

Diaphragm Pumps
for agriculture, horticulture and more



Constant, pulsation free conveyance of fluids



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Diaphragm Pumps

Main Information

The construction of the rugged ZUWA double piston diaphragm pumps provides for a constant and pulsation free transport of fluids. The pumps work in a medium pressure range and offer excellent intake capacity.

Spraying herbicides and pesticides on small to mid size crops is the most frequent application of diaphragm pumps in agriculture and horticulture. The pumps are also suitable for whitewashing stables and for applying INDISPRON® D 110 against parasites in poultry farms.

For the use with acids a pump with propylene housing and VITON® diaphragm is available. The corrosion resistant pumps can be mounted on carts, commercial vehicles, tractors or trailers.

Applications:

- ▶ spraying herbicides and pesticides
- ▶ distributing liquid fertilizer
- ▶ spraying detergents and paint
- ▶ whitewashing stables
- ▶ chemical disinfection
- ▶ cleaning industrial installations

Features:

- ▶ pump housing nylon or polypropylene
- ▶ continuously adjustable pressure regulator with recirculation, can be used for agitation
- ▶ mechanical parts oil bath lubricated
- ▶ good dry run tolerance
- ▶ glycerine manometer (except for MC 8 and MC 18)

Drive Modes:

Pumps are flanged directly onto the motor.

- ▶ electric motors 230 or 400 V
- ▶ combustion engines 2- or 4-stroke (Honda)
- ▶ p.t.o. shaft (only for model MP 30)
- ▶ hydraulic drive



with electric motor



with combustion engine



diaphragm pump with p.t.o. connection



with p.t.o. shaft

Diaphragm Pumps

MC 8, MC 18 and MC 20

MC 8, MC 18 and MC 20

- ▶ for spraying applications in parks, lawns, nurseries and small to mid size crops
- ▶ for industrial applications
- ▶ for water soluble detergents or paint

Diaphragms are available in NBR, Viton® or Desmopan®.
For acids: MC 8 and MC 18 with polypropylene housing and VITON® diaphragm.



MC 20 with 2-stroke motor



MC 8 with electric motor



MC 18 with electric motor acid version



MC 20 with electric motor

Technical details

Model	Motor power			rpm	Flow rate max.	Pressure max.	Connections in/out	Weight	Dimensions cm	Art.No.
	kW	V	A							
MC 8 *	0,44	230	3,2	1400	7,8 l/min	15 bar	16,4 x 10,5	9 kg	32 x 22 x 32	120652
	0,44	400	3,2	1400	7,8 l/min	15 bar	16,4 x 10,5	8 kg	32 x 24 x 22	120653
MC 8 * for acids	0,44	230	3,2	1400	7,8 l/min	15 bar	16,4 x 10,5	9 kg	32 x 22 x 32	1206421
MC 18 *	0,44	230	3,2	1400	11,9 l/min	15 bar	16,4 x 10,5	9,7 kg	32 x 22 x 32	1206412
	0,44	400	3,2	1400	11,9 l/min	15 bar	16,4 x 10,5	9,7 kg	32 x 24 x 22	1206413
MC 18 for acids	0,37	230	3,2	1400	11,9 l/min	15 bar	16,4 x 10,5	9,7 kg	32 x 22 x 32	1206422
MC 20 *	0,92	230	6	650	23 l/min	20 bar	18 x 10	15,6 kg	48 x 30 x 22	120603
	0,92	400	1,9	650	23 l/min	20 bar	18 x 10	15,6 kg	48 x 30 x 22	120635
MC 20 with 2-stroke motor	1,3	-	-	650	23 l/min	20 bar	18 x 10	10 kg	36 x 28 x 34	120604
MC 20 with 4-stroke motor	2,61	-	-	650	23 l/min	20 bar	18 x 10	25 kg	45 x 37 x 35	120643H

* Standard-Version with electric motor

Models MC 8 and MC 18 are available with combustion engine upon request. All models are available with different engine power.

Diaphragm Pumps

MC 25 and MP 30

MC 25 and MP 30

- ▶ for spraying applications in parks, lawns, nurseries and small to mid size crops
- ▶ for industrial applications
- ▶ for water soluble detergents or paint

Diaphragms are available in NBR, Viton® or Desmopan®.



MP 30 with electric motor



MC 25 with combustion engine



MC 25 with electric motor



MP 30 with 4-stroke motor

Technical details

Model	Motor power			rpm	Flow rate max.	Pressure max.	Connections in/out	Weight	Dimensions cm	Art.No.
	kW	V	A							
MC 25 *	1,1	230	7,1	650	23 l/min	25 bar	18 x 10	15 kg	48 x 30 x 22	12064305
	1,1	400	3,2	650	23 l/min	25 bar	18 x 10	14 kg	44 x 27 x 33	12064306
MC 25 with 4-stroke motor	2,61	-	-	650	23 l/min	25 bar	18 x 10	25 kg	56 x 37 x 38	12064304
MP 30 with p.t.o. shaft	-	-	-	550	32 l/min	30 bar	23,5 x 11,6	6,6 kg	10 x 26 x 22	120627
MP 30 *	2,2	230	15,2	550	32 l/min	30 bar	23,5 x 11,6	29 kg	57 x 26 x 34	120624
	2,2	400	4,85	550	32 l/min	30 bar	23,5 x 11,6	28 kg	56 x 35 x 29	120625
MP 30 with 4-stroke motor	3,7	-	-	550	32 l/min	30 bar	23,5 x 11,6	30 kg	48 x 35 x 37	120622

* Standard version with electric motor



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PTO Pumps

Irrigation, flushing, plant protection



PTO Pumps from ZUWA are ideal to convey water and pesticides. They are self-priming and sturdy. The PTO 20 and 25 are fully equipped. For PTO 300 accessories are to be ordered separately.



PTO 20
with accessory
kit irrigation



PTO 25
with accessory
kit washing



PTO 300
with accessory
kit irrigation

Technical Details

PTO Pump		Flow rate max.	Discharge pressure max.	Rpm	Connections inlet/outlet	Art.No.
PTO 20	with accessory kit washing	70 l/min	25 bar	700	1 1/4" - 3/4"	120681
	with accessory kit irrigation	180 l/min	25 bar	700	1 1/4" - 1 1/4"	120682
PTO 25 with BY-Pass	with accessory kit washing	70 l/min	25 bar	700	1 1/4" - 3/4"	120683
	with accessory kit irrigation	180 l/min	25 bar	700	1 1/4" - 1 1/4"	120684
PTO 300	without accessories*	170-300 l/min	30 bar	700	1 1/2" - 1 1/2"	120680

*Accessories see back side



PTO Pumps



Accessory Kits	PTO 20 and PTO 25		PTO 300*	
	washing	irrigation	washing	irrigation
3 m suction hose	✓ 1 1/4"	✓ 1 1/4"	✓ 1 1/2"	✓ 1 1/2"
7 m pressure hose	✓ 3/4"	✓ 1 1/4"	✓ 3/4"	✓ 1 1/2"
Sieve	✓	✓	✓	✓
Brass nozzle	✓	✗	✓	✗
Hose clamp	✓	✓	✓	✓
Art.No.	-	-	1206801	1206802



