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ABWASSERTECHNIK



CLEANEN - INSPECT - SECURE

15 YEARS

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ABWASSER- UND KANALTECHNIK

PIPE STOPPERS



PIPE PLUGS



CUSTOMER REQUESTS



TESTING SETS



SEAL & TEST TECHNOLOGY

Pipe seals / U - 2.5 bar operating pressure

Pipe sealing bags U. PU and PU-F are designed for the fast and reliable sealing or blocking of sewers, pipelines and drainage inlets. They are primarily used for repairs, maintenance, accidents, and leak tests with water or air in accordance with all DIN standards for newly installed or refurbished pipelines. The sealing bags are therefore needed by various water management organizations, construction industry, industry, rescuers and fire departments. The pipe sealing bags are made of high quality rubber material with interwoven fabrics. They are weather and temperature resistant (in the temperature range from -30 ° C to 80 ° C), sewage resistant, and partially resistant to chemicals. This series consists of 23 standard versions with a diameter of 40 mm to 1600 mm. All sealing bags are tested at 1.3 times the operating pressure and withstand a back pressure of 10 m or a 5 m water column. Each sealing bag is comes with a short instruction manual.



Art.Nr.:	U 4/7	U 5/10	U 7/15	U 10/20	U 15/30	U 20/40
Pipe Diameter in mm:	40 - 70	50 - 100	70 - 150	100 - 200	150 - 300	200 - 400
Op. Pressure in bar:	2.5	2.5	2.5	2.5	2.5	2.5
Testing Pressure in bar:	3.3	3.3	3.3	3.3	3.3	3.3
Opposing Pressure in bar:	1.0	1.0	1.0	1.0	1.0	1.0
Diameter in mm:	38	47	67	96	135	190
Cylinder length in mm:	160	340	330	510	550	580
Total length in mm:	210	390	380	570	610	640
Weight in kg:	0.3	0.5	0.6	1.5	2.5	3.9

Art.Nr.:	U 20/50	U 30/60	U 40/80	U 50/100	U 60/120	U 100/160
Pipe Diameter in mm:	200 - 500	300 - 600	400 - 800	500 - 1000	600 - 1200	1000 - 1600
Op. Pressure in bar:	2.5	2.5	2.5	2.5	1.5	1.0
Testing Pressure in bar:	3.3	3.3	3.3	3.3	2.0	1.3
Opposing Pressure in bar:	1.0	1.0	1.0	1.0	0.5	0.5
Diameter in mm:	190	290	360	450	560	850
Cylinder length in mm:	740	730	1000	1050	1290	1900
Total length in mm:	800	790	1060	1130	1360	1970
Weight in kg:	4.5	7.6	18	25	39	87

Test Pipe Stopper PU

Pipe stopper with metal connector. **1.5 bar Op. Pressure.**

Art.Nr.:	PU 7/15	PU 10/20	PU 20/50	PU 50/80	PU 50/120
Pipe Diameter in mm:	70 - 150	100 - 200	200 - 500	300 - 800	500 - 1200
Op. Pressure in bar:	1.5	1.5	1.5	1.5	1.5
Testing Pressure in bar:	2.0	2.0	2.0	2.0	2.0
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5
Diameter in mm:	67	96	190	450	450
Cylinder length in mm:	330	510	580	680	970
Total length in mm:	450	610	690	720	1000
Flowrate:	1"	1"	1 x 1" / 1 x 2"	2 x 1" / 1 x 2.5"	2 x 1" / 1 x 2.5"
Weight in kg:	2.1	5.2	12.5	38	48



Flexible Test Pipe Stopper PU-F

Bypass bag without a metal core, light and flexible design. 2.5 Bar operating pressure up to 1000mm

Art.Nr.:	PU 7/15 F	PU 10/20 F	PU 15/30 F	PU 20/40 F	PU 20/50 F
Pipe Diameter in mm:	70 - 150	100 - 200	150 - 300	200 - 400	200 - 500
Op. Pressure in bar:	2.5	2.5	2.5	2.5	2.5
Testing Pressure in bar:	3.3	3.3	3.3	3.3	3.3
Opposing Pressure in bar:	1.0	1.0	1.0	1.0	1.0
Diameter in mm:	67	96	135	190	190
Cylinder length in mm:	330	510	550	580	740
Total length in mm:	440	570	640	670	830
Flowrate:	1"	1"	1"	2"	2"
Weight in kg:	1.6	2.4	4	6.6	7



Art.Nr.:	PU 30/60 FL	PU 30/60 F	PU 40/80 F	PU 50/100 F	PU 60/120 F	PU 100/160 F
Pipe Diameter in mm:	300 - 600	300 - 600	400 - 800	500 - 1000	600 - 1200	1000 - 1600
Op. Pressure in bar:	2.5	1.5	2.5	2.5	1.5	1.0
Testing Pressure in bar:	3.3	2.0	3.3	3.3	2.0	1.3
Opposing Pressure in bar:	1.0	0.5	1.0	1.0	0.5	0.5
Diameter in mm:	290	290	360	450	560	850
Cylinder length in mm:	730	730	1000	1050	1290	2000
Total length in mm:	820	820	1090	1140	1380	2090
Flowrate:	2"	2 x 2"	2"	2 x 2"	2 x 2"	2 x 2"
Weight in kg:	13	13.6	29	39	59	98



ABSPERR- & PRÜFTECHNIK

PIPE STOPPERS

Flow-through pipe sealing bag PU with large bypass

These stoppers have a larger bypass and are used wherever there are greater flow rates. The central passageway is made of stainless steel. This steel core is covered with a layer of rubber fabric, which can be easily replaced. The type series includes standard versions with a diameter of 100 mm to 1200 mm.



Art.Nr.:	PU 10 2G	PU 10/15 2G	PU 15 2G	PU 10/20 2G	PU 15/20 2G	PU 15/30 3G	PU 20/50 4G
Pipe Diameter in mm:	100	100 - 150	150	100 - 200	150 - 200	150 - 300	200 - 500
Op. Pressure in bar:	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Testing Pressure in bar:	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Diameter in mm:	90	90	115	90	115	135	185
Cylinder length in mm:	230	290	230	550	290	500	620
Total length in mm:	320	380	320	650	380	580	700
Flowrate:	2"	2"	2"	2"	2"	3"	4"
Weight in kg:	2.3	2.9	3.0	4.5	3.5	5.2	9.5

Art.Nr.:	PU 50/80 4G	PU 50/80 6G	PU 50/80 12G	PU 50/120 4G	PU 50/120 6G	PU 50/120 12G
Pipe Diameter in mm:	500 - 800	500 - 800	500 - 800	500 - 1200	500 - 1200	500 - 1200
Op. Pressure in bar:	1.5	1.5	1.5	1.5	1.5	1.5
Testing Pressure in bar:	2.0	2.0	2.0	2.0	2.0	2.0
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5	0.5
Diameter in mm:	450	450	450	450	450	450
Cylinder length in mm:	680	680	680	970	970	970
Total length in mm:	830	830	830	1120	1120	1120
Flowrate:	4"	6"	12"	4"	6"	12"
Weight in kg:	38	38	38	48	48	48

Baypass Sealing bag for DN 100. 125. 150

To shut off DN 100 downpipes to divert waste. No interruption of the sewage system in buildings during operation e.g. when cleaning or renovating.



Art.Nr.:	PU 10-L-80	PU 12.5-L-110	PU 15-L-140
Title:	Baypass Sealing bag DN 100	Baypass Sealing bag DN 125	Baypass Sealing bag DN 150
Length in mm:	85	110	140
Diameter in mm:	85	110	165
Bypass in mm:	60	90	115

Short Pipe Stoppers UK

2.5 bar Op. Pressure

This slight modification of the sealing bag is used where little space is required. Be it inlets with a short nozzle or in winding separator systems where flexibility is required.

The sealing bags are made of high quality rubber material with interwoven fabric. All metal parts are corrosion resistant. This type series consists of designs with a diameter of 50 mm to 400 mm.



Art.Nr.:	UK 5/7	UK 7/10	UK 10	UK 10/15	UK 11/17
Pipe Diameter in mm:	50 - 70	70 - 100	100	100 - 150	110 - 170
Op. Pressure in bar:	2.5	2.5	2.5	2.5	2.5
Testing Pressure in bar:	3.3	3.3	3.3	3.3	3.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5
Diameter in mm:	46	67	90	90	100
Cylinder length in mm:	125	130	160	160	180
Total length in mm:	180	185	220	220	240
Weight in kg:	0.3	0.4	0.6	0.7	0.9

Art.Nr.:	UK 15	UK 15/20	UK 20	UK 20/25	UK 25/30	UK 30/40
Pipe Diameter in mm:	150	150 - 200	200	200 - 250	250 - 300	300 - 400
Op. Pressure in bar:	2.5	2.5	2.5	2.5	2.5	2.5
Testing Pressure in bar:	3.3	3.3	3.3	3.3	3.3	3.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5	0.5
Diameter in mm:	140	140	180	180	240	290
Cylinder length in mm:	220	220	260	260	290	270
Total length in mm:	280	280	320	320	350	330
Weight in kg:	1.2	1.3	2.3	2.4	4.2	5.7

Short Bypass Pipe Stoppers PUK

2.5 bar Op. Pressure



Art.Nr.:	PUK 5/7	PUK 7/10	PUK 10/15	PUK 11/17	PUK 15/20	PUK 20/25	PUK 25/30	PUK 30/40
Pipe Diameter in mm:	50 - 70	70 - 100	100 - 150	110 - 170	150 - 200	200 - 250	250 - 300	300 - 400
Op. Pressure in bar:	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Testing Pressure in bar:	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Diameter in mm:	46	67	90	100	140	180	240	290
Cylinder length in mm:	125	130	160	180	220	260	290	270
Total length in mm:	180	185	220	240	280	320	350	330
Flowrate:	1/4"	1/2"	1/2"	1/2"	1"	2"	2"	2"
Weight in kg:	0.3	0.4	0.8	1	2	3.6	5.9	7.5

Cone pipe stoppers UE / PUE

These pipe sealing bags are suitable for closing pipes in difficult installation situations. Due to their design they are very flexible. These pipe sealing cushions can also be used for tightness tests between domestic connections with air or water. The standard series includes sealing bags with a diameter of 50 mm to 200 mm.



Cone pipe stoppers UE

Art.Nr.:	UE 5/10	UE 8/15	UE 12/20
Diameter in mm:	50 - 90	80 - 150	120 - 200
Op. Pressure in bar:	2.5	2.0	1.5
Testing Pressure in bar:	3.3	2.6	2.0
Opposing Pressure in bar:	1.0	1.0	1.0
Diameter in mm:	48	78	116
Length in mm:	300	380	520
Total length in mm:	350	430	570
Inlet opening in mm:	35	40	50
Flow in mm:	-	-	-

Test Cone pipe stoppers PUE

PUE 5/10	PUE 8/15	PUE 12/20
50 - 90	80 - 150	120 - 200
2.5	2.0	1.5
3.3	2.6	2.0
1.0	1.0	1.0
48	78	116
300	380	520
520	600	770
35	40	50
4	4	6

Pipe stoppers semicircular UR

Due to their length, these pipe sealing cushions are suitable for closing connection lines and house connections. Its semicircular shape allows easy and quick installation, even in ducted bends. Since the pipe sealing bags are short, the air requirement is low and they can be easily inflated with a hand or foot air pump. The series includes sealing bags with a diameter of 50 mm to 200 mm.



