

# Pumps and Filling Units for HVAC Professionals



Fill - vent - renovate - decalcify

- ▶ Solar collectors
- ▶ Heating systems
- ▶ Heating pump systems
- ▶ Boilers / heat exchangers
- ▶ Tanks for heating oil

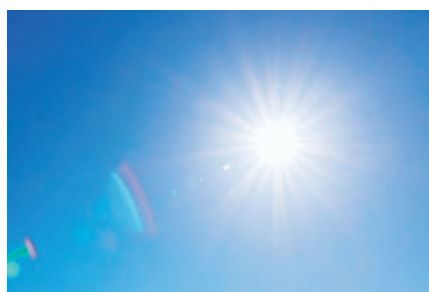


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Content	Page
Filling and Flushing Stations	4
Solarcheck Mobilcenter	5
FLUSH PRO	8
Antikalk Mobilcenter	12
Impeller pumps	15
Solar filling pump and Drill pumps	17
Pumps for oil and Diesel	18
Flact suction systems	20
Waste water Pumps	22
Stationary ServiceCenter	23
Accessories	24



## ZUWA-Zumpe GmbH

The family run enterprise ZUWA-Zumpe GmbH has been manufacturing high quality pumps and innovative pump systems for more than 70 years. The ample experience in designing and producing high end products enables us to offer a wide range of different devices.

The entire product range consisting of pumps, fuelling stations, plant protection systems as well as charging and flushing stations is in high demand all over the world. ZUWA is working in accordance with the ISO 9001:2015 quality management system, regularly controlled by TÜV SÜD. Process safety and constant quality is guaranteed.

The close contact with our customers provides us with proposals and impulses to improve and further develop our products. In house production and shop floor enable us to meet customer specific requirements, manufacture custom made products and complete repair jobs. Competent contact persons and lean management make for quick and reliable service.

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## Filling and flushing stations



### Solarcheck Mobilcenter

Flushing, venting and filling heat transfer medium into solar systems from page 5



### FLUSH PRO

For ground collectors, ground probes and panel heatings from page 8



### DESCAL

Descaling plate heat exchangers and hot water boilers from page 12

## Pumps and Accessories



### Impeller pumps

Multi-purpose pumps for water, fuel oil, heat transfer fluid etc. from page 15



### Drill driven pumps

Handy pumps for operation with cordless drill or screwdriver from page 17



### Pumps for diesel and heating oil

Decant, drain and fill 230 / 400 / 12 / 24 Volt from page 18



### Flat Suction Systems

Flat suction mats for draining flooded basements completely from page 20



### Waste water pumps

Submersible waste water pumps and flat suction pumps from page 22



### Accessories

Emergency pans, pump controls, dry running protection and more from page 24

# Filling and Flushing Stations

## Built to work

On account of their robust construction ZUWA filling and flushing stations for solar collectors, heat pumps and panel heatings are suitable for on site application. The fully developed devices have been proved and tested for more than a decade in heating installation.

### Powerful pumps

- ▶ self-priming
- ▶ easy accessible protective filter at the pump inlet
- ▶ pressure relief valve (not for all types)

All pumps are getting almost completely drained after use. No leaking of liquids during transport, no cleaning required when a different medium is used.

### Rugged cart

- ▶ large pneumatic tires
- ▶ convenient to manoeuvre even on rough ground or over stairs
- ▶ hose holder

### Fill- and return hose with high stress resistance

- ▶ high quality, temperature resistant hose materials
- ▶ threaded hose couplings with high-pressure crimped fittings
- ▶ hose clips guarantee tightness even at high temperatures
- ▶ interlock connector prevents residual liquids from leaking during transport

### Interchangeable 30 litres tank

- ▶ wide charging mouth
- ▶ leak tight lid
- ▶ stop valve on the bottom side of the tank
- ▶ tanks are easily removable for cleaning
- ▶ tanks are easily interchangeable when using different heat transfer fluids
- ▶ with suction port located at the lowest point of the tank complete draining at the end of the operation



with hose holder

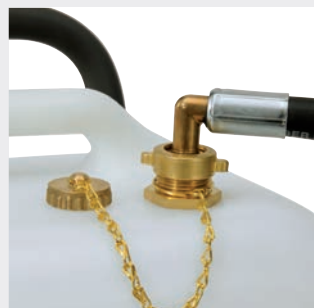


hoses with ball valves and professional swivel coupling

## Detail Illustrations



telescopic handle with soft grip



return hose connection in 90° angle



pump UNISTAR with filter and pressure relief valve



carrying handle

## Compact versions

**Flushing, venting and filling heat transfer medium into solar systems in one process.**

The latest member of the ZUWA filling stations family: small, easy to transport, fits upright into the trunk of a Volkswagen Rabbit!

### Easy transport

- ▶ A carrying handle on rearward side allows for single handed transport of the device, stairs or other obstacles cause no problems. The device sits closely to the body axis and can be carried very comfortable.
- ▶ The telescopic handle with softgrip is height adjustable from 78 to 110 cm.
- ▶ Device is absolutely leak-proof both in horizontal or vertical transport.

### Fine filter with transparent casing

- ▶ The filter at the pump inlet filters out solder or weld residues.
- ▶ The transparent filter casing enables the detection of air bubbles in the heat transfer fluid.