Repair Kit PTO 20, 25

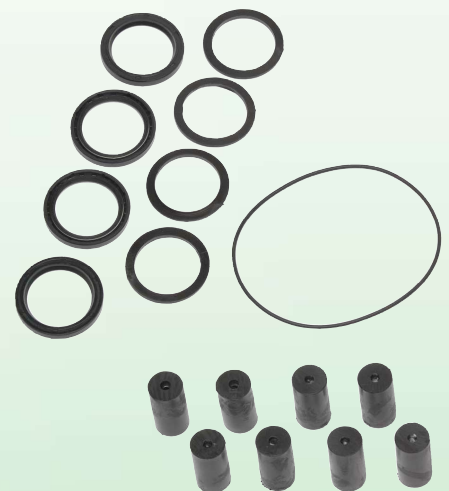
- ▶ 8 pcs. nylon rolls
- ▶ 4 pcs. gasket rings 45 x 60 x 7
- ▶ 4 pcs. distance rings
- ▶ 1 pcs. O-ring 3525

Art.No.: 120687

Repair Kit PTO 300

- ▶ 10 pcs. nylon rolls
- ▶ 4 pcs. gasket rings 45 x 60 x 7
- ▶ 4 pcs. distance rings
- ▶ 1 pcs. O-ring 4725

Art.No.: 120686



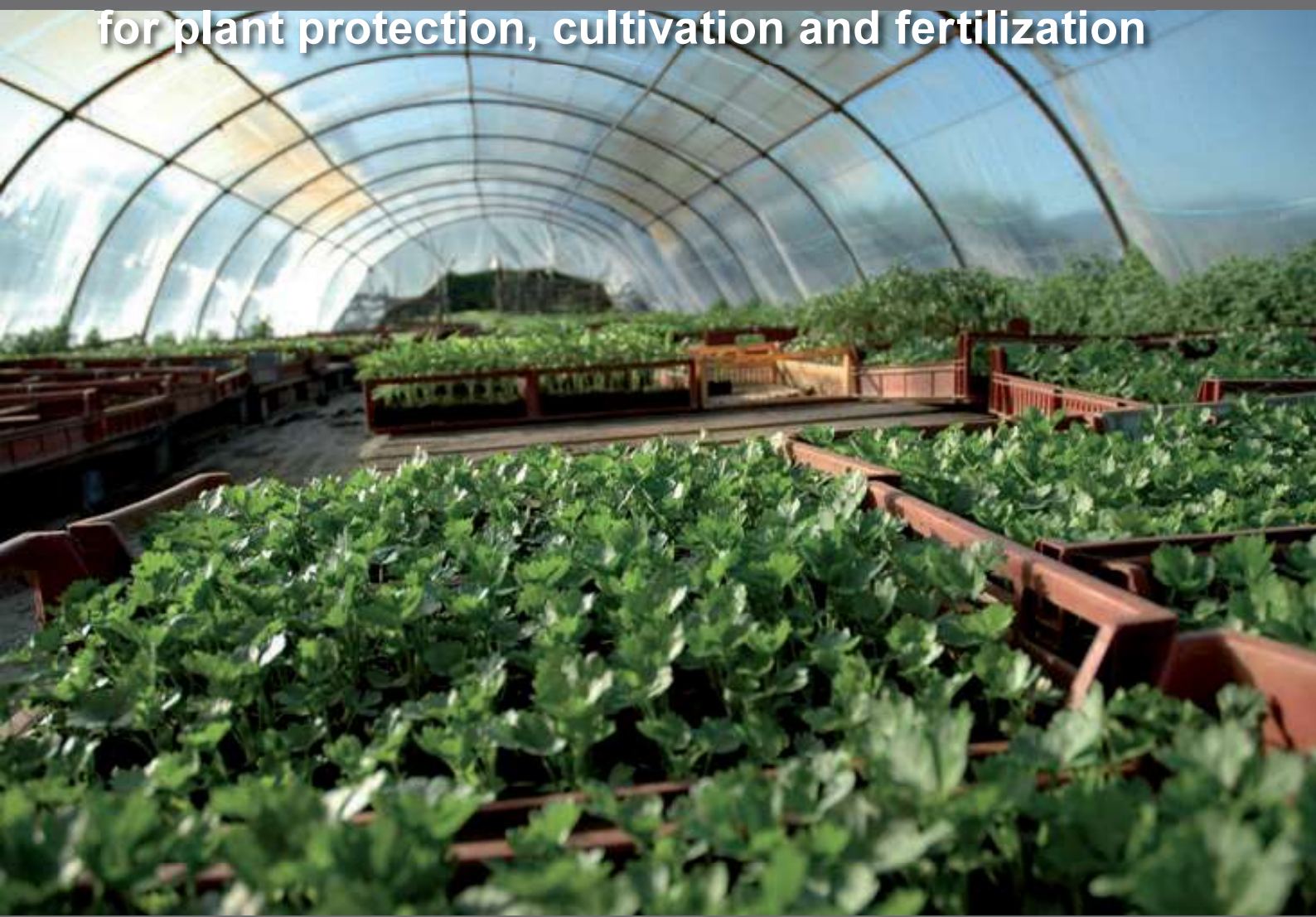
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Pflanzenschutzgeräte
Plant Protection Equipment



für Pflanzenschutz, Pflege und Düngung
for plant protection, cultivation and fertilization



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**QUALITÄT
SEIT 1946**
QUALITY SINCE 1946

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ZUWA-Zumpe GmbH

Das familiengeführte Unternehmen ZUWA-Zumpe GmbH steht seit mehr als 65 Jahren für Qualität und innovative Produkte. Die langjährige Erfahrung in der Herstellung und Entwicklung von Pumpen ermöglicht uns ein vielfältiges Sortiment. Das Produktspektrum von Pumpen, Zapfsäulen, Pflanzenschutzgeräten bis hin zu Füll- und Spülstationen ist weltweit gefragt.

ZUWA führt ein Qualitätsmanagement-System nach ISO 9001:2008, das regelmäßig vom TÜV-SÜD überprüft wird – Prozesssicherheit und gleichbleibend hohe Qualität wird gewährleistet. Durch den engen Kontakt zu unseren Kunden bekommen wir immer wieder Anregungen und Impulse für Verbesserungen und Weiterentwicklungen unserer Produkte.

Die eigene Produktion und Werkstatt im Haus ermöglicht uns jederzeit Sonderwünsche, Spezialanfertigungen und Reparaturen auszuführen. Kompetente Ansprechpartner und kurze Wege innerhalb der Firma sorgen für einen zuverlässigen und schnellen Service.



