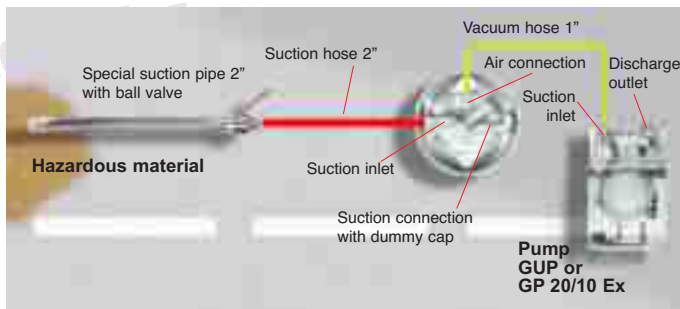
ELRO pumps for hazardous material are available with a variety of accessories suitable for any application.

- 1 KL quick release couplings, elbows, Storz couplings and tank vehicle couplings made of stainless steel (only for GP 20/10 Ex)
- 2 Pulsation damper made of stainless steel with T-piece (only for GP 20/10 Ex)
- 3 Suction/discharge hoses are available in the nominal widths of 1" to 4" and are provided with suitable coupling systems completely pressure-tested. Standard spiral hoses with plastic and steel reinforcement, hoses for chemical applications or suction/discharge hoses approved for food applications.
- 4 180 litre transport drum made of stainless steel with filling equipment
- 5 Hose cleaning device and balls in different designs
- 6 Suction baskets, flat suction nozzle, special suction pipes and residue suction nozzles made of various materials
- 7 Vacuum hose for the ELRO disposal system

Discharge Side Accessories



Complete details can be found in the accessories program



Filling the Transport Drum

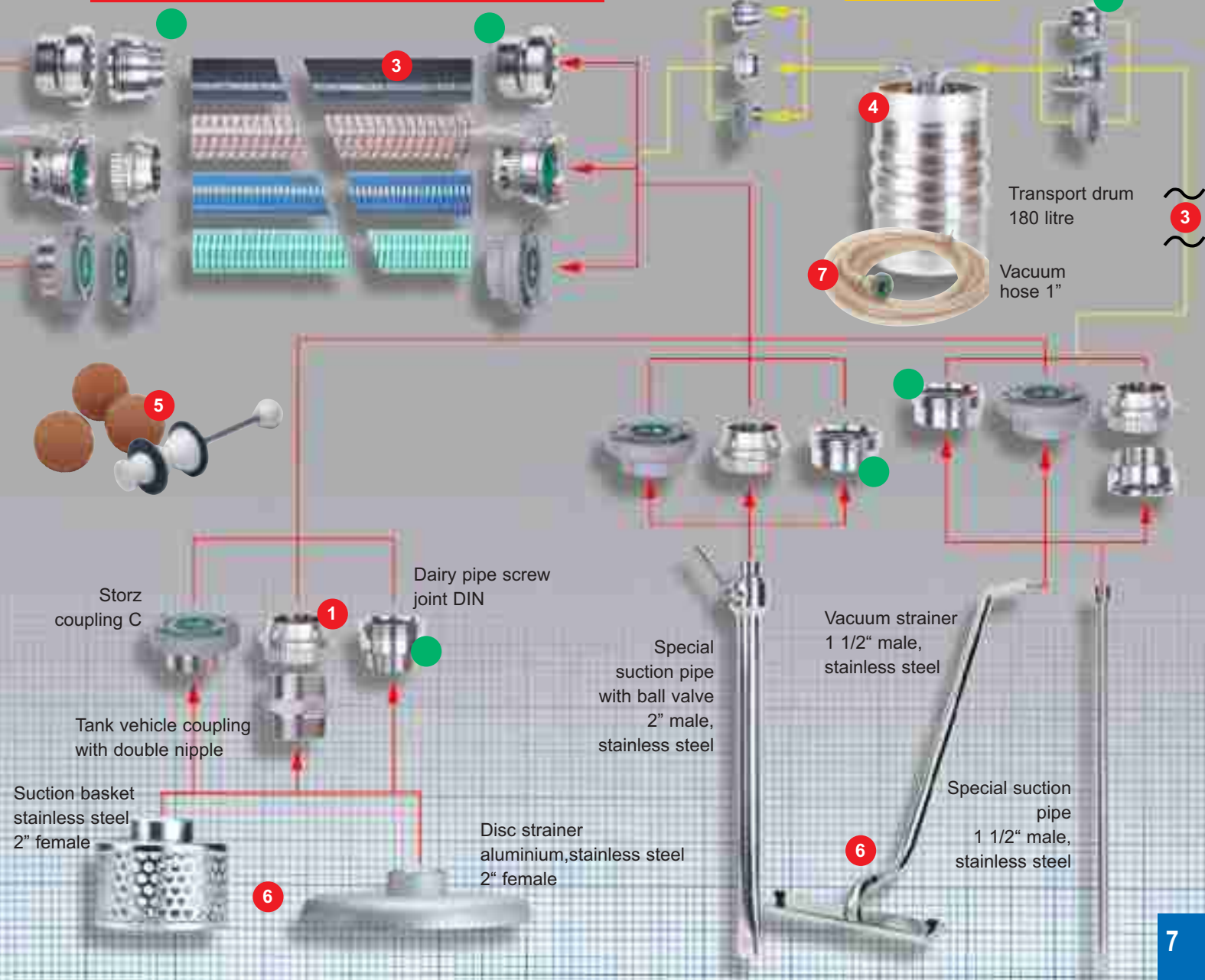
For the pumping of small fluid quantities contaminated by solids the hazardous material pump and the transport drum is used. The contaminated fluid is directly pumped into the drum. The pump does not come in contact with the fluid.

Transport Drum as Dirt Separator

If a tank vehicle is available for the removal of the hazardous material, the transport drum is used as a dirt separator. In this way all remaining hazardous material can be removed. Solids are separated in the drum and kept away from pump and tank.

Suction Side Accessories

Option



ELRO



Pump Systems

Route de Chantemerle 64, Postfach 141
CH-1763 Granges Paccot

Tel: 026 492 04 60
Fax 026 492 04 61

info@adero.ch
www.adero.ch