### Return hose connection in 90° angle

Return hose connection 90° angle, no bending of hose. Secured caps!



The  
ORIGINAL

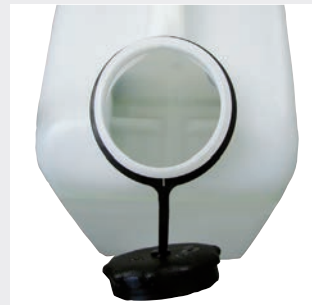
MADE IN  
GERMANY



stop valve in shockproof position



all-terrain pneumatic tires



wide charging mouth



capacity indicator

## Compact versions

### Solarcheck Mobilcenter UNISTAR

Top equipment down to the smallest detail

#### ► Pump UNISTAR 2000-A

Dry self-priming impeller pump with glycol resistant Perbunan impeller

#### ► High temperature resistant supply and return hose

Hoses temperature resistant up to 100°C, threaded hose couplings with high-pressure crimped fittings

#### ► Drain valve on pressure side

The manual drain valve at the pump outlet is used to release the pressure in the delivery hose after use. Thus the hose can be easily and quickly disconnected from the fittings

#### ► Ball valves at the hose ends

The ball valves at the hose ends are leak-proof and allow for pre-filling the hoses. No air from the hoses enters into the solar collectors during filling process.

### Solarcheck Mobilcenter P80

Proven and tested solar filling station for solar pros

#### ► Pump P80

Self-priming robust centrifugal pump with small pump chamber

#### ► Temperature resistant supply and return hose

Temperature resistant hoses up to 60°C, threaded hose couplings with high-pressure crimped fittings

## Accessories for all versions

Filter bags, special tank lid, remote control



*hoses with ball valves and professional swivel coupling*



*Pump P80 with filter*



*Solarcheck Mobilcenter UNISTAR*



*Solarcheck Mobilcenter P80  
\*Also available as high pressure version P90 with 9 bar*

## Compact versions



### Technical details

Solarcheck Mobilcenter	UNISTAR 2000-A	P 80	P 90
Pump	dry self-priming impeller pump UNISTAR 2000-A with glycol resistant impeller	self-priming centrifugal pump	
Flow rate max.	30 l/min*	31 l/min	36 l/min
Working pressure max.	5 bar	5,9 bar	9 bar
Temperature max.	90° C	60° C	80° C
Motor	230 V with thermal motor protection		
Hoses	EPDM hose with ball valves for temperatures up to 100°C	PVC tissue hose for temperatures up to 60°C	EPDM hose with threaded connections for temperatures up to 100°C
Extras	2 m cable with plug		
Tank	UV resistant PE tank with wide lock-up opening, capacity indicator and stop valve at the outlet, content 30 litres		
Drain valve on pressure side	✓	✗	✗
Cart	robust welded chassis, powder-coated steel, telescopic handle with soft grip		
Dimensions (L x W x H)	760-1000-1100 x 490 x 510 Packaging dimensions: 800 x 400 x 500 (12 units per pallet for shipping)		
Empty weight	20.9 kg	21.2 kg	21 kg
Art.No.	134052V11	134053V11	134060-V11

\* For a higher capacity (60 or 90 L/min) ask for our FLUSH PRO types.

# FLUSH PRO

## the versatile flushing station

### More power - more potential

The FLUSH PRO is equipped with a powerful pump to convey large amounts of heat transfer fluid in short time. Two multifunctional valves allow for connection to external tanks (IBC etc.) as well as the execution of various successive process steps without changing hoses or hose connections

#### Filling, flushing and venting of

- ▶ large scale collectors
- ▶ ground collectors, ground probes
- ▶ floor and panel heatings

### Function and Work flow

#### 1 + 2 Mixing heat transfer fluid

Mixing heat transfer fluid from concentrate and water. Prime and pump back concentrate and water from / to external tanks in a closed circuit

#### 1 + 3 + 4 Filling and flushing the system

Pumping heat transfer fluid from external tanks directly into the system (very convenient for large quantities of fluid)  
Reflux from thermal collector to internal tank

#### 3 + 4 + 5 Flushing and venting the system

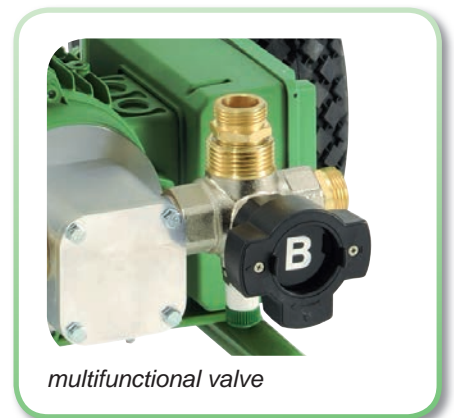
After filling process switch to internal circuit between tank on device and collector to remove air enclosures



FLUSH PRO MC 60/30



FLUSH PRO MC 90/55



multifunctional valve



## the versatile flushing station

### Main Features

- ▶ dry self-priming impeller pump
- ▶ sturdy cart with pneumatic tyres
- ▶ 2 m cable with plug
- ▶ tank with wide charging mouth and capacity indicator
- ▶ 2 x 3 m supply and return hose
- ▶ 2 multifunctional valves