Daten, Angaben, Abbildungen, Beschreibungen und Maße des gesamten Prospekts sind unverbindlich und dienen nur der Veranschaulichung. Änderungen behalten wir uns vor. Für Druckfehler übernehmen wir keine Haftung.

The family run enterprise ZUWA-Zumpe GmbH has been manufacturing high quality pumps and innovative pump systems for more than 65 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 9001:2008 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.

All data, descriptions, photos, images and dimensions of the entire brochure are non binding and shall be used for visualisation only. We reserve the right for amendments and can not be held liable for printing errors.

Rückenspritze | Knapsack Sprayer

Spritzgeräte für Pflanzenschutz, Pflege und Düngung

Behälter in verschiedenen Größen

- ▶ mit Füllstandsmarkierung
- ▶ restlos entleerbar
- ▶ große Einfüllöffnung mit Siebeinsatz

Verschleißarme Membranpumpen

- ▶ mit leistungsfähigen Elektro- oder Verbrennungsmotoren, 2- oder 4-Takt
- ▶ trockenlaufsicher
- ▶ mit Glyzerinmanometer (nicht MC 18)

Druckregler mit Bypass

- ▶ stufenlos einstellbar
- ▶ Rücklauf kann als Rührwerk eingesetzt werden (Rührdüse ist als Zubehör lieferbar)

Geländetaugliche Fahrgestelle

- ▶ robust und verwindungssteif
- ▶ leichtgängige Luftreifen

Sprayers for plant protection, cultivation and fertilization

Tanks in different sizes

- ▶ with graduation marks
- ▶ can be drained completely
- ▶ wide tank openings with integrated sieve

Durable diaphragm pumps

- ▶ with high capacity electric or combustion engine, 2- or 4-stroke
- ▶ dry run resistant
- ▶ with glycerine manometer (except MC 18)

Pressure regulation with bypass

- ▶ continuously adjustable
- ▶ recirculation can be used for mixing of fluids (agitator available on option)

All-terrain carts

- ▶ sturdy and warp resistant
- ▶ smooth running pneumatic wheels

Rückenspritze / KNAPSACK SPRAYER

10- oder 20-Liter Behälter

Die Rückenspritze ist angenehm zu tragen durch breite, gepolsterte Trageriemen und Rückenkissen aus Leder. Eine große, doppelt wirkende Kolbenpumpe mit Windkessel aus Messing sorgt für gleichbleibenden Druck bei geringem Kraftaufwand. Die Pumpe ist außerhalb des Tanks bequem zu reinigen und wartungsfreundlich. Ersatzteilgarantie!

- ▶ Rückenspritze mit großer Öffnung und Füllstandsmarkierung
- ▶ Spritzrohr 60 cm mit Momentabstellventil
- ▶ Manometer
- ▶ Bogenstück und verstellbare Düse

10 Liter, Art. Nr. 500001 - 20 Liter, Art. Nr. 500004

10- or 20-Litres Tank

Comfortable carrying with soft leather pads for shoulders and back. Large double piston pump with brass air reservoir maintaining constant high pressure at minimum effort. Externally attached pump allows for easy cleaning and maintenance. Spare parts are available for decades!

- ▶ Knapsack sprayer with wide mouth and filling marks
- ▶ spray pipe 60 cm with shut-off valve
- ▶ pressure gauge
- ▶ bow-shaped segment and adjustable cone

10 litres, Art. No. 500001 - 20 litres, Art. No. 500004



Karrenspritze | Cart Sprayer

F-30 | F-55

Karrenspritze F-30 KOMPAKT mit Zubehör | Cart Sprayer F-30 KOMPAKT incl. accessories

30-Liter Behälter

Kompaktes Fahrgestell mit 10 m Druckschlauch und Spritzrohr 750 mm komplett.

- ▶ höhenverstellbarer Teleskopgriff
- ▶ Tragegriff auf der Rückseite für bequemes Tragen mit einer Hand
- ▶ Maße: 76-100-110 x 49 x 51 cm

30-Litres Tank

Compact chassis with 10 m pressure hose and spray wand 750 mm complete.

- ▶ retractable telescopic handle
- ▶ carrying handle on rearward side for convenient transport of the device
- ▶ dimensions: 76-100-110 x 49 x 51 cm



Karrenspritze F-55 | Cart Sprayer F-55

55-Liter-Behälter

Einteiliges Fahrgestell in schmaler Bauform, gut geeignet für Verkaufsräume mit Ecken und schmalen Durchgängen.

- ▶ Reifengröße: 260 x 85 mm
- ▶ Maße: 60 x 47 x 105 cm

OPTIONAL:
Schlauch und
Spritzrohr

55-Litres-Tank

One-piece chassis, narrow construction, well adapted for locations with narrow aisles and corners.

- ▶ tyre size 260 x 85 mm
- ▶ dimensions: 60 x 47 x 105 cm

ON OPTION:
Hose and
spray wand



Technische Details | Technical details

Karrenspritze / Cart Sprayer	Motor			Förderleistung / Flow rate max.	Förderdruck / Pressure max.	Gewicht / Weight	Art.Nr. / Art.No.
	kW	V	A				
F-30 MC 18	0,37	230	3,2	11,9 l/min	15 bar	24 kg	132028
F-55 MC 18	0,37	230	3,2	11,9 l/min	15 bar	28 kg	132060
F-55 MC 20	1,0	230	6	23 l/min	20 bar	34 kg	132061
F-55 MC 20	1,0	400	1,9	23 l/min	20 bar	34 kg	132063
F-55 MC 20	1,3	2-Takt/stroke		23 l/min	20 bar	36 kg	132062



MC 20



MC 18



MC 20-2T
2-Takt/2-stroke

Karrenspritze F-120 | Cart Sprayer F-120

120-Liter Behälter

Zweiteiliges Fahrgestell mit abnehmbarem Handgriff. Das Drehkreuz erleichtert das Abrollen des Schlauches in alle Richtungen und ebenso das Aufrollen.

- ▶ Drehkreuz zum Schwenken der Schlauchhaspel
- ▶ Reifengröße: 400 x 100 mm
- ▶ Maße: 140 x 68 x 83 cm

OPTIONAL:

Spritzrechen zur Montage an der Rückseite des Karrens und Lenkrolle vorne

120-Litres Tank

Two-piece chassis with removable handle. The Reel base for easy delivery and retraction of hose to all directions.