Pipe stopper

Art.Nr.:	UR 5/7	UR 7/10	UR 10/15	UR 15/20
Pipe Diameter in mm:	50 - 70	70 - 100	100 - 150	150 - 200
Op. Pressure in bar:	2.5	2.5	2.5	2.5
Testing Pressure in bar:	3.3	3.3	3.3	3.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5
Diameter in mm:	46	67	90	140
Cylinder length in mm:	95	100	120	170
Total length in mm:	140	155	180	230

Conical pipe sealing bags

The conical sealing pads have a different shape compared to the classic pipe sealing bag, but their applications remain unchanged. They are used in cases of damage to pipelines as well as for restoration, maintenance and leak testing. The conical shape makes it possible not only for round profiles, but also for egg, rectangular and other profiles. These pipe sealing bags are made of high quality rubber material. They have good chemical resistance, are lightweight, and easy to repair. The range of application for the basic type series ranges from 150 mm to 2200 mm.



ULK



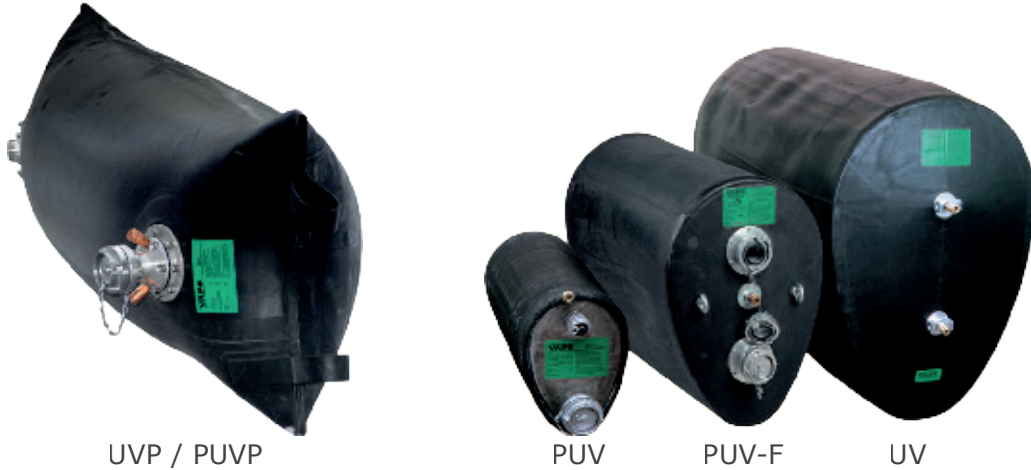
PULK

Conical Pipe Sealing Bags ULK

Art.Nr.:	ULK 15/40	ULK 25/60	ULK 40/100	ULK 50/120	ULK 60/140	ULK 70/160	ULK 120/220
Diameter in mm:	150 - 400	250 - 600	400 - 1000	500 - 1200	600 - 1400	700 - 1600	1200 - 2200
Op. Pressure in bar:	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Testing Pressure in bar:	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Conical Testing Pipe Sealing Bags PULK

Art.Nr.:	PULK 15/40	PULK 25/60	PULK 40/100	PULK 50/120	PULK 60/140	PULK 70/160	PULK 120/220
Diameter in mm:	150 - 400	250 - 600	400 - 1000	500 - 1200	600 - 1400	700 - 1600	1200 - 2200
Op. Pressure in bar:	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Testing Pressure in bar:	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Flowrate:	1"	2"	2.5"	2.5"	2.5"	2.5"	2.5"



UVP / PUVP

PUV

PUV-F

UV

These sealing bags are suitable for sealing and possibly also for testing egg-shaped channels. These are produced in two versions: one copies the shape of the pipe, the other is pillow-shaped. The former design is suitable for smaller profiles. Larger diameters are sealed with the pillow-shaped design, because due to its size, the egg-shaped design cannot fit in sewer shafts. This type series consists of 13 versions of different dimensions.

Egg-shaped Pipe Stoppers UV. UVP

Art.Nr.:	UV 30/45 - 40/60	UV 50/70 - 60/90	UV 70/105 - 90/135	UVP 50/75 - 60/90	UVP 70/105 - 90/135
Egg section in mm:	300 - 400 450 - 600	500 - 600 750 - 900	700 - 900 1050 - 1350	500 - 600 750 - 900	700 - 900 1050 - 1350
Op. Pressure in bar:	1.0	1.0	1.0	1.0	1.0
Testing Pressure in bar:	1.3	1.3	1.3	1.3	1.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5

Egg-shaped testing Pipe Stoppers PUV. PUV-F &

Art.Nr.:	PUV 30/45 40/60	PUV 50/75 60/90	PUV 70/105 90/135	PUV 30/45 40/60F
Cross section in mm:	300 - 400 450 - 600	500 - 600 750 - 900	700 - 900 1050 - 1350	300 - 400 450 - 600
Op. Pressure in bar:	1.0	1.0	1.0	1.0
Testing Pressure in bar:	1.3	1.3	1.3	1.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5
B x H x L in mm:	280 x 410 x 750	470 x 690 x 880	650 x 960 x 1060	270 x 380 x 800

Art.Nr.:	PUV 50/75 60/90F	PUV 70/105 90/135F	PUVP 50/75 60/90	PUVP 70/105 90/135
Cross section in mm:	500 - 600 750 - 900	700 - 900 1050 - 1350	500 - 600 750 - 900	700 - 900 1050 - 1350
Op. Pressure in bar:	1.0	1.0	1.0	1.0
Testing Pressure in bar:	1.3	1.3	1.3	1.3
Opposing Pressure in bar:	0.5	0.5	0.5	0.5
B x H x L in mm:	470 x 690 x 1060	650 x 960 x 1360	700 x 2100	1000 x 2500

Pillow Shaped Pipe Stoppers UP / Testing Pillows PUP



These sealing bags are used especially in sewage and rain channels. Their advantage is that thanks to their design, they can be inserted into the channels through the shaft. The Kevlar insert makes it possible to build sealing bags with large diameters. The standard versions have a diameter of 1000 mm to 2200 mm.

Art.Nr.:	UP 100/140	UP 140/180	UP 180/220	PUP 100/140	PUP 140/180	PUP 180/220
Diameter in mm:	1000 - 1400	1400 - 1800	1800 - 2000	1000 - 1400	1400 - 1800	1800 - 2200
Op. Pressure in bar:	0.7	0.6	0.5	0.7	0.6	0.5
Testing Pressure in bar:	1.05	0.8	0.65	1.05	0.8	0.65
Opposing Pressure in bar:	0.5	0.5	0.5	0.5	0.5	0.5
Flowrate:	-	-	-	2"	2"	2"
B x L in mm:	1450 x 2300	2050 x 3200	2650 x 3900	1450 x 2300	2050 x 3200	2650 x 3900

Testing Pipe Plugs for shafts US



Model: L (Light)



Model: Standard

These sealing bags are used for manhole testing with air pressure and vacuum. They are light, short and therefore easy to handle. The same accessories are used as with the usual pipe stopper. On request, sealing bags can be made in a different shape or size. Versions come in standard and light (L).

Art.Nr.:	US 60/65	US 60/65 L	US 80/85 L	US 100/105 L
Diameter in mm:	600 - 650	600 - 650	800 - 850	1000 - 1050
Op. Pressure in bar:	1.5	1.0	1.0	1.0
Diameter in mm:	560	580	780	980
Cylinder length in mm:	300	200	200	200
Flowrate:	2"	2"	2"	2"
Weight in kg:	32	4.9	7.2	10

High Pressure Pipe Stoppers UU

Where no standard sealing pads can be used because of a high back pressure in the pipeline, these high-pressure sealing bags are used. The higher operating pressure is made possible due to interwoven kevlar. The standard type series includes versions with a diameter of 50 mm to 600 mm.

















High Pressure Pipe Stoppers UU 6 Bar Op. Pressure

Art.Nr.:	UU 5/7	UU 7/10	UU 10/15	UU 15/20	UU 20/30	UU 30/40	UU 50/60
Pipe Diameter in mm:	50 - 70	70 - 100	100 - 150	150 - 200	200 - 300	300 - 400	500 - 600
Op. Pressure in bar:	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Testing Pressure in bar:	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Opposing Pressure in bar:	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Diameter in mm:	47	67	96	135	190	290	450

High Pressure Pipe Stoppers UU 12 Bar Op. Pressure

Art.Nr.:	UU 7/9	UU 10/13	UU 14/17	UU 20/25	UU 30/35
Pipe Diameter in mm:	70 - 90	100 - 130	140 - 170	200 - 250	300 - 350
Op. Pressure in bar:	12	12	12	12	12
Testing Pressure in bar:	16	16	16	16	16
Opposing Pressure in bar:	10	10	10	10	10
Diameter in mm:	67	96	135	190	290

Accessories for Pipe Stoppers

Title		Art.Nr.:	Title		Art.Nr.:
Filling Pipe 3 m		200782	Tether with snap hook 5 m		200779-5
Filling Pipe 5 m		200781	Tether with snap hook 10 m		200779-10
Filling Pipe 10 m		200780	Adapter with quick release coupling for tire valves		200772
Control instrument with safety valve 0.5 bar - V 0.5		200752	Release and Measuring Hose 6 m. for PU 10/20		200825
Control instrument with safety valve 0.6 bar - V 0.6		200751	Release and Measuring Hose 6 m. for PU 20/50. PU 50/80. PU 50/120		20083D
Control instrument with safety valve 0.7 bar - V 0.7		200750	Release and Measuring Hose 6 m. for PU 30/60 F. PU 50/100 F		200835
Control instrument with safety valve 1.0 bar - V 1		200755	Closing Valve D 25		200840
Control instrument with safety valve 1.5 bar - V 1.5		200760	Closing Valve C 52		200845
Control instrument with safety valve 2.5 bar - V 2.5		200765	Closing Valve B 75		200850
Control instrument with safety valve 6.0 bar - V 6		200765.3	Closing Valve A 110		200852
Pressure reducer 200/10 bar		200821			
Pressure reducer 300/10 bar		200822			
Pressure bottle 5 L. 200 bar		200815			
Pressure bottle 5 L. 300 bar		200817			
Pressure bottle 10 L. 200 bar		200816			
Adapter for tire valves with quick release (compressed air plug 7.2 Standard)		200770			

Accessories for Pipe Stoppers

Title		Art.Nr.:	Title		Art.Nr.:
Manometer with 5 m hose for air pressure testing 0 - 250 mbar		200812	Foot Pump		200810
Digital Manometer with 5 m hose for air pressure testing 0-2000 mbar		210450	Reduction hose connection D 25/ GEKA		200805
Adapter for air pressure testing N - D 25		200855	Reduction hose connection C 52/ GEKA		200800
Adapter for air pressure testing N - C 52		200860	Reduction hose connection B 75/ GEKA		200800.1
Adapter for air pressure testing N - B 75		200862	Reduction GEKA/Quick Release Coupling		200806
Adapter for air pressure testing N - PUK 1/2"		200859	Adapter for water pressure testing- NV - C 52		200807
Adapter for air pressure testing N - PUK 1"		200861	Adapter for water pressure testing- NV - B 75		200808
Adapter for air pressure testing N - PUK 2"		200863			

Customer Requests

Due to our many years of experience and development in the field of rubber fabrics, we are capable of producing various other products according to the specific requirements of our customers. Often we produce pipe stoppers and renovation packers with special measurements. These tend to deviate from the standard type series. Air- and water-filled sealing bags of various shapes and sizes can be produced for special commercial projects.