#### DO YOU NEED A BIGGER TANK?

you find additional equipment for the FLUSH PRO on Page 11 of these brochure

### Technical details

FLUSH PRO	MC 60/30	MC 90/55	MC 90/120
Flow rate max.	60 l/min	90 l/min	90 l/min
Working pressure max.	5 bar	5 bar	5 bar
Motor	230 V, 50 Hz with thermal motor protection		
Medium-Temperature max.	90°C	60°C	60°C
Hoses	¾" EPDM-hose for temperatures up to 100°C (for a short time even to 120°C)*	1" PVC-tissue-hose for temperatures up to 60°C*	
Tank with stop valve at the outlet	✓	✓	✗
Tank content	30 l	55 l	120 l
Dimensions L x W x H	760-1000-1100 x 490 x 510 mm	1050 x 490 x 640 mm	830 x 700 x 1400 mm
Empty weight	25 kg	39 kg	47 kg
telescopic handle and carry handle with soft grip	✓	✗	✗
Protective filter	✓	optional	optional
Drain valve on pressure side	✓	✓	✓
Art. No.	134058V11	1340581	1340582

\* with crimped hose fitting

In addition to the fine filter with transparent cup separate filter bags can be used. Please see page 11 for more information.

quick, easy  
and clean!

### ZUWA guarantees quality

With the flushing station you get a German quality product that enables filling, flushing and venting by using only one system. The FLUSH PRO can also be used for other application areas. Please do not hesitate to contact us if you need additional accessories or any further assistance/information.

MADE IN  
GERMANY

## Extensions

### Flushing and filling unit for hydronic systems

(for FLUSH PRO MC 30 only)

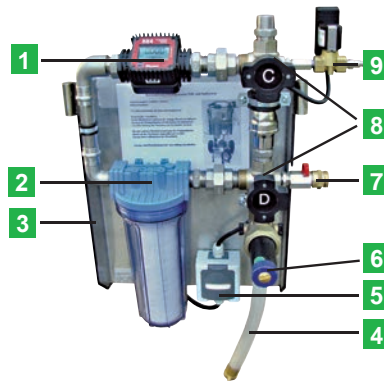
Meets the requirements of VDI guideline 2035 and Austrian Standard ÖNORM H 5195-1.

The plate mounted unit is hinged onto the hose bracket. Single serving filling cartridges or softening devices for purified water can be connected easily.

Art. No.: 105013

#### Features

- 1 digital flow meter
- 2 Filter 20 µm
- 3 stainless steel plate
- 4 hose connection to pump
- 5 plug IP 44
- 6 pressure reducer
- 7 connection to water softening equipment
- 8 2 multifunktional valves
- 9 compressed air connection with electromagnetic timer valve



## Solar collectors - heat pumps - hydronic systems

flush - fill - vent - renovate

### Reversal Direction Unit

#### For more effective flushing

The adjustable flow rate and reversible pumping direction improves the flushing process and removal of sedimentations.

Consisting of:

- ▶ Four-way ball valve with L-drilling to change the flow direction  
Material Brass, shaft/bush PPS composite, O-ring EPDM
- ▶ Return hose to canister
- ▶ Max. fluid temperature 110° C

Weight 1,5 kg

Without compressed air connection

Art.No.: 1050131

With compressed air connection

Art.No.: 1050131L

Reverse flow direction, Connection hoses

Art.No.: 1050131SP



### Mixing vessels for brine

Mixing heat transfer fluid of concentrate and water - even in larger quantities right on construction site. *Art.No.: 105012*

#### Features

- ▶ 2 containers, 150 litres each, with stop valve
- ▶ hose fork
- ▶ 6 m suction hose ¾"

#### Function

Tanks are connected to both multifunctional valves. The pump takes care for the mixing of the heat transfer medium and transports the fluid from the tanks directly into the collector system. Using external tanks rather than the tank on the device speeds up the filling of large systems drastically.



### CONVENIENT: filter bags and special lid

The new disposable filter bags are used in cases of heavily silted heating water or polluted heat transfer medium. They supplement the filter on the suction side of the pump on the ZUWA filling stations and prevent this filter from clogging. (**70 µm for coarse-grained particles and 40 µm for fine grained particles**)

**Quite simple:** Just hinge filter bag into the mouth piece of the tank and fix with the specific tank lid.

#### Suitable for the following devices

- ▶ solar filling stations SOLARCHECK MOBILCENTER
- ▶ Multi-purpose filling and flushing stations FLUSH PRO
- ▶ Descaling station DESCAL

#### Screw cap with Special lid

- ▶ brass or stainless steel fittings
- ▶ return hose connection
- ▶ pressure relief valve

#### Filter bags for filling and flushing stations

Solarcheck Mobilcenter, DESCAL, FLUSH PRO MC 60/30  
10 pieces (5 a 70 µm and 5 a 40 µm): *Art.No.: 132003*

FLUSH PRO MC 90/55 and MC 90/120  
10 pieces (all 70 µm) *Art.No.: 132005*

#### Screw cap

Brass *Art.No.: 805531*  
Stainless steel *Art.No.: 805532*  
FLUSH PRO MC 90/55 and MC 90/120 *Art.No.: 805533*



## Effective decalcification

### Flushing station for effective descaling of heat exchangers and hot water storage tanks

The DESCAL is a specifically designed tool for HVAC professionals to flush boilers and heat exchangers with anti-scale agents. The device was tested and approved with the following agents (max. fluid temperature 40°C).