- ▶ rotating reel base
- ▶ Tire size: 400 x 100 mm
- ▶ Dimensions: 140 x 68 x 83 cm

ON OPTION:

Spray bar for mounting on the back side of the cart and jockey wheel mounted on the front side



optional mit Lenkrolle vorne
on option with front side jockey wheel

Drehkreuz
rotating reel base



Technische Details | Technical details

Karrenspritze Cart Sprayer	Motor			Förderleistung / Flow rate max.	Förderdruck / Pressure max.	Gewicht / Weight	Art.Nr. / Art.No.
	kW	V	A				
F-120 MC 18	0,37	230	3,2	11,9 l/min	15 bar	37 kg	132078
F-120 MC 18	2,2	4-Takt/stroke		11,9 l/min	15 bar	42 kg	132077
F-120 MC 20	1,0	230	6	23 l/min	20 bar	44 kg	132071
	1,0	400	1,9	23 l/min	20 bar	44 kg	132076
F-120 MC 20	1,3	2-Takt/stroke		23 l/min	20 bar	37 kg	132072
	2,2	4-Takt/stroke		23 l/min	20 bar	44 kg	132073H
F-120 MC 25	1,1	4-Takt/stroke		23 l/min	25 bar	46 kg	132078H
F-120 MP 30	2,2	400	4,8	32 l/min	30 bar	44 kg	132075
F-120 MP 30	4,1	4-Takt/stroke		32 l/min	30 bar	48 kg	132074H

Karrenspritze | Cart Sprayer

F-200/300

Karrenspritze F-200/300 Cart Sprayer F-200/300

200- oder 300-Liter Behälter

Fahrgestell mit zwei Lenkrollen* für mehr Stabilität und leichteres Rangieren. Weitere Vorteile: Große Luftreifen und abnehmbarer Handgriff.

- ▶ Reifengröße 400 x 100 mm
- ▶ Maße: 180 x 80 x 85 (90) cm

* Optional: Lenkrollen mit Luft

200- or 300 Litres Tank

Chassis with two jockey wheels* providing for better stability and convenient transport. Further benefits: large pneumatic tires and removable handle.

- ▶ Tire size 400 x 100 mm
- ▶ Dimensions: 180 x 80 x 85 (90) cm

* On Option: pneumatic jockey wheels

OPTIONAL:

- ▶ Drehkreuz zum Schwenken der Schlauchhaspel für einfache Handhabung
- ▶ Breitreifen 480 x 200 mm
- ▶ mit Pumpentyp MC 20 für niedrigeren Druck

ON OPTION:

- ▶ rotating reel base for convenient handling of the hose
- ▶ large tires 480 x 200 mm
- ▶ with pump MC 20 for lower pressure



MP 30



MP 30 4-Takt/4-stroke



Technische Details | Technical details

Karrenspritze / Cart Sprayer	Motor			Förderleistung / Flow rate max.	Förderdruck / Pressure max.	Gewicht / Weight	Art.Nr. / Art.No.
	kW	V	A				
F-200 MP 30	2,2	400	4,8	32 l/min	30 bar	68 kg	132456
F-200 MP 30	4	4-Takt/stroke		32 l/min	30 bar	74 kg	132457H
F-300 MP 30	2,2	400	4,8	32 l/min	30 bar	75 kg	132556
F-300 MP 30	4,1	4-Takt/stroke		32 l/min	30 bar	81 kg	132557H

Anhängerspritze EAS-200/300 Trailer Sprayer EAS-200/300

200- oder 300-Liter Behälter

Anhängerspritzgeräte für Kleintraktoren. Fahrgestell mit großen Luftreifen, höhen- und längenverstellbarer Deichsel, höhenverstellbares Deichselstützrad mit Kurbel.

- ▶ Reifengröße 400 x 100 mm
- ▶ Maße: 200 x 80 x 85 (90) cm

200- or 300-Litres Tank

Trailer sprayers for lawn or garden tractors. Chassis with large pneumatic tires, tow bar adjustable in height and length, jockey wheel with crank handle.

- ▶ Tire size 400 x 100 mm
- ▶ Dimensions: 200 x 80 x 85 (90) cm

OPTIONAL:

- ▶ Drehkreuz zum Schwenken der Schlauchhaspel für einfache Handhabung
- ▶ Breitreifen 480 x 200 mm
- ▶ Deichsel mit Kugelkopfkupplung für PKW oder Zugöse

ON OPTION:

- ▶ rotating reel base for convenient handling of the hose
- ▶ large tires 480 x 200 mm
- ▶ shaft with trailer coupling for cars or drawbar eye



Breitreifen / large tires



Technische Details | Technical details

Anhängerspritze / Trailer Sprayer	Motor			Förderleistung / Flow rate max.	Förderdruck / Pressure max.	Gewicht / Weight	Art.Nr. / Art.No.
	kW	V	A				
EAS-200 MP 30	2,2	400	4,85	32 l/min	30 bar	84 kg	132460
EAS-200 MP 30	3,7	4-Takt/stroke		32 l/min	30 bar	90 kg	132462H
EAS-300 MP 30	2,2	400	4,85	32 l/min	30 bar	91 kg	132560
EAS-300 MP 30	3,7	4-Takt/stroke		32 l/min	30 bar	97 kg	132562H
EAS-200br MP 30*	4,1	4-Takt/stroke		32 l/min	30 bar	105 kg	132469
EAS-300br MP 30*	4,1	4-Takt/stroke		32 l/min	30 bar	111 kg	132569
EAS-200 MP 30	-	Zapfwelle/PTO		32 l/min	30 bar	80 kg	132463
EAS-300 MP 30	-	Zapfwelle/PTO		32 l/min	30 bar	87 kg	132563

* Reifengröße / tire size 480 x 200 mm

Anbauspritze | Tractor Mounted Sprayer

Gießgerät F-120 | Watering Sprayer F-120

Anbauspritze ABS 200/300 | Tractor Mounted Sprayer ABS 200/300

200- oder 300-Liter-Behälter

Kompakte Anbauspritze mit massivem Rahmen für 3-Punkt-Aufhängung von Schleppern. Leistungsstarke Membranpumpe MP 30 für Zapfwellenantrieb inklusive Fernanschluss.

Auch Sonderanfertigungen nach Kundenwunsch möglich!

► Maße: 90 x 60 x 110 cm

200 or 300 Litres Tank

Compact tractor mounted sprayer with robust frame and three point hitch. Efficient diaphragm pump MP 30 for connection with p.t.o. shaft including remote control.

We offer individual fabrication according to customer's specification!

► Dimensions: 90 x 60 x 110 cm

OPTIONAL:

- Spritzrechen
- Schlauchhaspel



ON OPTION:

- Spray bar
- hose reel



Zapfwellenanschluss /
PTO Connection



Fernanschluss /
remote connection

Technische Details | Technical details

Anbauspritze / Tractor Mounted Sprayer	Förderleistung / Flow rate max.	Förderdruck / Pressure max.	Behälter / Tank	Gewicht / Weight	Art.Nr. / Art.No.
ABS-200	32 l/min	30 bar	200 l	75 kg	132483
ABS-300	32 l/min	30 bar	300 l	85 kg	132484

Gießgerät F-120 | Watering Sprayer F-120

120-Liter-Behälter* | 120-Litre-Tank*

Trocken selbstansaugende Impellerpumpe und robustes Fahrgestell für Parks/ Friedhöfe. Leise, batteriebetriebene Pumpe (Batterie exklusive) mit ZUMATIC-Pumpensteuerung - automatisches Ein- und Ausschalten beim Öffnen oder Schließen des Gießrohres. Art.Nr. 133004 12V und 133006 24V

- Förderleistung max.: 30 (optional 60) l/min
- Antrieb 12 oder 24 Volt mit mindestens 80 A/h

Watering sprayer with dry self-priming impeller pump and sturdy chassis for applications in parks/cemeteries. Noiseless battery driven pump (battery exclusive) with ZUMATIC pump control. The pump starts/stops automatically on opening or closing the spray pipe. Art.No. 133004 12V and 133006 24V

- Flow rate max.: 30 (on option 60) l/min
- Drive: battery 12 or 24 Volt with minimum 80 A/h



* auch mit 200- oder 300-Liter Behälter lieferbar oder zur Montage auf einer Anhängerpritsche.