Mechanical Pipe Plugs



Art.Nr.:	RTS 13	RTS 22	RTS 25	RTS 35	RTS 38	RTS 38 D	RTS 50	RTS 50 A
Work area in mm:	13 - 17	19 - 26	24 - 32	30 - 38	37 - 45	37 - 45	48 - 62	48 - 62
Total length in mm:	50	60	60	66	70	110	110	110
Flowrate:	-	-	-	-	-	1/2"	1/2"	1/2"
Weight in kg:	0.015	0.020	0.025	0.030	0.035	0.100	0.0100	0.300
Art.Nr.:	RTS 65	RTS 75	RTS 75 A	RTS 100	RTS 100 A	RTS 125 A	RTS 150	RTS 150 A
Work area in mm:	62 - 70	71 - 87	71 - 87	94 - 105	94 - 105	124 - 130	148 - 160	148 - 160
Total length in mm:	110	110	110	100	100	110	140	140
Flowrate:	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Weight in kg:	0.120	0.125	0.35	0.15	0.40	0.50	0.25	0.70
Art.Nr.:	RTS 200 A	RTS 250 A	RTS 300 A	RTS 400 A	RTS 500 A	RTS 600 A		
Work area in mm:	194 - 210	236 - 260	297 - 310	393 - 415	494 - 510	592 - 618		
Total length in mm:	140	150	180	250	350	400		
Flowrate:	1"	1"	1"	1"	1"	2"		
Weight in kg:	0.015	0.020	0.025	0.030	0.035	0.100		

Pipe closures for high pressure up to 40 bar

Due to the low clamping range, we would be happy to make you an offer. For this we need the exact inner diameter of the tube that needs to be blocked.



ABSPERR- & PRÜFTECHNIK

PIPE STOPPERS WITH TIRE VALVES

Pipe Stoppers Short Version with tire valve



Art.Nr.:	201-109	201-112	201-120	201-116	201-130	201-134	201-140	201-146
Diameter in mm:	22 - 35	35 - 50	50	50 - 70	70	70 - 100	100	100 - 150
Op. Pressure in bar:	2.5	2.5	2.5	2.5	2.4	2.4	2.0	2.0
Diameter in mm:	18	34	48	48	68	68	95	95
Cylinder length in mm:	70	75	40	75	80	100	110	150

Pipe Stoppers Short version with tire valve and bypass passage



Art.Nr.:	501-110	501-120	501-130	501-140	501-242
Diameter in mm:	40	50	70 - 75	100	150 - 200
Op. Pressure in bar:	2.5	2.5	2.5	2.4	2.0
Diameter in mm:	38	47	67	95	145
Cylinder length in mm:	100	120	160	170	330
Durchgang	1/8"	1/8"	1/4"	3/4"	1 1/2"

Pipe closures with hose



Art.Nr.:	RV 50	RV 75	RV 100	RV 150	RV 200 - 300
Diameter in mm:	45 - 55	70 - 80	90 - 110	126 - 155	195 - 315
Op. Pressure in bar:	1	1	0.7	0.7	0.6
Cylinder length in mm:	65	110	130	220	300
Weight in kg:	0.2	0.3	0.35	0.8	1.05

Extension hose for sealing bags



Extension hose for sealing bag with tire valve

Length in m	Strain relief	Article Nr.:
1.5	No	800-030
3.0	No	800-080
6.0	No	800-160
12.0	No	800-320
with strain relief cable and snap hook		
3.0	Yes	200885
6.0	Yes	200890
12.0	Yes	200895

Title	Article Nr.:
Compressed air adapter Tire valve on quick release 7.2 Standard for sealing bag with tire valve	20775

ABSPERR- & PRÜFTECHNIK

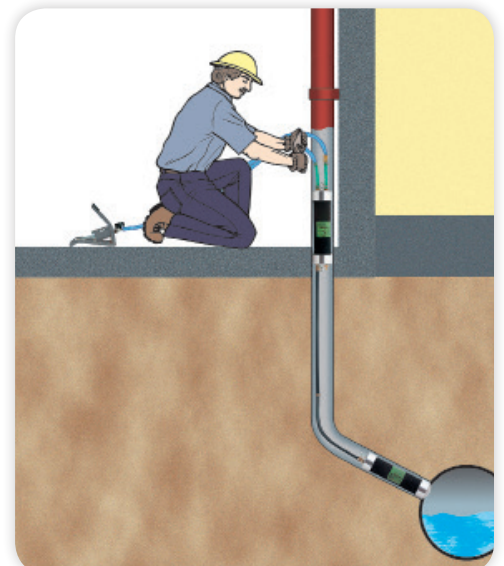
TEST SET - HOUSE CONNECTION

DS 8/15

This test set is designed for leak tests of pipes of 80-150 mm nominal width with air. It is suitable for straight pipe sections as well as for bends and elbow pipes up to 90 °. The set optionally includes a digital pressure gauge as well as fittings and the accessory parts required for leak testing according to all DIN standards. Optionally with air and water.



Title		Art.Nr.:
Test Set DS 8/15 without Digital Manometer	1 Piece	210405
1 Test-Pipe Stoppers for Air. HPU 8/15	1 Piece	210430
2 Test-Pipe Stoppers for Air und Water. HPU 8/15 W	1 Piece	210425
3 Pipe Stoppers HU 8/15 (optional)	1 Piece	210435
4 Fill valve with Manometer 0-4 bar	1 Piece	210440
5 Manifold for Pressure Tests with Air	1 Piece	210445
6 Digital Manometer with hose 1 m (optional)	1 Piece	210450
7 Push Stick 2 m	4 Piece	210456 W
8 Push Stick 1 m	1 Piece	210461 W
9 Push Stick 0.5 m	2 Piece	210466 W
10 Tether with snap hook. 10 m	1 Piece	210470
11 Reduction MINI/V - 7.2/R	1 Piece	210452
12 Reduction MINI/R - 7.2/V	1 Piece	210453
13 Transport Case (Delivery without content)	1 Piece	210475

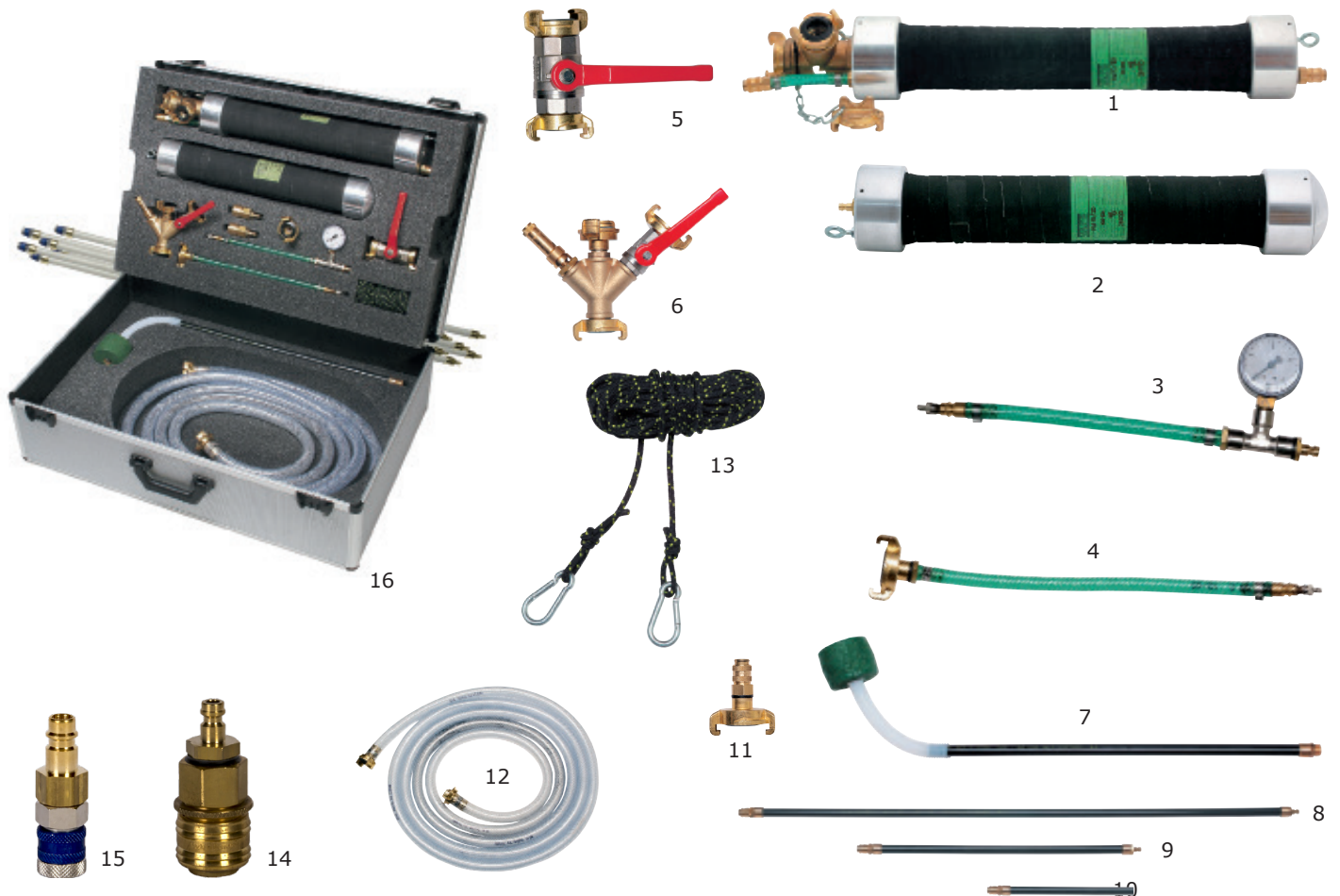


ABSPERR- & PRÜFTECHNIK

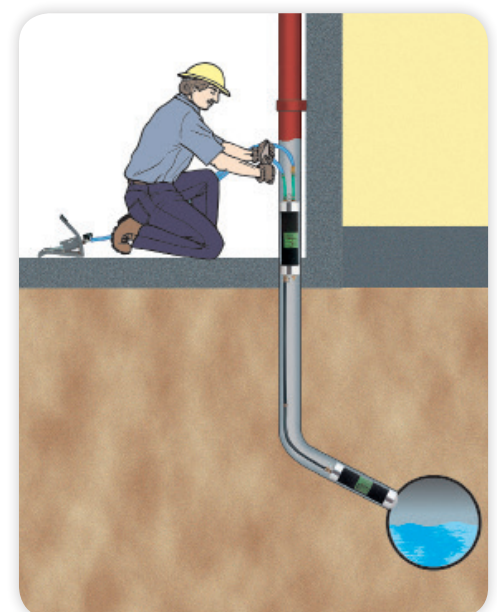
TEST SET - HOUSE CONNECTION

DS 10/20

This test set is intended for leak tests of pipes of 100-200 mm nominal width with air and water. It is suitable for straight pipe sections as well as for bends and elbow pipes. The set contains all fittings and the accessory parts required for leak tests according to all DIN standards.



Title		Art.Nr.:
Test Set DS 10/20	1 Piece	210415
1 Test-Pipe Stoppers. HPU 10/20	1 Piece	210505
2 Test-Pipe Stoppers. HU 10/20	1 Piece	210510
3 Fill Valve with Manometer 0-4 bar	1 Piece	210440
4 Air Pressure Adapter for Air pressure testing	1 Piece	210540
5 Closing Valve G1" with GEKA Coupling	1 Piece	210525
6 Swimmer	1 Piece	210530
7 Safety device - 300 mbar for Air Pressure Tests	1 Piece	210535
8 Push Stick 2 m	4 Pieces	210456 W
9 Push Stick 1 m	1 Piece	210461 W
10 Push Stick 0.5 m	2 Pieces	210466 W
11 Adapter for digital Manometer	1 Piece	210570
12 Release and test hose with GEKA Coupling. 5 m	1 Piece	210520
13 Tether with snap hook. 10 m	1 Piece	210470
14 Reduction MINI/V - 7.2/R	1 Piece	210452
15 Reduction MINI/R - 7.2/V	1 Piece	210453
16 Transport Case (Delivery without content)	1 Piece	210565



RPS 1.1 Solo



RPS 1.1 Solo



DS 8/15



DS 10/20

In conjunction with our test set DS 8/15 or DS 10/20, the RP S1.1 Solo represents a complete test system!