#### Approved media

- ▶ SANIT: KalkLöser, formic acid based, and Citroplus, citric acid based
- ▶ SOTIN: Entkalker 212 and 212 TW
- ▶ Grünbeck: GENO® -clean M and GENO® -clean CP

(always to be used according to manufacturer recommended dosing rate) Other decalcifier on request

#### Function

An agent circulates between heat exchanges and the DESCAL. Limescale is softened, washed out and collected in the tank.

The flushing process is repeated until the liquid is free of scale residues which can be controlled via the transparent hoses and the filter casing.

#### Effective:

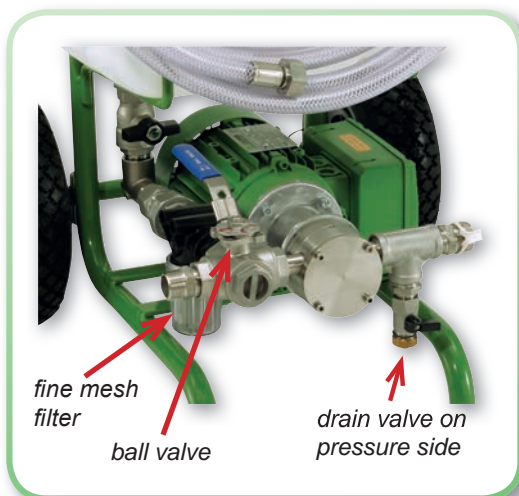
- ▶ a high flow rate and high pump pressure make for a thorough separation of the scale

#### Clean:

- ▶ a pressure relieve valve at the pump outlet avoids acid from being set free when the hose is disconnected after use
- ▶ pump gets almost completely empty after use and can be opened easily for cleaning
- ▶ ball valve allows for cleaning the pump without removing the softening agent from the tank as well as priming fluids from external tanks

#### Flushing:

Cleaning pump and filter while anti scale agent remains inside the canister



## Effective decalcify

Furrings with a thickness of one millimetre reduce the efficiency of a heat exchanger already by 10%. Thicker layers may cause a loss of 40%. Regions with limy water call for a periodic decalcification of heat exchangers and storage water heaters.

**Main Features:**

- ▶ dry self priming impeller pump with stainless steel casing
- ▶ corrosion resistant fittings
- ▶ comfortable and sturdy cart with large pneumatic wheels
- ▶ removable plastic tank with wide charging mouth and capacity indicator

**Technical details**

DESCAL	
Flow rate max.	30 l/min (on option with 60 l/min)
Working pressure max.	5 bar
Pump	NIROSTAR 2000-A, 230 V*
Medium-Temperature max.	40°C
Hoses	3 m Suction hose ¾", 3 m Pressure hose ¾" made of transparent plastic with fabric insert
Tank	UV-resistant tank with stop valve at the outlet
Tank content	30 l
Dimensions L x W x H	985 x 495 x 555 mm
Empty weight	23 kg
Cart extras	telescopic handle and carry handle with soft grip
Protective filter	✓
Drain valve on pressure side	✓
Art. No.	1340591V11 (for media by Sanit) 1340591V-V11 (for media by Sotin and Grünbeck)

\*On option with NIROSTAR 2000-B, 230 V)

## Accessories

### Overflow containment

#### Collect overflowing descaling agent

The containment safely collects overflowing or over-foaming antiscaling agent. The fluid runs controlled into the box through a bent hose guidance. The agent can safely be primed directly from the box without decanting.

#### Features:

- ▶ Plastic box
- ▶ 2 m hose
- ▶ Stainless steel fittings

Art.No.: 1340592



### Reverse flow direction

#### Decalcifying more effectively

The adjustable flow rate and reversible pumping direction improves the flushing process and removal of sedimentations.

Without Connection for compressed air  
Art.No.: 1050131

With Connection for compressed air  
Art.No.: 1050131L

Reverse flow direction, Connection hoses  
Art.No.: 1050131SP

ON OPTION:  
Connection for  
compressed air



### Solar

More functions – the DESCAL can also be used to fill and flush solar or ground collectors when equipped with the extension kit Solar, consisting of:

#### Features

- ▶ replacement tank for heat transfer fluid
- ▶ 2 x 3 meter high temperature resistant hoses

Art.No.: 1340593V11



#### Note:

The large non-woven filter bags (page 11) collect the solute and scoured limescale before they get to the pump.

### Pump types

#### UNISTAR

A multi-purpose pump designed for transferring clean or contaminated liquids. Not suitable for handling abrasive or corrosive fluids.

#### COMBISTAR

This pump is particularly suitable for all fluids containing abrasives. It is an economic alternative to the NIROSTAR series for transferring abrasive or slightly corrosive fluids.