* also available with 200 or 300 litre tank or designed for being mounted on a pick up truck or a van.

Schlauch | Hose

Schlauch PVC $\frac{3}{8}$ " , max. 40 bar, Meterware, Art.Nr. 30085

Hose PVC $\frac{3}{8}$ " , max. 40 bar, sold per metre, Art.No. 30085



Schlauchhaspeln | Hose Reels

Schlauchhaspeln / Hose reels	für / for	Art.Nr. / Art.No.
manuell / manual	50 m	131042
manuell / manual	100 m	131043
automatisch / auto-retracting	40 m	131244



Drehkreuz für Schlauchhaspeln | Rotating reel base

Zum Schwenken der Schlauchrolle in alle Richtungen. Einfaches Auf- und Abrollen des Schlauches ohne Kippen des Fahrgestells. Art.Nr. 131230

Rotating reel for convenient multidirectional delivery and retracting of hose without tilting the cart. Art.No.131230



Spritzrechen | Spray Bars

Spritzrechen / spray bar	Düsen / nozzles	Spritzbreite / Spray coverage	Art.Nr. / Art.No.
klappbar / hinged	6	3 m	133101
klappbar / hinged	8	4 m	133102
steif / rigid	3	1,5 m	550020



Spritzpistolen | Spray Guns

- ▶ Spritzpistole mit verstellbarer Düse 2,3 mm, Tragegurt, Anschlussgewinde $\frac{1}{2}$ ". Art.Nr. 14790110
- ▶ Spritzpistole HYDRA Plus, Einhandbedienung, Anschlussgewinde $\frac{1}{2}$ " a, Art.Nr. 550005

- ▶ Spray gun with adjustable nozzle 2.3 mm, shoulder strap, connecting thread $\frac{1}{2}$ ". Art.Nr. 14790110
- ▶ Spray gun HYDRA Plus, for single handed use, connecting thread $\frac{1}{2}$ " ext., Art.No. 550005



Düsen | Spray nozzles

Düsen für Spritzpistolen / Spray nozzles	Art.Nr. / Art.No.
Ø 1,0 mm	55001503
Ø 1,5 mm	55001501
Ø 2,0 mm	55001502



Zubehör Accessories

Gießrohr | Pouring Tube

Gießrohr mit Brausekopf, KS Kugelhahn, ALU-Rohr, mit 3/4" Gewinde, Art.Nr. 550007 - mit GEKA-Anschluss, Art.Nr. 550008

Watering tube with shower nozzle, ball valve, aluminium wand, with 3/4" thread, Art.No. 550007 - with GEKA connection, Art.No. 550008



Schutzschirme | Safety Shields

Schutzschirme mit Flachstrahldüse / Safety shield with flat fan nozzle	Form / Shape	Art.Nr. / Art.No.
Ø 35 cm	oval / oval	550120
Ø 25 cm	rund / circular	550119
Ø 20 cm		550118
Ø 15 cm		550117



Spritzrohre | Spray Pipes

- ▶ Spritzrohr: Momentabstellventil, Messingrohr, Bogenstück, verstellbare Düse 1,5 mm, Schlauchanschluss 1/2" oder 3/8", Rohranschluss M12 x 1,25 Länge 75 cm, Art.Nr. 550402 - Länge 100 cm, Art.Nr. 550401
- ▶ Momentabstellventil Messing, Anschluss 1/2" a, Rohranschluss M12 x 1,25 Art.No. 550420
- ▶ Bogenstück Messing, Rohranschluss M12 x 1,25, Art.No. 550421

- ▶ Spray pipe kit with shut-off valve, brass wand, bow-shaped segment, adjustable nozzle 1,5 mm, hose thread 1/2" or 3/8", pipe connection M12 x 1,25 length 75 cm, Art.No. 550402 - length 100 cm, Art.No. 550401
- ▶ Shut-off valve brass, thread 1/2" ext., pipe connection M12 x 1,25. Art.No. 550420
- ▶ Bow-shaped segment brass, pipe connection M12 x 1,25. Art.No. 550421

Verlängerungsrohre für Spritzrohr / Spray pipe extensions	Art.Nr. / Art.No.
Messing / brass 60 cm, 75 cm, 100 cm	550106, 550107, 550108
Aluminium 50 cm, 100 cm, 150 cm, 200 cm	550143, 550101, 550102, 550103



Düsen | Nozzles

Rohranschluss bei allen Düsen / Pipe connection for all nozzles: M12 x 1,25

Düsen für Spritzrohr / Nozzles for spray pipes	Ø mm	Art.Nr. / Art.No.
verstellbare Düse / adjustable nozzle	1,5	550209
Gabeldüse 2-fach / Y-connection	1,5	550217
Gabeldüse 3-fach / 3-way distributor	2,0	550212
Düse Messing, PVC / nozzle brass, PVC	1,5	550219
Düse Messing, PVC / nozzle brass, PVC	2,0	550222
Düse Messing, PVC / nozzle brass, PVC	2,3	550223
Kalkdüse (Fischmauldüse) / nozzle for whitewash	-	550205



Unkrautstäbe | Weed Wands

Funktionsweise | Function

Beim Bestreichen des Unkrauts mit dem Docht wird von den Blättern der behandelten Pflanze ein systemisches, nicht selektiv wirkendes Herbizid (z. B. Roundup®PowerFlex) aufgenommen. Das Herbizid dringt in die Wurzeln ein und zerstört das Unkraut.

Form und Anordnung des Dochts platzieren das Herbizid direkt auf dem Unkraut ohne Schaden für die angrenzende Vegetation.

Ersatzdochte und Verschlusskappen einzeln erhältlich.

Vor Inbetriebnahme des Gerätes hat sich jeder Anwender zu vergewissern, dass das eingesetzte Mittel die Streichzulassung aufweist!

When wiping the rope wick onto weeds a systemic, non-selective herbicide (e. g. Roundup®PowerFlex) is absorbed by the foliage of the treated plant, penetrates the root system and destroys the weed.

The wick's shape and configuration place the herbicide directly on the target weed without damaging adjacent vegetation.

Replacement wicks and sealing caps individually available.

Prior to using the device the user needs to make sure the agent used has a permission / certification for the specific application!