Measuring device for leak testing with air according to:
DIN EN 1610 and DIN 1986-30

As an extension or supplement to existing test bubbles.
Including testing software AquaDP with the software module "Air"

Includes:

Digital fine gauge for over / under and differential pressure, integrated pressure sensor, sturdy metal connection piece, zero adjustment, illuminated large display, galvanically isolated USB, USB connection cable, power supply 230v, clear test hose 5 meters with compressed air connection NW7.2, brass compressed air Y-distributor NW7.2 and a matching plastic case with recesses.

Measure range	-10.0 to 400.00 mbar rel.
Overload	max. 1 bar
Resolution	0.1 mbar

BPS 03 COMPLETE SET - WATER



Leak test system - water level test (water fill test, level measurement)

For leak testing of pipelines and shafts.

According to: DIN 1986-30: 2012-02. DIN EN 1602

Separator testing according to DIN 1999-100 and DIN 4040-100

The measuring accuracy of the probe was confirmed at the LGA in Würzburg / Germany.

Level probe as a capacitive transmitter.

High-quality ceramic measuring cell with pressure and temperature compensation.

Pressure range: 0-30 mbar. Overload: 150 mbar.

FS 10mbar + -0.1% FS.

Housing: PVC. IP 68. Cable length 5m.

Contents of package:

- Aluminium tripod with triple height adjustment.
- Plastic screw connection M50 for probe adjustment.
- Test probe in plastic case. PVC plastic pipe DN40 to hold the test probe 2x1.25m with connection coupling.
- Software AquaDP as a single user version.
- As sub-software modules for water testing according to DIN1610 and DIN1986-30.
- For data acquisition of all object data and other check-relevant data.
- With usable log as a printout or pdf-file.

BPS 03 COMPLETE SET WATER GI

Also available as separator package BPS03 complete set water with general inspection according to DIN1999-100 and DIN4040

Measure and Test Tablet



AQUA Funk

Measure and Test Tablet:

Tablet as a real outdoor solution, for quick and easy testing with the software AquaDP. With integrated camera. Simply insert images into the test report.

- Display size: 25.654 cm (10.1 ") LED WUXGA 1920 x 1200 Multi-touch.
- Processor: Intel Atom Z3795 (2M Cache. 1.59 GHz). 2GB DDR3L. Intel HD Graphics. 64GB eMMC.
- WiFi 802.11 a/b/g/n. Bluetooth 4.0.
- Windows 8.1 32-bit SST.
- Hard drive: 32GB Mobility Solid State Drive.
- Power Adapter: 30W AC Adapter.
- Power Cable: European 230V.
- Battery: Primary 2-cell 30W / HR sealed battery.
- Wireless: (802.11 a / b / g / n 1x1) with Bluetooth 4.0. Mini Card.
- USB 2.0 Interface connector.
- Operating System: Windows 8 Pro (32Bit) German or other.
- Integrated Camera: 5 Mio Pixel.
- 1 Year Guarantee / Warranty.

Including high-quality Protective cover against dust and splash.

- Fully gummed sides and back
- Hand strap on the back



NEW: AQUA FUNK

Connect your level probe without a cable to your Tablet or laptop via WiFi.

Water box



The „Jack of all trades“ - Our newest development for you.

Now you can also use our measuring systems wirelessly and as a data logger. The following functions are included:

- WiFi up to 350 Metres
- Bluetooth (Configuration with phones: optional)
- Radio transmission 2.4 GHZ up to 1000 Metres
- Data logger function
- GSM-Module
- Send from SMS
- Send from Email 's
- Aquabox-Function is freely configurable via AquaBIO software
- Multiple connection of probes (up to 128)

All data from the box can be transmitted over WiFi, GSM, BT or Comport to a PC.

MPG

Leak tests with air and water are the fastest and most economically viable methods to determine the tightness of sewers. Test standards for this are, in Germany, the DIN EN 1610 and for stock checks the DIN 1986 Part 30 and the DWA Leaflet 143-6.

The MPG test set allows testing and evaluation of pipelines, channels, water and gas supply lines in public and private areas (house connections) with air pressure also with water loss measurements. For pressure build-up, the tester has an integrated safety valve. When feeding compressed air, check and release the test pressure.

Documentation of the test can be done either directly on-site via the optional integrated tape printer or subsequently via a PC with an automatically created and detailed test report.

Whether for a testing service, restoration company, civil engineer or plumber: The MPG is the optimal handy, robust, and easy-to-use leak tester for daily on-site projects.



Technical Data:

Power Supply: 230V AC. 12 V DC (option) accumulator

Test standards: DIN EN 1610. DIN 1986 Part 30. DWA-M 143-6. DWA-A 139. SIA 190 / VSA. DVGW G 469 DIN EN 805 / DVGW 400-2

Special test (free parameters)

Protocol printout via PC:

Contractor / client data

Description of the order object

Examination requirements / examination result

Pressure graph (color expression)

Strip Protocol via built-in printer (option):

Date and time of the exam, pressure values, graphic and test results

Measuring range: 0 ... + 1000 mbar

Accuracy: +/- 1.0 mbar

Delivery:

Measuring case with integrated test computer and data memory for 50 tests. Graphic display.

USB interface and accumulator. Water pressure test high and low pressure optionally expand fromle.

Integrated air filling device with pressure reducer. Changeover valve and overpressure safety valve.

Connection cable 230 V and USB. PC testing software and manual.

Options:

Integrated log printer. Supply cable 12 V DC (car). High pressure test 25 bar (EN 805). Test set for water pressure tests according to DIN EN 1610 u. DIN 1986-30



RPG-3 Mini I

The RPG-3 is a handy, robust and easy-to-use leak tester for daily on-site tasks. In addition to the integrated unit for testing compressed air, the RPG-3 has an expansion socket, which houses the connection of external sensors for water level, vacuum and high pressure testing.

A special feature of this tester is the integrated test computer with a data memory device and graphic display (front right in the front panel), which the parameterization, visualization and storage of up to 50 exams is possible without a notebook. The included test software for PC / notebook allows usage without specialised knowledge. Generate meaningful graphical test records according to the requirements of the specified test standards both online and after reading the test data from the data memory.

Optional:

The integrated compressor operates with vehicle level voltage and the accumulator also optionally offers supply independence. For larger positions, filling via external compressors is recommended.

A special construction variant "LV" of the device includes additional compressed air fittings for filling shut-off elements and testing spaces.



Sets & Packets on request:

- Leak test package for ducts with AIR and ducts / separators / discharge pipes with WATER
- Leak test system for KKA



Technical Data:

Power Supply: 230V AC. 12V DC. Battery (optional)

Tests according to: DIN EN 1610 (L). DWA-A 139. DWA-M 143-6. DIN 1986-30. DIN 1999-100. DIN 4040-100. DIN 4261-1. DIN EN 12566-1. SIA 190 / VSA. ÖNORM B2503

Special test (free parameters)

Protocols: Contractor / client data

Description of the order object

Examination requirements / examination result

Pressure graph (color expression)

Air output: 32 l/min. max. 500 mbar with integrated compressor (Optional)

Range: 0 ... + 1000 mbar

Accuracy: +/- 1.0 mbar

Delivery:

Measuring case RPG-3 with integrated test computer and USB interface. Testing software and manual.

Connection cable 230 V AC / 12 V DC

Options:

Integrated notebook, integrated compressor, integrated battery supply. Shaft and separator tester.

Optional vacuum test. Optional high pressure test. Filling fittings and test hoses.



RPG-3 Mini I

Leak test package for piping with AIR and manholes / separators / service lines with WATER

Complies with DIN EN 1610. DWA-M 143 Part 6. DWA-A 139. DIN 1986 Part 30. DIN 1999-100. DIN 4040-100. DIN EN 12566-1. SIA 190 / VSA. ÖNORM B2503 et al.

Control unit RPG-3 with integrated graphic display, data storage, measuring device air, USB interface and PC software level measuring device SP04 incl. tripod and rod set. Sensor connection cable 10 m. Delivery includes calibration certificates.



Leak test system for small waste water treatment plants



For the testing of house connections and sewage pipes according to DIN 1986 part 30 DWA 143 part 6 DIN EN 1610 (W) u.a. with the test methods: air, water, negative pressure

Control unit RT-ST04
with integrated notebook, switching output
+ RT-WA04 measuring device water
+ RT-VK10 connection cable 10m
+ RT-VBXM distribution box
+ RT-EXTW External water pressure sensor
+ RT-SK10 sensor connection cable 10m

PIPE TEST-4

Leak test system ROHRTEST-4: Control unit with integrated measuring device "AIR / VACUUM"

This modular system allows the testing of pipelines, sewers, sockets and shafts for tightness. The device system is suitable both for vehicle installation as well as for mobile operation. With the basic unit, overpressure and vacuum tests, with air as the test medium, can be carried out according to the test standards currently used in the EU area. With the available expansion components, tests are carried out with water as the test medium, both in low pressure and high pressure areas.

The "Data Output Function" is for automatic control of the filling and the test procedure, as well as for report creation. This is integrated in the basic unit of the notebook PC. The test procedure is visualized online with the leak rate, as well as a prognosis which is displayed on the examination result. The client and project database integrated in the test software allows convenient administration of test data, and the generation of overview lists.



Technical Data:

Power Supply: 230V AC. 12 V DC (vehicle on-board voltage)

Compressed air and vacuum tests according to:

DIN EN 1610. ATV / DWA-A 139. ATV / DWA-M 143/6. DIN 1986-30. LfW 4.3-8. ÖNORM B2503. SIA190 / VSA

Special test (free parameters)

Protocol:

Contractor / client data. Description of the order object.

Testing requirements. Test result. Pressure graph (color expression)

Test Range: -600 ... + 600 mbar

Accuracy: +/- 0.5 mbar

Delivery:

Basic device ROHRTEST-4 with fully integrated notebook, integrated measuring device for compressed air and vacuum, as well as automatic filling control and calibration. Connection cable 12V DC / 230V AC. Hose set with bladder connection. Interface for expansion modules.

Options:

Measuring device "SHAFT" for shaft and separator tests. Measuring device "WATER" for water low-pressure tests. Measuring device "HIGH PRESSURE" for high pressure water tests.



PIPETEST-4 Accessories

Package: separator test

For testing separator systems according to DIN 1999-100 and DIN 4040-100, as well as air tightness tests according to DIN EN 1610 and others.

Control unit RT-ST04 with integrated notebook.
Measuring device air / vacuum without switching output for external measuring devices.

Level measuring device SP04 incl. tripod and rod set, sensor connection cable 10 m.
A second measuring port for an additional level sensor is already integrated.



Package: water pipe house connection test

for the inspection of domestic connections and sewers according to DIN 1986 Part 30. DWA 143 Part 6. DIN EN 1610 (W) and others.
with the test methods: air, water, and negative pressure.

Control unit RT-ST04 with integrated notebook, switching output.

- + RT-WA04 measuring device water
- + RT-VK10 connection cable 10m
- + RT-VBXM distribution box
- + RT-EXTW external water pressure sensor
- + RT-SK10 sensor connection cable 10m



External precision water pressure sensor in trunk version 0.5 m

In conjunction with the WATER measuring device, the sensor allows the pressure test to be carried out on gravity-free sewage systems. The sensor is lowered through inspection openings until it reaches the surface of the water.

The test level is kept constant by the automatic addition of water.