#### NIROSTAR

A high quality stainless steel pump with numerous applications in industrial plants and production facilities, the appropriate choice for transferring corrosive fluids.

### Properties

Dry self-priming pumps, initial filling is not required. Solids and air enclosures in the fluid are transported without any difficulty. Simple, low cost maintenance.

- ▶ Temperature up to 90° C
- ▶ suction depth max. 7 metres (dry 3 metres)

### Applications

- ▶ fill and flush solar loops with heat transfer medium
- ▶ drain and clean tanks
- ▶ decant/pump fuel oil and Diesel
- ▶ descale boilers (type NIROSTAR)



NIROSTAR 2000-D  
on trolley with detachable  
push rod



UNISTAR 2000-C  
with reversion of rotation



COMBISTAR 2001-B



NIROSTAR 2000-E

### Accessory

#### Dry running protection

Automatic stop when pump is running dry. Restart with reset button after eliminating the fault.

Dry running protection for UNISTAR-A and B Art. No.: 130100



UNISTAR 2000-B  
with dry running protection

# Impeller pumps

## Technical details

UNISTAR	2000-A	2000-B	2000-C	2001-A	2001-B
Flow rate max.	30 l/min	60 l/min	90 l/min	30 l/min	60 l/min
Working pressure max.*	5 bar	5 bar	5 bar	4 bar	4 bar
Motor	230 / 400 V	230 / 400 V	230 / 400 V	–	–
Connections	¾", DN 19	1", DN 25	1¼", DN 32	¾", DN 19	1", DN 25
Weight	9 kg	9.2 kg	13 kg	0.6 kg	0.8 kg

COMBISTAR	2000-A	2000-B
Flow rate max.	30 l/min	60 l/min
Working pressure max.*	5 bar	5 bar
Motor	230 / 400 V	230 / 400 V
Connections	¾", DN 19	1", DN 25
Weight	9,4 kg	10 kg

NIROSTAR	2000-A	2000-B	2000-C	2000-D	2000-E	2000-F
Flow rate max.	30 l/min	60 l/min	96 l/min	166 l/min	375 l/min	730 l/min
Working pressure max.*	5 bar	5 bar	3 bar	3 bar	2 bar	2 bar
Motor	230 / 400 V	230 / 400 V	230 / 400 V	230 / 400 V	400 V	400 V
Connections	¾", DN 19	1", DN 25	1¼", DN 32	1½", DN 40	2", DN 50	3", DN 65
Weight	9.8 kg	10.4 kg	15 kg	20 kg	30 kg	69 kg

\* maximum pressure with Perbunan impeller (NBR)

All types, except NIROSTAR 2000-C, are available also without electric motor and can be operated by a motor or an alternative drive unit (e. g. with gear motor, cordless drills or screwdrivers).





## Impeller Pumps

### Solar filling pump with carrying handle and filter

Small, economic solution for filling and flushing solar systems

#### Features:

- ▶ dry self-priming impeller pump UNISTAR 2000-A or centrifugal pump P80
- ▶ carrying frame with rubber pads
- ▶ filter with transparent filter cup
- ▶ pressure relieve valve at pump outlet (only UNISTAR 2000-A)

With pump UNISTAR 2000-A Art. No.: 110120M-SOL  
With pump P80 Art. No.: 165010-SOL

**OPTIONAL:**  
hose-set, Euro container with cover (for UNISTAR only)



Solar filling pump with UNISTAR 2000-A

### Drill driven impeller pumps



*pump*



*adapter*



*example of application with adapter and cordless drill*

The pump series 2001-A and 2001-B are ideally driven with a drill.. The shaft can easily be fixed to the chuck of each regular electric or cordless drill and screwdriver.

### Two alternative mounting systems

This mounting system provides a secure and stable link between pump and drill:

#### With adapter

The adapter fixes the pump with the depth stop.

#### With mounting feet and regraded support

The pump is mounted to a regraded support along with the drill (the support is not part of the purchased parts package)

Adapter and regraded support separately available for back fitting:

- ▶ Support Art. No.: 11012310
- ▶ Mounting feet Art. No.: 11012710
- ▶ Adapter Art. No.: 11012300



*example of application with support (optional)*

# Diesel- and Oil pumps

## Pump types

### DC, AC or rotary current

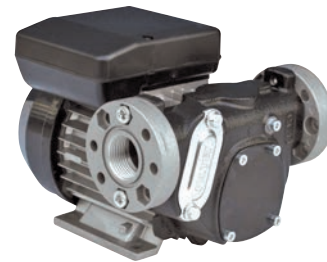
#### Application

- ▶ drain and clean tanks
- ▶ decant fuel oil and diesel
- ▶ motor oil change in CHP units
- ▶ central oil supplies

Diesel and oil pumps with flow meter available on request.



mechanical flow meter



Panther

#### Panther and E 120

Dry self-priming fuel pumps with bypass valve, type Panther additionally with anti-siphon valve and filter (100 µm) on the suction side. The pumps operate efficiently and reliably even at low temperatures.



VISCOMAT

#### VISCOMAT

Vane or gear pumps for oils with all grades of viscosity – also for vegetable oil. The pumps are characterized by excellent suction capacity and low-noise operation.