Typ / Type	Länge / Dimension	Arbeitsbreite / coverage	Füllmenge / content	Art.Nr. / Art.No.
310	Länge je 1 m / length 1 m	5 cm	0,4 l	300311
315*		15 cm	0,6 l	300316
320*		20 cm	0,6 l	300321
330		30 cm	0,6 l	300330
350	1,30 m	50 cm	1,3 l	300350
Markierungsfarbe / Marker dye	50 ml			300300

* mit LSV-Zertifikat / LSV-certificate

Flächenstreichgerät 2000-SB Wick Wiper Bar 2000-SB

Bausatz für Selbstmontage | Self installation kit

Flächenstreichgeräte zur Montage an Schleppern.

- ▶ Grundeinheit** : Dochtbalken mit 6 Dochten, Streichbreite 1,4 m, 10-Liter Behälter mit Kugelhahn, 1,5 m Schlauch ½" mit Schlauchverschraubung und 2 Schlauchklemmen. Art.Nr. 300501
- ▶ Verlängerung: Dochtbalken mit 6 Dochten, Streichbreite 1,3 m, 1,5 m Schlauch ½" mit Armaturen, Verbindungsstücken und 5 Schlauchklemmen. Art.Nr. 300502

** Verbindung zur Drei-Punkt-Aufhängung des Schleppers nicht inklusive.

Wick wiper bar for tractor mounting.

- ▶ Basic Unit** : bar with 6 rope wicks, coverage 1.4 m, 10 litres tank with ball valve, 1.5 m hose ½" with hose and connections and 2 hose clamps. Art.Nr. 300501
- ▶ Extension Unit: bar with 6 rope wicks, coverage 1.3 m, 1.5 m hose ½" with fittings, connections and 5 hose clamps. Art.Nr. 300502

** Attachment to three-point hitch of a tractor not included.



Unkrautstab 310
Weed Wand 310



Unkrautstab 315/320
Weed Wand 315/320



Unkrautstab 330
Weed Wand 330



Unkrautstab 350
Weed Wand 350



QUALITÄT
SEIT 1946

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QUALITY
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The ZUWA Vole Fighter

Nonpolluting, simple, save!



No more disturbing Volehills

The ZUWA vole fighter is a well tested, easy to handle and absolutely save device to remove voles in a short time.

Fully equipped:

- ▶ 2-stroke Otto motor with fan
- ▶ 2 probes and 1 gas injector
- ▶ 6 meters hose and hose carrier
- ▶ 5 liter fuel tank



OPTIONALLY:
longer axle for more
comfort in rough
terrain

Contrary to other methods the fumigation with ZUWA Vole Fighter does not expel the voles but eradicates them even in wide spread tunnel systems.

No environmental impact! The application of ZUWA Vole Fighter is absolutely safe for the operator. The procedure is environmentally compatible and does not contaminate the soil. It does not affect other wildlife nor pets or poultry.

Simple application, rapid result:

1. insert the gas injector into a vole tunnel
2. initiate exhaust emission for about 3-5 min

Using the ZUWA Vole Fighter is simple - the gas injector is inserted into a vole tunnel and exhaust emission is pumped into the tunnel system. Fanned, the gas spreads so rapidly, that there is no time for the vole to leave or block the tunnel. The dosed gas concentration is so high that an immediate death of the voles is guaranteed.

Technical details:

The ZUWA Vole Fighter	
Cylinder capacity	72,4 cm ³
Power	2,6 kW (3,5PS)
Ventilation system performance	max. 960 m ³ /h; 120 m/s
Dimensions	67 x 48 x 104 cm
Weight	ca. 27 kg
Article number	400001



THE ORIGINAL -
Made BY ZUWA -
German Top Quality



The ZUWA Vole Fighter

Stop the voles!!!

Stop the vole plague by using the ZUWA Vole Fighter!
Vole infestation cause a number of damages:

- ▶ bad feed quality
- ▶ bad animal health
- ▶ power reduction, drop of animal power
- ▶ high wear and tear of machinery = high costs

A vole is an attack on your profit!

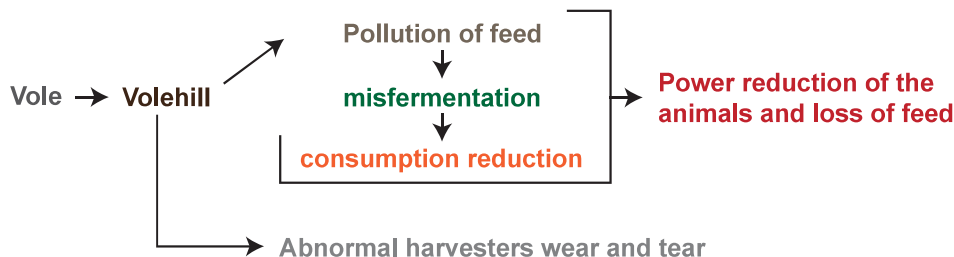
Damages caused by voles

Feed quality:

By feeding with butyric contaminated silage the animal health may be affected. Because of the disgusting taste of the silage, feed consumption decrease and dirt remains longer in the digestive tract. The result is a metabolic disorder and problems of udder health, fertility and the claws may be occur.

Agricultural machinery:

Abnormal wear and tear will be occur at harvesters and because of the high pollution of the feed additional efforts are needed.



Important information about voles:

Good environmental conditions and high food availability boost a very rapid growth of population. Therefore an immediate reaction is required to avoid a vole plague.

Fast and systematic action is needed!

The best time period for vole fighting is in spring (before the first propagation) and in autumn (to avoid that they can survive in winter). Vole fighting is a permanent process.

Please always take care about the affected areas to act immediately in case of new infestation. The result of none combating would be a fast reproduction and new damages.

There is a solution of fighting against voles. With the ZUWA Vole Fighter you get an effective tool to keep out voles from your areas in a simple way.

Many satisfied users confirm this again and again. Please use this device and take confidence of our long experience.

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I. Validity, conclusion of the contract

- 01 The following Conditions of Sale and Payment, as well as any separate contractual agreements, shall apply to all our supplies and services to our customer – hereinafter named “customer”.
- 02 Any deviating General Terms and Conditions of Business of the customer shall not form part of the contract, even through our acceptance of the order.
- 03 In the absence of a separate agreement, a contract shall materialise upon our written confirmation of the order. In the absence of any separate agreement, the type and scope of supplies and services shall substantially be in conformity with our order confirmation.

II. Offer, reservation of right to make amendments

- 01 All offers shall always be subject to confirmation.
- 02 The documents forming part of our offers, such as illustrations, drawings and details of weights and measures are only approximate values and, as such, are only applicable in so far as they are not expressly designated binding.
- 03 Any amendments to the technical design of the goods ordered shall be admissible in so far as a significant change in function does not occur thereby or the customer does not prove that the change is unreasonable for it.
- 04 We reserve our unrestricted ownership and our comprehensive intellectual property rights and copyrights in cost estimates, drawings, models, plans and any other documentation in material and immaterial form, in particular electronic form. They are to be treated confidentially and may not be made accessible to third parties.