Measuring range: 0.1 - 5.0 m water column
Measuring accuracy: 1.0 mm



Other accessories on request



TPS 01 FLOAT TARE

Measuring System for the Float Tare:

State of the art float alignment!

Measuring system for quick and easy checking of floats - (Separator float)

Advantages:

- Extension to the measuring system BPS02 (probe)
- Quickly and easily check or adjust floats
- Software supported step by step guide
- Software AquaHSAutomatic logging of the test



APS 01 ISOLATED BUBBLE TEST

MEASURING SYSTEM FOR TESTING OF SHEET / PIPE CUSHIONS:

Isolated Bubble Verification according to GUV G 9102, BDI 802, ArbSchG, BetrSichV, etc. Perform the prescribed annual check quickly and easily yourself.

Delivery Contents:

- Handheld instrument, resolution 0.1 mbar
- USB 2.0 connection cable 1m test hose 5 meters with compressed air plug nipple NW 7.2
- Brass Y-piece with 2x coupling socket and 1x nipple NW 7.2
- Plastic case
- Testing and documentation software AquAP USB



AQUA JGS 01



LEAKAGE TESTING OF BIOGAS, LIQUID MANURE, FERTILIZER AND SILAGE PLANTS:

According to the regulations TRwS 792 and DIN 11622-2 (AWsV).

The measuring system has a required measuring accuracy according to DIN 11622-2 of 0.1 mm.

The software AquaBio is a software solution for the execution and logging of the tests of:

- DIN 11622-2
- TRwS 792
- TRwS 780-1
- DIN EN 805

Download the logger data quickly and easily from the Aquabox with AquaBio. The software AquaBio supports the experts in the quick and easy logging of biogas plants according to VAWS (AwsV) and E-TRwS 792.

Delivery Contents:

- Aluminum tripod with triple height adjustment
- Plastic screw connection M50 for probe adjustment
- Test probe in high quality plastic case
- Extension tube for test probe DN 40
- According to valid DIN standards
- Just choose the right module
- For data acquisition of all object data and other check-relevant data
- With usable log as printout or PDF fileSoftware AquaBio

AquaDP 2.x



AQUADP SOFTWARE AS A SINGLE SPACE VERSION:

Aquametrics AquaDP is software that runs on a laptop or Tablet PC and supports examiners in performing leak tests in the waste water sector. Use our measuring systems now wirelessly!

The supported exams are:

- Leak test Air according to DIN EN 1610 and DIN 1986-30
- Leak test water according to DIN EN 1610 and DIN 1986-30 DR1 / DR2
- Tightness test of small sewage treatment plants according to DIN 1986-30 and DIN EN 12566-3 DIN 4261
- General inspection of separator plants according to DIN 1999-100, DIN 4040-100

The AquaDP 2.x testing software has a modular structure. The user can purchase licenses for exactly the test modules that he needs. The scope can be extended at any time by purchasing new licenses. The user interface was designed so that operation of the application on Tablet PCs by touch is possible and simple to learn.

AquaGI

- Software for the professional logging of the general inspection of light liquid separators according to DIN 1999-100 & 101 according to LGA and Waste Water.
- Nominal size calculation (1999-100 + 101)
- Drawing of flowchart and / or drainage plan
- Sketching of plant components (also for renovation purposes)
- Tarring Assistant
- Elevation calculation
- Diagonal rain calculation, and much more!

AquaGI 4040

Software for professional logging of the general inspection of grease separators. Construction like AquaGI.

Probe cable extensions



High quality cable extension for measuring systems BPS02 and BPS03.
With plug, socket and protective caps.
Length: 10 m

Cable extensions



Cable extension with cable reel.
High quality cable extension for measuring systems BPS02 and BPS03.
With plug, socket and protective caps ..
Length: 25 m

4-fold probe distributor



With this distributor, measurements with up to four probes can be carried out simultaneously (multiple test) High quality and robust aluminum housing with splash water protection. One USB port and four probe ports. Does not require an external power supply.

Aqua Funk



NEW: AQUA RADIO

Connect your level probe without a cable to your Tablet or laptop via WiFi

Easy to use with battery or battery operation.

For "short" distances up to 350 meters range depending on circumstances and surroundings.

Delivery Contents:

- Aqua Radio Module
- Battery-Powerbank (Duration: 2-3 Hours)
- Transport Case

High-Quality Measuring Cylinder

Free mirror container as a test cylinder with a tripod as a supplement for testing pipes with water after:

- DIN EN 1610
- DIN 1986-30

Advantages:

"Made in Germany"

Universally usable as a tripod or container individually

Quick release on the cylinder

Holder rope for cylinder, can be used in the shaft

Tripod in two parts

Test cylinder removable through plug-in system

Test cylinder with scaling

Technical Data:

Outer Diameter: 100 mm

Inner Diameter: 94 mm

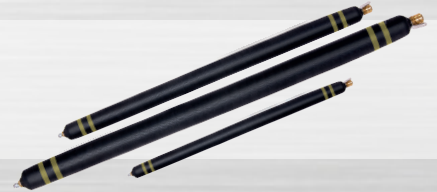
Pipe Connection: 2 Parts GK





ABWASSER- UND KANALTECHNIK

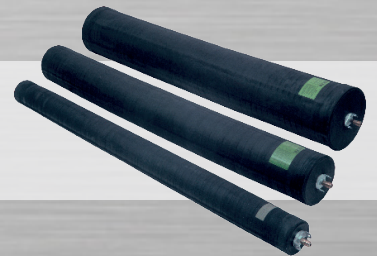
POWER PACKER



HOUSE CONNECTION PACKER



BOW & LENGTH PACKER



FLEXI & SHORT PACKER



ACCESSORIES



SANITATION TECH

Power packer HPP

Advantages:

- are made of very durable and thick rubber material with 2 cords, making this packer very robust
- they have very good stretching behavior
- have short, tapered vulcanized rubber stoppers, for ideal sliding behavior also in bends
- are highly flexible and nevertheless dimensionally stable
- are also well suited for strong tube offsets
- are equipped with a safety coupling and a threading eye

On request also with second safety coupling or blanking plug instead of the threading eye available.



Type	HPP 5/12,5-0,6	HPP 5/12,5-1	HPP 5/12,5-1,5	HPP 5/12,5-2	HPP 5/12,5-2,5	HPP 5/12,5-3	HPP 5/12,5-3,5	HPP 5/12,5-4
Pipe Diameter in mm:	50 - 125	50 - 125	50 - 125	50 - 125	50 - 125	50 - 125	50 - 125	50 - 125
Diameter in mm:	40	40	40	40	40	40	40	40
Body Length in mm:	600	1000	1500	2000	3000	2500	3500	4000
Total Length:	680	1080	1580	2080	3080	2580	3580	4080
Op. Pressure in bar:	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
Weight in kg:	0,95	1,30	1,80	2,25	3,15	2,70	3,65	4,10

Type	HPP 7/15-0,6	HPP 7/15-1	HPP 7/15-1,5	HPP 7/15-2	HPP 7/15-2,5	HPP 7/15-3	HPP 7/15-3,5	HPP 7/15-4
Pipe Diameter in mm:	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150
Diameter in mm:	54	54	54	54	54	54	54	54
Body Length in mm:	600	1000	1500	2000	2500	3000	3500	4000
Total Length:	680	1080	1580	2080	2580	3080	3580	4080
Op. Pressure in bar:	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
Weight in kg:	1,50	2,20	3,15	4,05	4,95	5,85	6,80	7,70

Type	HPP 10/20-0,6	HPP 10/20-1	HPP 10/20-1,5	HPP 10/20-2	HPP 10/20-2,5	HPP 10/20-3	HPP 10/20-3,5	HPP 10/20-4
Pipe Diameter in mm:	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200
Diameter in mm:	68	68	68	68	68	68	68	68
Body Length in mm:	600	1000	1500	2000	2500	3000	3500	4000
Total Length:	680	1080	1580	2080	2580	3080	3580	4080
Op. Pressure in bar:	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
Weight in kg:	1,90	2,90	4,10	5,30	6,55	7,80	9,00	10,20

House Connection Packer HP

Standard house connection packers are always used when a particularly flexible packer is required. Thanks to its soft hose, it can be used without much effort even on hard-to-reach damaged areas. The contact length is 500 mm to 3700 mm.



Type	Pipe Diameter: mm	Diameter: mm	Body Length: mm	Total Length: mm	Weight: kg	Op. Pressure: bar
HP 7/10-0,6	70 - 100	45	600	720	0,65	3,0
HP 7/10-1	70 - 100	45	1000	1120	0,75	3,0
HP 7/10-1,2	70 - 100	45	1200	1310	0,80	3,0
HP 7/10-1,5	70 - 100	45	1500	1620	0,85	3,0
HP 7/10-2	70 - 100	45	2000	2120	0,95	3,0
HP 7/10-2,5	70 - 100	45	2500	2620	1,2	3,0
HP 7/10-3	70 - 100	45	3000	3120	1,5	3,0
HP 7/10-3,5	70 - 100	45	3500	3620	1,65	3,0
HP 7/10-4	70 - 100	45	4000	4120	1,8	3,0
HP 10/15-0,6	100 - 150	65	600	720	1,1	2,5
HP 10/15-0,8	100 - 150	65	800	920	1,25	2,5
HP 10/15-1	100 - 150	65	1000	1120	1,4	2,5
HP 10/15-1,2	100 - 150	65	1200	1320	1,6	2,5
HP 10/15-1,5	100 - 150	65	1500	1620	1,8	2,5
HP 10/15-2	100 - 150	65	2000	2120	2,1	2,5
HP 10/15-2,5	100 - 150	65	2500	2620	2,5	2,5
HP 10/15-3	100 - 150	65	3000	3120	2,9	2,5
HP 10/15-3,5	100 - 150	65	3500	3620	3,3	2,5
HP 10/15-4	100 - 150	65	4000	4120	3,7	2,5
HP 10/20-0,6	100 - 200	68	600	720	1,55	2,5
HP 10/20-1	100 - 200	68	1000	1120	2,05	2,5
HP 10/20-1,5	100 - 200	68	1500	1620	2,65	2,5
HP 10/20-2	100 - 200	68	2000	2120	3,25	2,5
HP 10/20-2,5	100 - 200	68	2500	2620	3,85	2,5
HP 10/20-3	100 - 200	68	3000	3120	4,45	2,5
HP 10/20-3,5	100 - 200	68	3500	3620	5,05	2,5
HP 10/20-4	100 - 200	68	4000	4120	5,65	2,5
HP 15/25-0,6	150 - 250	105	600	730	2,5	2,0
HP 15/25-1	150 - 250	105	1000	1130	3,2	2,0
HP 15/25-1,5	150 - 250	105	1500	1630	4,0	2,0
HP 15/25-2	150 - 250	105	2000	2130	4,8	2,0
HP 15/25-2,5	150 - 250	105	2500	2630	5,6	2,0
HP 15/25-3	150 - 250	105	3000	3130	6,4	2,0
HP 15/25-3,5	150 - 250	105	3500	3630	7,2	2,0
HP 15/25-4	150 - 250	105	4000	4130	8,0	2,0

HC Packer HP Small

Small domestic service packers are designed to refurbish the service lines of the smallest pipe diameters. The easy insertion of the house connection packer - even in pipe bends - is ensured by very short and strong packer ends. The contact length is 300 mm to 1300 mm.