### Stationary or mobile fuelling

Cube 56 - fuel pump for non-resale use. Diesel pump Panther 56 in welded steel enclosure with flow meter and nozzle. For wall mounting or with pedestal..



fuel dispenser 56

### Technical details for Diesel- and Oil pumps

PANTHER	56	72	DC 12	DC 24
Flow rate max.	56 l/min	72 l/min	56 l/min	72 l/min
Working pressure max.	1,5 bar	2 bar	1,5 bar	2 bar
Motor	230 / 400 V	230 / 400 V	12 V	24 V
Connections	1", DN 25	1", DN 25	1", DN 25	1", DN 25
Weight	7.4 kg	8 kg	7.5 kg	7.5 kg

Type	E120
Flow rate max.	100 l/min
Working pressure max.	1,7 bar
Motor	230 / 400 V
Connections	1", DN 25
Weight	15.6 kg

You will find more information about our wide range of diesel and oil pumps in the detailed brochure or on our website [www.zuwa.de](http://www.zuwa.de)

## Pump types

### Fuel transfer box 3000 for mobile fuelling

Comes with diesel pump 12 / 24 Volt and box for safe storage.  
Clean refueling also in soiled environment:

a foot valve prevents dirt from getting into the suction hose.

12V Art.Nr.: P23100

24V Art.Nr.: P23200



fuel transfer box 3000

### Side channel centrifugal pumps EP

With AC, DC, rotary current or V-belt drive

Versatile, self-priming pumps made of bronze or stainless steel for liquids without soil and solids, well suitable also for fuel oil and diesel fuel. The pumps operate in both directions.

- ▶ suction depth 7 m maximum
- ▶ high temperature resistance
- ▶ on option with trolley

#### Application

- ▶ Water
- ▶ Fuel oil, Diesel
- ▶ Some acids (only stainless steel pumps)



EP NIRO



EPm220/40 with trolley

### Technical details for side channel centrifugal pumps

Type EPm	220/20	220/25	220/40	220/50
Flow rate max.	30 l/min	60 l/min	120 l/min	230 l/min
Working pressure max.	1,5 bar	1,8 bar	2,2 bar	3,0 bar
Motor	230 V	230 V	230 V	230 V
Connections	¾", DN 19	1", DN 25	1½", DN 40	2", DN 50
Weight	5.6 kg	9.2 kg	16 kg	26 kg

\* Motor mit 400 Volt auf Anfrage möglich.

Type EPNiro	220/25	220/40	220/50
Flow rate max.	58 l/min	120 l/min	230 l/min
Working pressure max.	2 bar	2,2 bar	3 bar
Motor	230 / 400 V	230 / 400 V	230 / 400 V
Connections	1¼", DN 30	1½", DN 40	2", DN 50
Weight	9,5 kg	18 kg	28 kg

# Flat suction systems

## Flat suction kit

### Flat Suction System offers effective aid to:

- ▶ draining platform roofs
- ▶ flooded basement and basement garages
- ▶ discarding residue water from swimming pools

### Features:

#### Powerful Pump

- ▶ Sturdy:

The Flat Suction System is provided with a heavy-duty ZUWA Impeller Pump. The pump is suitable for slurping action and tolerates a short dry run. The flexible impeller wheel is capable of transporting soil and solid particles within the fluid.

- ▶ Versatile

The pumps are not only suitable for water, but also for many different fluids like oil, heating oil, diesel and heat transfer fluid.

#### Suction Mat:

Suction mat remove fluids within reach of the mat nearly completely. Flow channels in the bottom side improve the suction effect and take even small amounts of liquid.

The water is pumped directly without intermediate storage.

- ▶ Expandable:

Depending on the dimensions of the flooded area even several mats can be connected in parallel to one pump.

#### 3 x 3 meter spiral hoses

Special GEKA screw fitting for the suction line ensures hermetic sealing (suction-, delivery hose and extension).

## Practical Accessories

#### Euro container

for easy transport and storage of pump and accessories.

#### Dry run protection:

Sensor interrupts power supply when overheating. Restart with reset button after eliminating the fault. The dry run protection allows to pump with the Flat Suction Kit without supervision!



Flat Suction  
Kit KOMPAKT



Oil-Suction  
Kit, mat not included

## Scavenge Kit ELEPHANT

The cordless suction set - assembled quickly and with a drill immediately ready for action. A must for any service technician.

- ▶ rapid, compact, reliable
- ▶ bidirectional rotation
- ▶ with flat suction mat and strainer
- ▶ professional, yet inexpensive



NEW!