III. Prices and payment terms

- 01 In the absence of any special agreement, our prices are always quoted in EUROS ex works. Within the country, the statutory applicable rate of VAT shall apply in addition to the prices. In the case of prices ex works the customer shall in addition bear the costs of packaging, insurance, despatch and any customs duties.
- 02 Our invoices are payable immediately without deduction - subject to any special written agreements.
- 03 In the event of arrears of payment and/or doubt concerning the creditworthiness of a customer we reserve the right to require the customer to pay in advance or to request a corresponding security deposit.
- 04 The customer may only assert rights of retention or offset our claims with counterclaims in so far as the latter have been determined undisputedly or with legal validity.
- 05 Partial deliveries shall be invoiced separately. In that respect, the respective above-mentioned conditions shall apply.

IV. Delivery and delivery deadline

- 01 The specifying of particular delivery deadlines and delivery dates shall be subject to the reservation that we receive correct and timely deliveries ourselves. Should any delays in that respect become apparent, we shall inform the customer of this as soon as possible.
- 02 The customer shall be obliged to inform us in good time of the exact delivery address; we shall not accept any liability for errors occurring on the part of the customer in that respect. Any additional costs which may be incurred shall be borne by the customer.
- 03 The delivery deadline shall only begin to run following receipt of all details and documentation necessary for processing the order from the customer.
- 04 Delivery deadlines shall be extended by the period in which the customer is in arrears with the fulfilment of its principal contractual obligations, in particular the fulfilment of its payment obligations.
- 05 The delivery deadline is deemed to have been adhered to if the items to be delivered have left the factory prior to its expiry or readiness for despatch has been notified to the customer. Deliveries ex works shall be fulfilled upon provision of the goods for collection by the customer.
- 06 Partial deliveries shall be permissible, in so far as they are reasonable for the customer.
- 07 We shall not be responsible for any delay and failure to deliver for as long as we or our assistants or suppliers are not blameworthy. This shall particularly apply in the event of Acts of God. Should a claim for compensation for damage accrue to the customer as a result of our delay in accordance with the statutory provisions, this shall be restricted to the damage foreseeable at the time of concluding the contract, however a maximum of 5% of the value of the partial or entire delivery, in so far as, in consequence of the delay or non-delivery, the latter cannot be used by the customer in good time or in accordance with the contract. This restriction shall not apply in so far as we are unrestrictedly liable in cases of intent or gross negligence. The customer is required to inform us immediately in writing on any impending damage due to delay.

- 08 Should the despatch of the items to be delivered be delayed for reasons which are the fault of the customer, we shall be entitled, commencing two weeks after notification of readiness for despatch, to charge the customer for any costs incurred through the delay.

V. Delay in acceptance

- 01 For the duration of the delay in acceptance we shall be entitled to store the delivery items at the customer's expense.
- 02 If the customer continues to refuse acceptance following the expiry of a reasonable deadline set for it, or previously finally and seriously declares that it no longer wishes to accept the delivery, we may withdraw from the contract and require compensation for damage in place of the customer's payment. As compensation for damage we may require 25% of the agreed purchase price. We reserve the right to assert a higher claim for damage.
- 03 Should the customer delay in acceptance of the delivery, the risk shall pass to it.

VI. Passing of risk

- 01 Upon agreed delivery carriage paid or DDU, the risk shall pass to the customer upon handing over the goods. In the case of delivery ex works, the risk shall pass to the customer upon provision of the delivery. This shall also apply if despatch is delayed as a result of circumstances for which we are not responsible. Should notification of readiness for despatch not occur, the risk shall pass to the customer upon handing over the goods to the post, the carrier or freight forwarder, however at the latest upon leaving the factory premises. This shall also apply to partial deliveries and in the event that we take on further services, such as the costs of despatch or delivery charges. We undertake to conclude insurances requested by the customer, at the customer's expense, upon receipt of advance payment.
- 02 With reference to our reservation of ownership, the customer is required to ensure that the delivery is insured, since, upon asserting our reservation of ownership, we take the full value of the goods as a basis and any damage or deterioration which has occurred to the delivery items in the meantime shall be made good at the customer's expense.
- 03 In the absence of any special agreement, any returns shall always be at the customer's expense and risk.

VII. Reservation of ownership

A) Business within the country

- 01 We reserve the right of ownership in the items delivered by us (reserved goods) in all cases. Respective ownership shall only pass to the customer following payment in full.
- 02 Should the customer be an independent contractor, it shall be entitled to resell the items supplied within the scope of its orderly course of business, and on its usual terms and conditions of business, for as long as it is not in arrears. In this case the customer already now assigns to us all receivables with all subsidiary rights accruing to it from the consumer or third parties as a result of the resale, and in fact regardless of whether the reserved goods are resold without or following further processing or manufacture. The customer shall continue to be entitled to collect these receivables following assignment. Our authorisation to collect the receivables ourselves shall remain unaffected thereby. We shall not make use of this authorisation for as long as the customer fulfils its payment obligations in an orderly manner. We may require the customer to make known to us the assigned claims and the debtors thereof, provide us with all details necessary for collection, hand over to us the associated documentation and inform the debtor of the assignment. Should the goods be sold on together with other goods, which do not belong to us, the customer's claim against the consumer shall be deemed to have been assigned to us in the amount of the value of the invoice due to us by the customer.
- 03 The reserved goods shall always be processed and manufactured for us as a manufacturer within the meaning of Sec. 950 German Civil Code, however without putting us under any obligation. The manufactured goods shall be deemed to be reserved goods within the meaning of these provisions. Should reserved goods be processed or inseparably mixed with other items, not belonging to us, we shall acquire co-ownership in the new item in the proportion of the invoice value of our retained goods to the invoice value of the other items used at the time of processing and mixing. The co-ownership rights which have arisen in this way shall be deemed to be reserved goods within the meaning of these provisions.
- 04 Should our delivery items be connected to or mixed with other moveable items to form an integrated item, and should the other item be considered the main item, we shall receive from the customer proportionate co-ownership, in so far as the main item belongs to the customer. Furthermore, the same shall apply to the item arising through the processing and connection or mixing as to the reserved goods.