Type	Pipe Diameter: mm	Diameter: mm	Body Length: mm	Total Length: mm	Weight: kg	Op. Pressure: bar
HP 3/4-0,4	30 - 70	25	400	450	0,30	3,0
HP 3/4-0,6	30 - 70	25	600	650	0,40	3,0
HP 3/4-1	30 - 70	25	1000	1050	0,60	3,0
HP 3/4-1,5	30 - 70	25	1500	1550	0,90	3,0
HP 3,5/5-0,4	30 - 70	30	400	450	0,30	3,0
HP 3,5/5-0,6	30 - 70	30	600	650	0,45	3,0
HP 3,5/5-1	30 - 70	30	1000	1050	0,65	3,0
HP 3,5/5-1,5	30 - 70	30	1500	1550	0,95	3,0
HP 5/7-0,4	50-70	35	400	510	0,50	3,0
HP 5/7-0,6	50-70	35	600	710	0,55	3,0
HP 5/7-0,8	50-70	35	800	910	0,60	3,0
HP 5/7-1	50-70	35	1000	1110	0,65	3,0
HP 5/7-1,5	50-70	35	1500	1610	0,75	3,0
HP 5/7-2	50-70	35	2000	2110	0,90	3,0
HP 5/7-2,5	50-70	35	2500	2610	1,05	3,0
HP 5/7-3	50-70	35	3000	3110	1,20	3,0

Bow Packer

The bow packers have been developed to enable the rehabilitation of pipe bends. With these refurbishment packers you can refurbish 90 ° bends. Due to its construction and the high-quality material of the packer, the repaired part of the pipe is wrinkle-free and smooth.



Type	Pipe Diameter: mm	Diameter: mm	Body Length: mm	Total Length: mm	Weight: kg	Op. Pressure: bar
OP 5/7 - 0,4 K	50 - 70	35	400	510	0,5	2
OP 5/7 - 0,6 K	50 - 70	35	600	710	0,55	2
OP 5/7 - 1 K	50 - 70	35	1000	1110	0,65	2
OP 5/7 - 1,5 K	50 - 70	35	1500	1610	0,75	2
OP 7/10 - 0,6 K	70 - 100	45	600	720	0,7	2
OP 7/10 - 1 K	70 - 100	45	1000	1120	0,8	2
OP 7/10 - 1,5 K	70 - 100	45	1500	1620	0,9	2
OP 8/11 - 0,6 K	80 - 110	56	600	710	1,0	2
OP 8/11 - 1 K	80 - 110	56	1000	1120	1,1	2
OP 8/11 - 1,5 K	80 - 110	56	1500	1620	1,2	2
OP 10/13 - 0,6 K	100 - 130	65	600	710	1,2	2
OP 10/13 - 1 K	100 - 130	65	1000	1120	1,4	2
OP 10/13 - 1,5 K	100 - 130	65	1500	1620	1,7	2
OP 12/15 - 1 K	120 - 150	70	1000	1120	1,8	2
OP 12/15 - 1,5 K	120 - 150	70	1500	1620	2,4	2
OP 14/20 - 1 K	140 - 200	86	1000	1130	3,3	2
OP 14/20 - 1,5 K	140 - 200	86	1500	1630	4	2
OP 18/25 - 1 K	180 - 250	107	1000	1130	5	2
OP 18/25 - 1,5 K	180 - 250	107	1500	1630	6	2

Long Packer DP

The long packer consist of a rubber hose, with incorporated aluminum plates. These packers each have a quick coupling and an eyelet for easy alignment in the pipeline. Our long packers are delivered without Roll undercarriage and without passageways. The contact length is 1100 mm to 3600 mm.



Type	Pipe Diameter: mm	Diameter: mm	Body Length: mm	Total Length: mm	Weight: kg	Op. Pressure: bar
DP 20/30-1	200 - 300	150	1000	1100	3,7	1,5
DP 20/30-1,5	200 - 300	150	1500	1600	4,8	1,5
DP 20/30-2	200 - 300	150	2000	2100	5,9	1,5
DP 20/30-2,5	200 - 300	150	2500	2600	7,0	1,5
DP 20/30-3	200 - 300	150	3000	3100	8,1	1,5
DP 20/30-3,5	200 - 300	150	3500	3600	9,1	1,5
DP 20/30-4	200 - 300	150	4000	4100	10,2	1,5
DP 30/40-1	300 - 400	240	1000	1100	6,5	1,5
DP 30/40-1,5	300 - 400	240	1500	1600	8,5	1,5
DP 30/40-2	300 - 400	240	2000	2100	10,6	1,5
DP 30/40-2,5	300 - 400	240	2500	2600	12,7	1,5
DP 30/40-3	300 - 400	240	3000	3100	14,7	1,5
DP 30/40-3,5	300 - 400	240	3500	3600	16,7	1,5
DP 30/40-4	300 - 400	240	4000	4100	18,8	1,5
DP 40/50-1,5	400 - 500	340	1500	1600	16,0	1,0
DP 40/50-2	400 - 500	340	2000	2100	21,0	1,0
DP 40/50-2,5	400 - 500	340	2500	2600	24,0	1,0
DP 40/50-3	400 - 500	340	3000	3100	26,5	1,0
DP 40/50-3,5	400 - 500	340	3500	3600	29,0	1,0
DP 40/50-4	400 - 500	340	4000	4100	32,0	1,0
DP 50/60-1,5	500 - 600	430	1500	1600	21,0	1,0
DP 50/60-2	500 - 600	430	2000	2100	28,3	1,0
DP 50/60-2,5	500 - 600	430	2500	2600	31,8	1,0
DP 50/60-3	500 - 600	430	3000	3100	35,4	1,0
DP 50/60-3,5	500 - 600	430	3500	3600	39,0	1,0
DP 50/60-4	500 - 600	430	4000	4100	42,5	1,0
DP 60/80-1,5	600 - 800	510	1500	1600	45,0	0,6
DP 60/80-2	600 - 800	510	2000	2100	49,0	0,6
DP 60/80-2,5	600 - 800	510	2500	2600	52,5	0,6
DP 60/80-3	600 - 800	510	3000	3100	56,0	0,6
DP 60/80-3,5	600 - 800	510	3500	3600	59,5	0,6
DP 60/80-4	600 - 800	510	4000	4100	63,0	0,6

Flex Packer FP

Flex packers consist of a single-layer rubber body and two metal heads with rolls (these are at an angle of 120 °), which ensure stable movement of the packer in the pipeline. The packers are supplied with passages so that the water can drain during refurbishment. The contact length is 600 mm to 3500 mm. Since these packers are flexible, they can be installed very easily in a damaged pipeline.



Type	Pipe Diameter: mm	Diameter: mm	Body Length: mm	Total Length: mm	Weight: kg	Op. Pressure: bar	Flow
FP 10/15-1	100 - 150	65	1000	1120	1,9	2,5	-
FP 10/15-1,5	100 - 150	65	1500	1620	2,3	2,5	-
FP 10/15-2	100 - 150	65	2000	2120	2,6	2,5	-
FP 10/15-2,5	100 - 150	65	2500	2620	2,9	2,5	-
FP 10/15-3	100 - 150	65	3000	3120	3,3	2,5	-
FP 10/15-3,5	100 - 150	65	3500	3620	3,7	2,5	-
FP 10/15-4	100 - 150	65	4000	4120	4,0	2,5	-
FP 15/25-1	150 - 250	105	1000	1180	5,0	2,0	2"
FP 15/25-1,5	150 - 250	105	1500	1680	6,3	2,0	2"
FP 15/25-2	150 - 250	105	2000	2180	7,5	2,0	2"
FP 15/25-2,5	150 - 250	105	2500	2680	8,8	2,0	2"
FP 15/25-3	150 - 250	105	3000	3180	10,0	2,0	2"
FP 15/25-3,5	150 - 250	105	3500	3680	11,3	2,0	2"
FP 15/25-4	150 - 250	105	4000	4180	12,5	2,0	2"
FP 20/30-1	200 - 300	144	1100	1340	10,0	1,5	2"
FP 20/30-1,5	200 - 300	144	1600	1840	11,1	1,5	2"
FP 20/30-2	200 - 300	144	2000	2240	12,2	1,5	2"
FP 20/30-2,5	200 - 300	144	2600	2840	13,3	1,5	2"
FP 20/30-3	200 - 300	144	3000	3240	14,4	1,5	2"
FP 20/30-3,5	200 - 300	144	3600	3840	15,5	1,5	2"
FP 20/30-4	200 - 300	144	4000	4240	16,6	1,5	2"
FP 30/40-1	300 - 400	235	1100	1340	19	1,5	2"
FP 30/40-1,5	300 - 400	235	1600	1840	21	1,5	2"
FP 30/40-2	300 - 400	235	2000	2240	23	1,5	2"
FP 30/40-2,5	300 - 400	235	2600	2840	26	1,5	2"
FP 30/40-3	300 - 400	235	3000	3240	28	1,5	2"
FP 30/40-3,5	300 - 400	235	3600	3840	31	1,5	2"
FP 30/40-4	300 - 400	235	4000	4240	33	1,5	2"
FP 45/60-1	450 - 600	365	1200	1440	36	1,0	4"
FP 45/60-1,5	450 - 600	365	1700	1940	40	1,0	4"
FP 45/60-2	450 - 600	365	2000	2240	42	1,0	4"
FP 45/60-2,5	450 - 600	365	2700	2940	46	1,0	4"
FP 45/60-3	450 - 600	365	3000	3240	49	1,0	4"
FP 60/80-1	600 - 800	365	1400	1640	37,5	1,0	4"
FP 60/80-1,5	600 - 800	365	1700	1940	41,5	1,0	4"
FP 60/80-2	600 - 800	365	2000	2240	43,5	1,0	4"
FP 60/80-2,5	600 - 800	365	2700	2940	47,5	1,0	4"
FP 60/80-3	600 - 800	365	3000	3240	50,5	1,0	4"
FP 80/100-1,5	800 - 1000	550	1800	2040	82	1,0	4"
FP 100/120-2	800 - 1000	550	2200	2440	88	1,0	4"

Short packer P



The short packers consist of a two-layer rubber body and a metal core. The ends are provided with a Roll chassis (the Rolls are at an angle of 120 °), which ensures stable movements of the packer in the pipeline. The packers are supplied with passages so that wastewater can drain during the refurbishment. With regard to their contact pressure of approx. 600 mm, the short packers are used for repairing connections or short damaged areas.

Type	Pipe Diameter: mm	Diameter: mm	Body Length: mm	Total Length: mm	Weight: kg	Op. Pressure: bar
P 15/20	150 - 200	100	800	980	7	2,0
P 25/30	250 - 300	190	800	1030	17	2,0
P 30/35	300 - 350	235	800	1030	21	1,5
P 35/40	350 - 400	290	800	1030	25	1,5
P 45/50	450 - 500	380	900	1130	38	1,5
P 60/70	600 - 700	480	1000	1230	52	1,0

Egg profile - Short packer PV



The egg-shaped short packers consist of a two-layer rubber body and a metal core. The ends are provided with a roll chassis (the rolls are at an angle of 120 °), which ensures stable movements of the packer in the pipeline. The packers are supplied with passages so that wastewater can drain during the refurbishment. With regard to their contact pressure of approx. 600 mm, the short packers are used for repairing connections or short damaged areas.