### Feature variants

Flat Suction Kit	Basic	Compact	Top	Oil-Suction Kit	ELEPHANT
Pump UNISTAR 2000-B*	✓	✓	✓	✓	drill powered pump UNISTAR 2001-B
Pump carrying frame with rubber buffer	✓	✓	✓	✓	✗
3 x 3 m spiral hose 1" (with GEKA-coupling)	✓	✓	✓	✓	2 x 3 m textile reinforced hose ¾" with hose fitting
Flat suction mat	✓	✓	✓	on option	✓
Euro container with cover (2008550)	✗	✓	✓	✓	Transport box with lid 528 x 310 x 320 mm
Multi-purpose pump control	✗	✗	✓	✗	✗
Multi-purpose sensor switch	✗	✗	✓	✗	✗
Dry run protection (130100, 130120)	on option	on option	on option	on option	✗
Radio remote control set (141005)	on option	on option	on option	on option	✗
Art. No.	110150	110151	110152	110153	1101511
Art. No. - with COMBISTAR 2000-B*	110158	110157	110154	110155	✗

\*Flow rate max. 60 l/min. On request pumps with higher capacity available (up to max. 96 l/min)

### Flat suction Kit for different applications

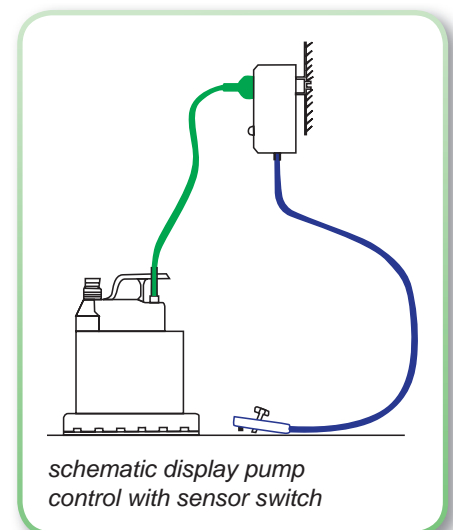
The flexible and robust suction mat work on slightly uneven ground as well. Unlike submersible pumps and water vacuum cleaners the flat suction system is capable of completely pumping out the fluid and is applicable for large areas.



Fire brigade



Flat roofs



At the back site of the brochure you find further accessories.

# Waste water pumps

## VORTEX and VORTEX NIRO

ZUWA'S VORTEX pumps are used for applications with dirty water containing solids. Depending on the type of pump particles with a diameter of 55 mm can be pumped.

### VORTEX

Robust waste water pumps made of cast iron with float switch, also for liquids with solid particles.

Also ATEX approved for application in biogas plants and other areas with potentially explosive atmosphere – intended for use in zone 1 and 2!

#### Applications

- ▶ Draining of excavation pits and hoppers
- ▶ remove flood water
- ▶ dispose off domestic sewage

#### Agricultural applications

- ▶ pump down of milking parlours
- ▶ cleaning of silage soakage and surface water
- ▶ irrigation in agriculture and horticulture



VORTEX 75

### VORTEX NIRO

Corrosion resistant sewage water pumps constructed of stainless steel, especially for aggressive sewage.

#### Applications

- ▶ biogas sector
- ▶ electrocoating processes
- ▶ chemical industry
- ▶ pharmacy
- ▶ seawater



VORTEX NIRO 100

## Technical details

Type	Power			Flow rate max.	pump head max.	Connections	Dimension	Pump inlet	Weight	Art. No.
	kW	V	A							
VORTEX 75	0,55	230	4,2	225 l/min	8 m	1¼"	22 x 28 cm	30 mm	17 kg	1650130
VORTEX 100	0,75	230	7	285 l/min	9 m	2"	20 x 42 cm	45 mm	23 kg	165017
VORTEX 150	1,1	230	8,9	450 l/min	10 m	2"	23 x 52 cm	50 mm	33 kg	165020
	1,1	400	3,5	450 l/min	10 m	2"	23 x 52 cm	50 mm	33 kg	165033
VORTEX 200	1,5	230	10	570 l/min	11 m	2"	23 x 52 cm	50 mm	34 kg	165018
	1,5	400	5,0	570 l/min	11 m	2"	23 x 52 cm	50 mm	34 kg	165057
VORTEX NIRO 100	0,75	230	5,3	340 l/min	12 m	2"	23 x 41 cm	35 mm	16 kg	165024
VORTEX NIRO 200	1,5	400	3,2	600 l/min	16 m	3"	44 x 53 cm	37 mm	36 kg	165025
VORTEX NIRO 300	2,2	400	5,0	850 l/min	20 m	3"	44 x 57 cm	40 mm	38 kg	165026

## Pump mounted on plate

### Faster and easier oil change in CHP Units

Plate mounted for simple fixing on tank or wall.

#### Application and function

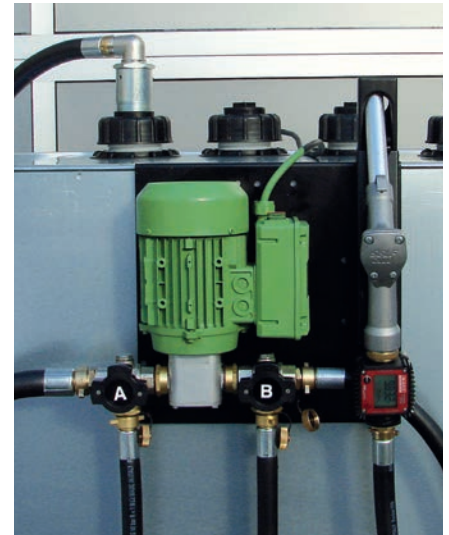
The pump is equipped with two suction and two pressure hoses. These hoses are connected to the motor of the CHP unit, a used oil tank and a tank with new motor oil. The set-up remains the same no matter if used oil is removed or fresh oil is delivered. Turning the multifunctional valves the four pipes are opened or closed accordingly.