- 05 The customer shall be obliged to keep our reserved goods in an orderly condition and store them with the due care of a trader. It shall in particular be obliged to adequately insure the latter at their new value against theft, breakage, fire, water and other damage, at its own expense.
- 06 The customer may not assign our reserved goods or pledge them as security, or either assign the claim to a third party or offset something else with it, nor agree a prohibition on assignment of claims with its customers. It shall also not be entitled to accept other services as payment, in particular also not other items or services in place of fulfilment.
- 07 Any authorisation by the customer concerning our reserved goods deviating from the aforementioned provisions shall be strictly prohibited without our prior consent, for as long as the reservation of ownership exists. Should the items supplied under reservation of ownership be subjected to levy of execution by third parties or otherwise claimed, the customer shall be obliged to inform us on this without delay and by the quickest method possible, if possible by telephone. The customer shall be obliged to forward us any bailiffs return, as well as an affidavit on the identity of the items seized.
- 08 Should the goods be taken back within the scope of the assertion of the reservation of ownership, the purchaser shall, in principle, remain obliged to fulfil the contract unless anything else has been expressly stated by us upon asserting the reservation of ownership. The costs of taking back the items and the realisation of the items of purchase shall be borne by the customer.
- 09 In the event of the customer engaging in conduct which is contrary to the contract, in particular in the case of delays in payment, we shall, following a reminder, be entitled to take back the reserved items, and the customer shall be obliged to hand over the items to us.
- 10 A petition for the institution of insolvency proceedings over the customer's assets shall entitle us to withdraw from the contract and require the immediate return of the goods supplied.

B) Business abroad

- 01 We reserve ownership in the items supplied until payment in accordance with the respective statutory provisions of the country of destination has been received in full. The reservation of ownership shall be deemed to have been expressly agreed between us and the customer. In so far as nothing else mandatorily emerges from the statutory provisions of the country of destination, the regulations agreed in these general Conditions of Sale concerning business within the country shall also apply to business abroad.
- 02 Should a reservation of ownership be inadmissible in accordance with the regulations of the country of destination, we shall be entitled to assert the rights to protection admissible there. The customer undertakes to advise us of the measures which we have to implement in order to protect these rights. The customer shall actively support us in implementing these measures. Should third parties assert rights in the items delivered, the customer is required to inform us of this by telephone and in writing without delay. We shall be entitled to carry out any registrations necessary based on the law of the foreign country due to our reservation of ownership.

VIII. Claims for defects, warranty

- 01 We shall be liable for our goods being free of defects upon the passing of risk. The nature, durability and use of our goods shall be geared exclusively towards the specification, product description and/or instructions for use agreed in writing. Any details going beyond that, in particular in introductory meetings, advertising, catalogues and/or industrial norms referred to, shall only form part of the contract through express written inclusion. If the customer wishes to use the goods supplied for purposes other than the agreed purpose, it is required to carefully examine the suitability for that purpose and/or the admissibility itself, on its own responsibility. We exclude liability for any use not expressly confirmed by us in writing.
- 02 The customer shall be obliged to examine the goods received for completeness, as well as any defects, the quality and the assured properties without delay following delivery. Any errors in quantity and recognisable defects are to be notified to us in writing without delay, at the latest within 5 business days of receipt, hidden defects within the same period following discovery. The warranty shall lapse for any defects not notified in good time.
- 03 Our liability for defects shall, in principle, be restricted to subsequent improvement. Subsequent improvement shall, at our option, be remedying the defect or supplying defect-free goods. Any further claims concerning defects shall only exist in the case of refusal, impossibility or failure of subsequent improvement. Should the purchase be a trade transaction, any increased expenditure for the subsequent improvement (in particular, costs of transportation, labour, shipping and handling and materials) resulting from the fact that the customer has brought the item purchased following delivery to a different place from its own premises shall be borne by the customer.
- 04 The customer shall, within the scope of the statutory provisions, have a right of withdrawal from the contract if, taking into account the statutory

exceptions, we permit a reasonable deadline set for us for the repair or replacement delivery due to a material defect to expire fruitlessly. Should there be only an insignificant defect, the customer shall only be entitled to a right of reduction in the purchase price. The right to a reduction in the purchase price shall otherwise be excluded.

- 05 Replaced parts within the scope of the warranty shall become our property.
- 06 Should the goods lack an assured quality at the time of the passing of risk, the customer shall be entitled to assert its statutory rights.
- 07 Any warranty claims of the customer shall become statute-barred in all cases within two years of the passing of risk.
- 08 We do not provide any warranty for the consequences of improper handling, use, maintenance and service of our goods by the customer or its assistants, or for normal wear and tear. This shall in particular also apply in regard to the consequences of thermal, chemical, electrochemical or electrical influences, as well as infringements of our instructions for use. The same shall apply if the defects are attributable to any intervention or arrangements made by the customer not confirmed by us.
- 09 Should we determine that there is no defect in the goods in which the customer has notified a defect, we shall be entitled to require compensation from the customer for the expenditure incurred to us (in particular for labour costs).

IX. General limitation of liability

- 01 For damage which has not been incurred to the delivery item itself, we shall only be liable – regardless of on what legal grounds – in the event of intent, gross negligence on the part of the institutions or executive staff; in the case of culpable injury to life, body and health; and in the case of defects which have been fraudulently concealed or the absence of which we have guaranteed. In the case of defects in the delivery item we shall accept liability in so far as we are liable in accordance with the Product Liability Act for damage to persons and property incurred to privately used items.
- 02 In the case of culpable infringement of significant contractual obligations we shall also be liable in the case of gross negligence of non-executive employees and in the case of slight negligence. In the latter case, limited to the contractually typical, reasonably predictable damage.
- 03 In cases other than those specified above, our liability shall be excluded. This shall in particular apply to claims for compensation for damage arising from fault upon concluding the contract, due to any other infringements of obligations or due to tortious claims for compensation for material damage pursuant to Sec. 823 German Civil Code.
- 04 The aforementioned limitation (Clause 3) shall also apply in the event that the customer demands compensation for futile expenditure in place of service instead of a claim to compensation for damage.
- 05 In so far as liability on our part is excluded or restricted, this shall apply equally in regard to personal liability for compensation for damage by our employees, workers, co-workers, representatives and assistants.

X. Statute of limitations

- 01 In so far as nothing else has been regulated above (Clause VIII 07), and in so far as the statutory period of limitations is not shorter, all claims on the part of the customer shall become statute-barred – regardless of on what legal grounds – no later than 12 months after the passing of risk to the customer.
- 02 Concerning claims to compensation for damage pursuant to Section IX, the statutory deadlines shall apply.

XI. Applicable law, place of fulfilment, place of jurisdiction

- 01 The contractual relationships shall exclusively be regulated in accordance with the law applicable in the Federal Republic of Germany, under exclusion of the UN Convention on Contracts for the International Sale of Goods (CISG).
- 02 The place of fulfilment for all contractual or statutory claims shall be the Head Office of our company.
- 03 Should the customer be a trader, the Head Office of our company shall be the exclusive place of jurisdiction. The same place of jurisdiction shall apply if the customer has no general place of jurisdiction in the Federal Republic of Germany at the time of instituting judicial proceedings. We shall in addition also be entitled to file an action at the Head Office of the customer.

XII. Miscellaneous provisions

- 01 Any alterations or additions to these General Conditions of Sale require to be made in writing. This shall also apply to this requirement for the written form itself.
- 02 Should one or more of these provisions be legally invalid in whole or in part, the validity of the remaining provisions shall not be affected thereby.
- 03 Decisive for all contractual relationships is the German version of our General Conditions of Sale. This shall also apply if a translation of these General Conditions of Sale into another language in addition to the German conditions has been used.