Type	Pipe Diameter: mm	Diameter: mm	Body Length: mm	Total Length: mm	Weight: kg	Op. Pressure: bar
PV 20/30	200 x 300	140 x 195	800	980	16	1,5
PV 25/37,5	250 x 375	190 x 270	800	980	25	1,5
PV 30/45	300 x 450	230 x 330	800	1030	34	1,5
PV 40/60	400 x 600	330 x 480	800	1030	49	1,5
PV 50/75	500 x 750	420 x 615	900	1130	63	1,5
PV 60/90	600 x 900	520 x 765	900	1130	80	1,5

Push Sticks & Flex Adapters



Title	Art.Nr.:
Push Sticks 0,5 m - 20 mm flexible Execution, grey	20371
Push Sticks 1,0 m - 20 mm flexible Execution, grey	20372
Push Sticks 1,5 m - 20 mm flexible Execution, grey	20373
Push Sticks 2,0 m - 20 mm flexible Execution, grey	20374
Push Sticks 3,0 m - 20 mm flexible Execution, grey	20375

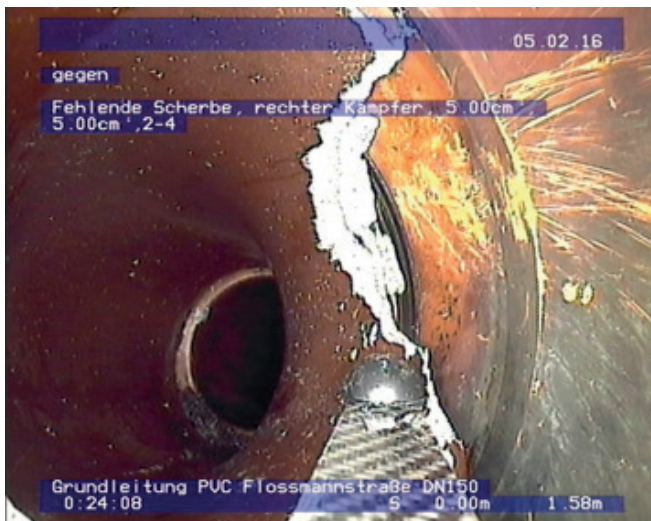
Title	Art.Nr.:
Push Sticks 1,5 m - 20 mm hard Execution, white	906001
Push Sticks 2,5 m - 20 mm hard Execution, white	906002
Push Sticks 3,0 m - 20 mm hard Execution, white	906003

The flex adapter is inserted between the push sticks and packers to facilitate insertion and increase flexibility in the tube.

Title	Art.Nr.:
Flex Adapter N-P	906004



Before Sanitation



After Successful Sanitation



SANIERUNGSTECHNIK

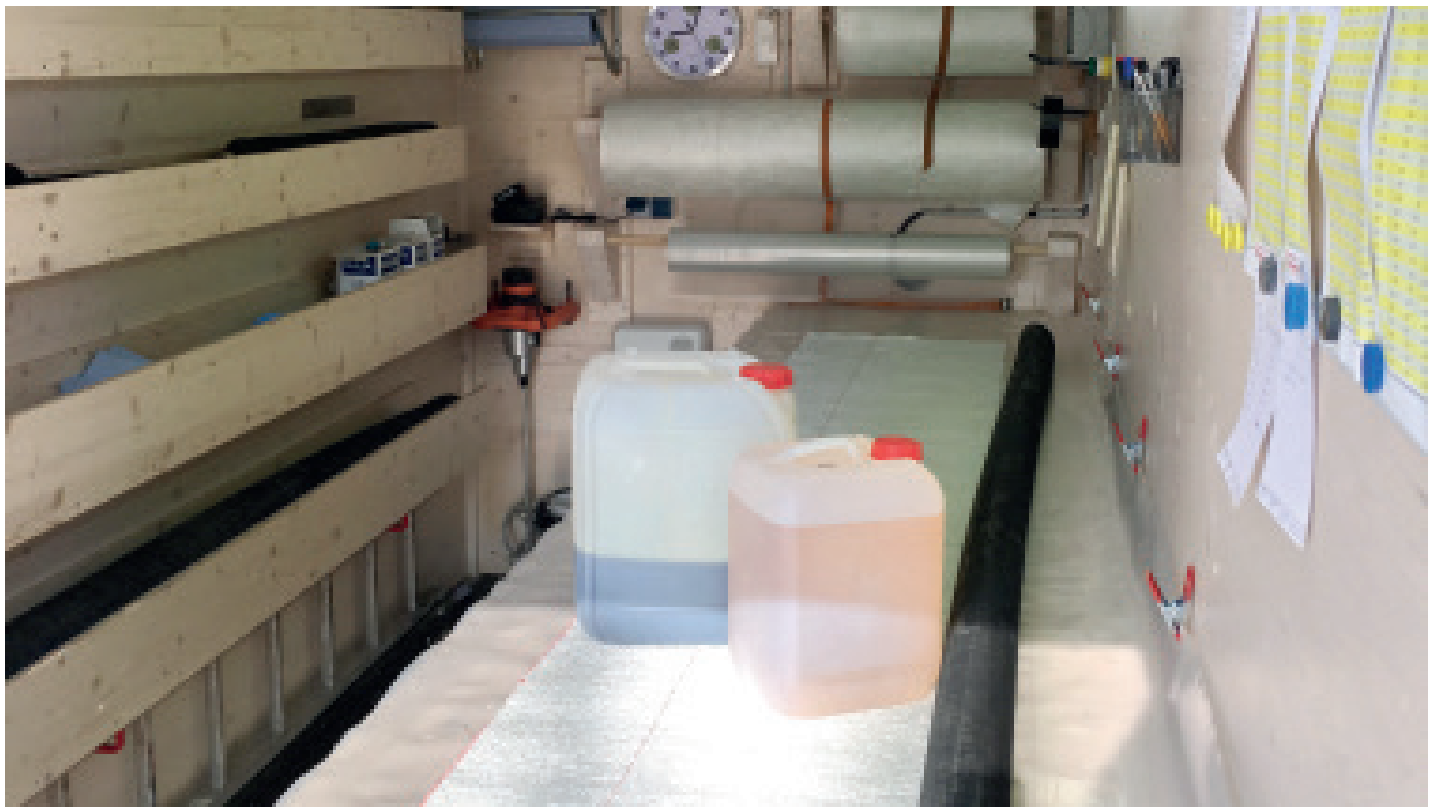
BESTÄNDIGKEITSLISTE

- A – Bohrdichtkissen und Sanierungspacker
 B – Bohrdichtkissen-ölbeständig
 C – Konische Bohrdichtkissen ULK und PULK

Chemikalien	Konzentration %	A	B	C
Aceton		-/		++
Amylen-Alkohol		—	++	++
Anilin		-/		
Benzol		—	++	++
Benzol				
Bromsäure	11	—	++	++
Bromsilberblech				
Kalium		—	++	++
Buttersäure			/	
Ethylmagnesium		—	-/	++
Calciumchlorid	15			
Essigsäure		--	++	++
Ethanol				
Ethylmagnesium	40	—	++	++
Glycerin				
Kerosin		--	++	+/-
Methanol	30			
Nitrosäure		--	++	++
Nitrylnitric				
Kaliumgas		--	++	++
Säperoxidsäure	30	/	/	
Urea		--	--	++
Phenol				
Phosphorsäure	40	-/	--	++
Propandol			/	
Kaliumhydroxid	20	—	++	++
Kaliumnitrat	10	/		
Schwefelsäure	20	—	++	++
Schwefelsäure	50		/	
Schwefelsäure	40	--	--	+/-
Toluol				
Ammoniumchlorid		-/	--	++
Essigsäure			/	
Ethanol		—	++	++
Nitrosäure				

- ++ beständig
 +/- bestenfalls beständig
 -- nicht beständig

SANIERUNGSTECHNIK





ABWASSER- UND KANALTECHNIK

RESIN



GLASS FIBER MAT



HOSE LININGS



CONSUMFROMLES



SANITATION MATERIAL

SANIERUNGSMATERIAL

SIKOTEC RESIN

Sikotec - 3P Plus Two Component Resin S1 + W1



Sikotec - 3P® Plus Short-Liner Procedure - DIBt Approval Z-42 3-326 since 2000

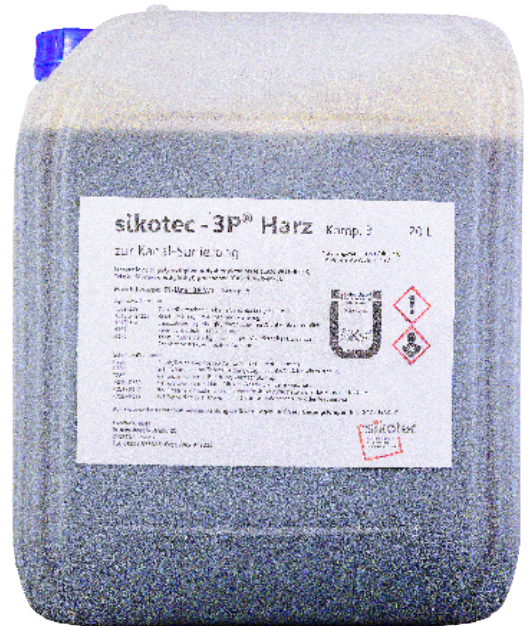
The Sikotec - 3P® Plus short-line trenchless sewer rehabilitation method offers a cost-efficient and cost-effective solution. This method offers permanent remediation and sealing, which in addition to the environmental impact assessment, also has the DIBt approval no. Z-42.3-326. Sikotec was granted this for the first time by the German Institute for Engineering as of 13/12/2000 and currently has a validity until 01/01/2021.

For remediation, after determining the exact location of the damage, a glass fiber mat impregnated with 3P resin is positioned with the aid of a packer at the point to be reformed. This can be done by means of push sticks, rope or winches and a camera. The packer is filled with air, so that the glass fiber mat is non-positively pressed against the pipe inner wall. The excess resin penetrates into the damaged area and ensures a permanent seal. After curing, the short liner for approx. 2 hours, the packer can be removed: a pipe-in-pipe system has been created.

This method, suitable in nominal sizes DN 100 - 700, adheres to almost all pipe materials and is ideal for punctual damages like: Cracks, tube offsets, blind connections, root growth u.a.

Title	Content	Weight in KG	Art.Nr.:
Container 3P-Resin Plus, Component A und B S1 (Summer)	30 l	40,5 Kg	907002
Container 3P-Resin Plus, Component A und B W1 (Winter)	30 l	40,5 Kg	907001
Component A, Water glass	10 l	15,5 Kg	907003
Component B, Resin S1	20 l	25,0 Kg	907004
Component B, Resin W1	20 l	25,0 Kg	907005

Sikotec - 3P Plus Two Component Resin Fast-hardening W01



Sikotec - 3P ® Plus Short-Liner Procedure - DIBt Approval Z-42 3-326 since 2000

The Sikotec - 3P® Plus short-line trenchless sewer rehabilitation method offers a cost-efficient and cost-effective solution. This method offers permanent remediation and sealing, which in addition to the environmental impact assessment, also has the DIBt approval no. Z-42.3-326. Sikotec was granted this for the first time by the German Institute for Engineering as of 13/12/2000 and currently has a validity until 01/01/2021.

This method, suitable in nominal sizes DN 100 - 700, adheres to almost all pipe materials and is ideal for punctual damages like: Cracks, tube offsets, blind connections, root growths u.a.

Title	Content	Weight in KG	Art.Nr.:
3P-Harz Plus, Component A und B W01 (Turbo)	30 l	40,5 Kg	907025
Component A	10 l	15,5 Kg	907009
Component B	20 l	25,0 Kg	907026

Glass Fibre Mesh 1050 g/m² suitable for DIBT approval 3P



Title	Surface Weight	Art.Nr.:
Laminat 1050	1050 g/m ²	270376

CarboLith PL - 2 und 3 Component Resin



CarboLith PL is used to repair sewers and has excellent properties and economic benefits. The non-foaming, elasticized resin cures very well even if there is a large inflow of water.