#### Features

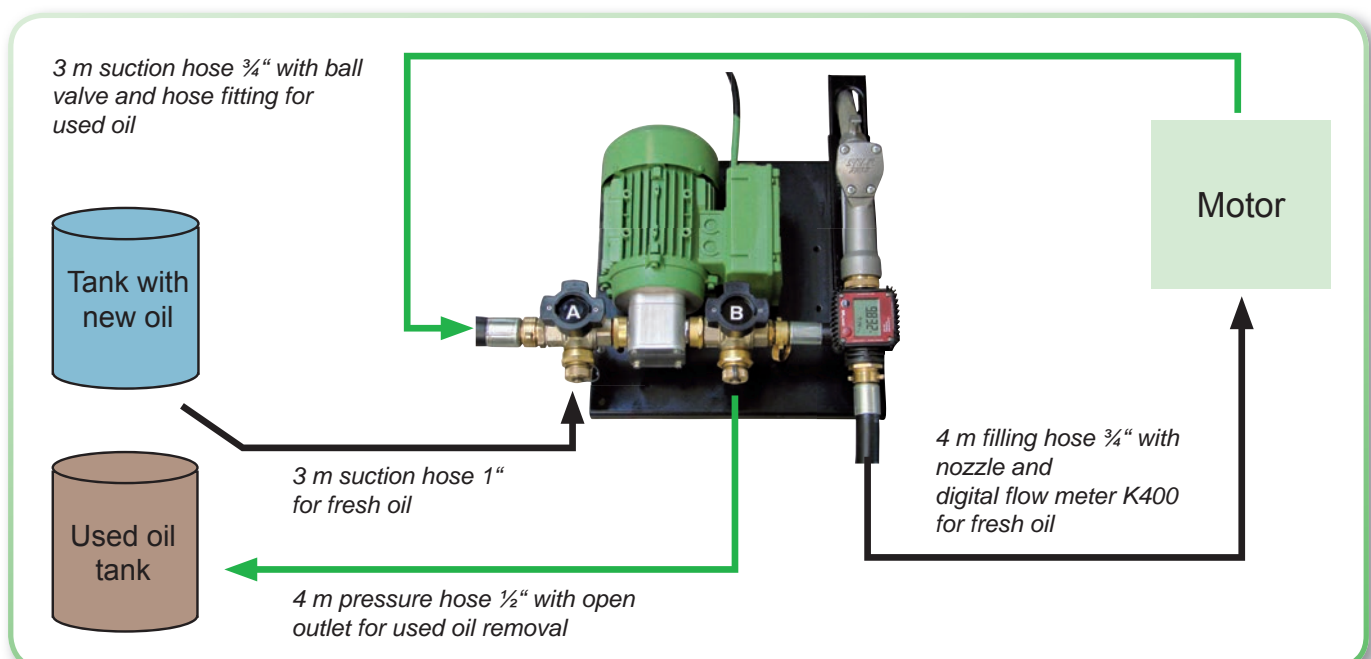
- ▶ Pump UNISTAR 2000-B - dry self priming pump with high performance - insensitive solids
- ▶ nozzle with electronic flow meter
- ▶ 2 x 3 m suction hose and 2 x 4 m delivery hose
- ▶ 2 multifunctional valves

#### Additional cleaning effect

Unlike removing motor oil through the oil drain plug pumping out oil leads to an increased removal of sedimentation inside the motor. The higher flow rate creates a suction effect and extracts dirt. The pumps handles solids without being affected.



### Detailed Illustration



## Dry running protection

Impeller pumps can be equipped with a dry run protection. A sensor switch interrupts the power supply to avoid overheating. Easy retrofitting of existing pumps.



*Dry running protection*

## Remote control with cable

Remote control for pumps with 10 m cable and ON/OFF switch. Suitable for all 230 Volt pumps, especially for remote control of the Solarcheck Mobil-center from the solar system control unit.



*Remote control with cable*

## Radio remote control

Small and handy transmitter and receiver.



*Radio remote control*

## Pump control

Reliable control device for pumps with 230 / 400 Volt up to 16 A. Key pads and signal lights on the front side.



*Pump control*

### Features:

- ▶ integrated level control
- ▶ programmable dry running protection
- ▶ electronic over-/underload protection
- ▶ excess voltage, phase failure and lightning protection
- ▶ reverse battery protection
- ▶ blocking protection (activation of the pump every 24 h/1 sec)
- ▶ storage of startings and working hours

## Changing the impeller

Useful tool to install the impeller easily into the casing. Suitable for all ZUWA impellers type A, B and C.



*Tool for impeller changing*

## Flexible, foldable emergency pans

Simple to clean, these dykes are perfectly useful for transporting small amounts of liquid, maintenance, bottling plants or degreasing / cleaning of motor components. The pans are resistant to oils and a number of chemicals. For transport the pans can be easily fold and store compactly. A velcro is used for the practical fastening.

Available in various dimensions:

45 x 45 cm (29 l vol.), 76 x 76 cm (81 l vol.), 122 x 122 cm (207 l vol.).



*Emergency pan*