The processing proceeds in the following steps:









- 1 mixing
- 2 soaking
- 3 Setting the short liner
- 4 curing of the short liner

- Test report on drinking water and groundwater hygienic testing of CarboLith PL
- DIBt approval Z-42.3-383
- Test report PA 0529 of the ICT Team in Gelsenkirchen including long-term vertex pressure test
- Site report P 00529 for DIBt approval
- Proof of suitability against stress caused by high-pressure flushing units SVB no. 02.07598 S

Title	Weight in KG	Art.Nr.:
Complete set: 2x Component B, 1x Component A, Component C	78 Kg	---
Component A, Wasserglas	28 Kg	CLPL-A
Component B, Harz S1	21 Kg	CLPL-B
Component B, Harz W1	1 Kg oder 5 KG	CLPL-C

SANIERUNGSMATERIAL

CONSUMFROMLES & ACCESSORIES

Title		Art.Nr.:
<p>Adjustable Pressure Guage Maintains pressure in the packer without constant checks. Easily inserted in the hose between compressor and packer. Set the desired pressure.</p>		P1604
<p>Controlling Organ For slow controllable filling of packeres and bubbles. With a preset safety valve. Prevents Over-pumping! Available in:</p> <ul style="list-style-type: none"> • 1.0 Bar • 1.5 Bar • 2.5 Bar 		1,0 Bar: 200755 1,5 Bar: 200760 2,5 Bar: 200765
<p>Glass Fiber Scissors Special scissors for thick fabrics and fabrics. It stands out for its longevity and special sharpness. Quality from Solingen.</p>		505025
<p>PE Stretch Foil We only supply special foils. This best features for the refurbishment on transparent or black available. Length 300 m</p>		Transparent: 270401 Black: 270406
<p>PE Measuring Cup We gladly deliver unbreakable measuring cups, highly transparent with blue, easy to read scale. Available in different sizes.</p>		1l: 00404016 2l: 00404018 3l: 00404019 5l: 00404020
<p>Filling Hose Our filling hoses are made of a special material. This does not break even in winter and is, due to its flexibility, suitable for construction sites.</p>		3m: 200782 5m: 200781 10m: 200780
<p>Flex Adapter Creates a much more flexible connection between packers and airpush sticks.</p>		906004
<p>Winding Wire Blue To attach the fiberglass mat on the redevelopment packer.</p>		00404022

SANIERUNGSMATERIAL

GLASS FIBRE MATS

Laid glass fiber mats with a wide identification strip



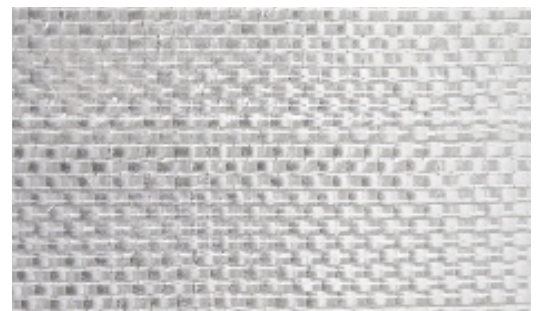
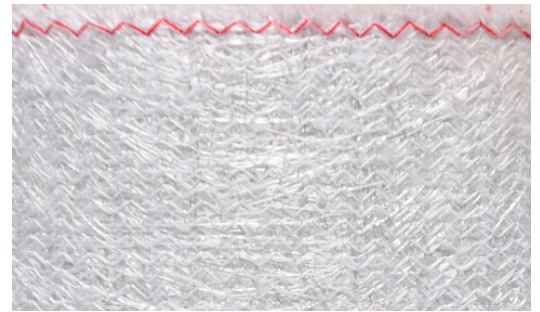
Surface Weight und Material	Type	Width	Use fromle until	Article Number
1086 g/m ² Advantex / ECR	Red / Black	35 cm	DN 100	907997
1086 g/m ² Advantex / ECR	Red / Black	44 cm	DN 125	907998
1086 g/m ² Advantex / ECR	Red / Black	53 cm	DN 150	907999
1086 g/m ² Advantex / ECR	Red / Black	130 cm	Universal	908001
1086 g/m ² Advantex / ECR	Red / Black	190 cm	Universal	908004
1387 g/m ² Advantex / ECR	Red / Green	35 cm	DN 100	150240
1387 g/m ² Advantex / ECR	Red / Green	44 cm	DN 125	907992
1387 g/m ² Advantex / ECR	Red / Green	53 cm	DN 150	150242
1387 g/m ² Advantex / ECR	Red / Green	130 cm	Universal	908003
1547 g/m ² Advantex / ECR	Red / Green	130 cm	Universal	908002

SANIERUNGSMATERIAL

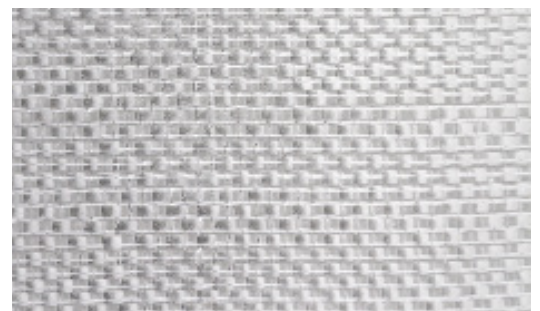
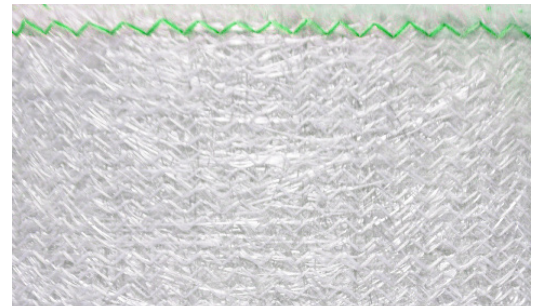
GLASS FIBRE MATS

Absorbent ECR Glass fiber mat

Red
1050 g/m²



Green
1400 g/m²



**These mats can be cut from the factory to your desired size.
Contact us.**

Surface Weight und Material	Kennung	Widene	Art. Nr
1050 g/m ² ECR Glass Fiber Mesh, 450 g/m ² Mesh, 580 g Fiber, 15 g/m ² Synt.	Red	125 cm	1581050-125
1050 g/m ² ECR Glass Fiber Mesh, 450 g/m ² Mesh, 580 g Fiber, 15 g/m ² Synt.	Red	250 cm	1581050-250
1400 g/m ² ECR Glass Fiber Mesh, 600 g/m ² Mesh, 800 g Fiber, 15 g/m ² Synt.	Green	125 cm	1581400-125
1400 g/m ² ECR Glass Fiber Mesh, 600 g/m ² Mesh, 800 g Fiber, 15 g/m ² Synt.	Green	250 cm	1581400-250

Hose lining with DIBT-Approval

Due to our good business connections, we can also offer you the hose liners of all well-known manufacturers at the best price.

Just request a free sample from us!

Official Partner
BrawoLiner®

Brawoliner® INNOVATIVE ROHRSANIERUNG

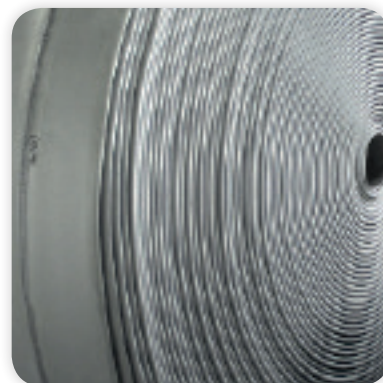


Hose lining with DIBT-approval

Due to our good business connections, we can also offer you the hose liners of all well-known manufacturers at the best price.

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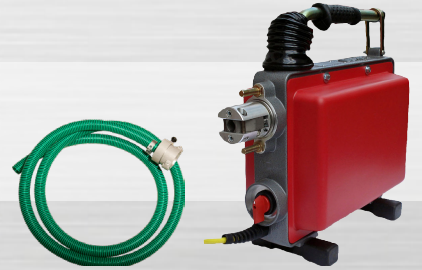
Official Partner
VfG Liner and Resin



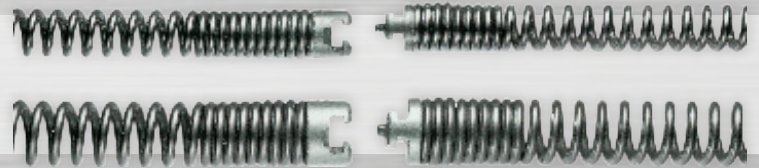


ABWASSER- UND KANALTECHNIK

SPIRAL MACHINES



SPIRALS



TOOLS



ACCESSORIES



SPIRALTECHNIK

Handmatic Pipe Cleaning Machine



Technical Data - Handmatic	
Motor	230 V / 0,63 kW
Feeding-Speed (8 mm)	0 - 5 m/min
Measurement (L x B x H)	ca 39 x 22 x 29 cm
Empty Weight (without Spiral)	ca 3,65 kg
Weight (incl. Spiral 8 mm x 7,5 m)	ca 5,60 kg
Article number	111001
Applicable Spiral:	Pipe dimension:
6 mm x 7,5 m	NW 12-40 Art.Nr.: RSPL 6/7,5
8 mm x 7,5 m	NW 20-50 Art.Nr.: RSPL 8/7,5
8 mm x 10 m	Art.Nr.: RSPL 8/10
10 mm x 7,5 m	NW 30-70 Art.Nr.: RSPL 10/7,5
10 mm x 10 m	Art.Nr.: RSPL 10/10

Can be used thousands of times and successfully for a long time in the bathroom and kitchen, for pipes of 12-17 mm: the Handmatic, the handy pipe cleaning machine for small blockages. The typical advantage of a drum machine, the spiral is not manually guided on the Handmatic. Extend and retract are automatic.

Important: when running back from the pipe, the spiral disappears into the closed drum - so there is no dirt on floors and walls. Your customer will thank you!



Ridgid Handmatic Pipe cleaning machine



Technical Data - Ridgit K-45AF-5 Handmatic	
Pipe Diameter	Ø 20 - 75 mm
Spiral	Ø 8 and 10 mm
Work length	7,5 m with Ø 8 mm Spiral 10 m with Ø 10 mm Spiral
Motor Performance	400 W Entry Performance
Number of revolutions	gearless, Right-/Left gear
Weight	15,4 kg
Measurements (L x B x H)	62 x 24 x 30 cm

Excellent for cleaning small pipes. Frozen or blocked toilets, drainpipes, urinals and bath / shower drains. The advanced AUTOFEED® two-way feed keeps hands and the work area clean. Feed and retraction of the spiral to lever pressure. Low weight, easy to use, no setup required.

The variable speed drive rotates the scroll at 0-600 rpm. The two-piece drum housing with a bayonet lock and interchangeable inner drum allows easy spiral changes and easy selection of the right spiral for the application.

The inner drum prevents the escape of water and reduces the roll over in the drum. Shock resistant, corrosion resistant plastic drums.

Title	Length	Art.Nr.:
K-45AF-5 - Complete set	-	36043
Adapter-Spiral Ø 8 mm with wound drill head	7,5 m	RSPL 8/7,5
Adapter-Spiral Ø 8 mm	10,0 m	RSPL 8/10
Adapter-Spiral Ø 8 mm with inner liner	7,5 m	RSPL 8/7,5 mk
Adapter-Spiral Ø 8 mm with inner liner	10,0 m	RSPL 8/10 mk
Adapter-Spiral Ø 10 mm	7,5 m	RSPL 10/7,5
Adapter-Spiral Ø 10 mm	10,0 m	RSPL 10/10
Adapter-Spiral Ø 10 mm with 16 mm Coupling	7,5 m	RSPL 10/7,5-16
Adapter-Spiral Ø 10 mm with 16 mm Coupling	10,0 m	RSPL 10/10-16
Adapter-Spiral Ø 10 mm with inner liner	7,5 m	RSPL10/7,5 mk
Adapter-Spiral Ø 10 mm with inner liner	10,0 m	RSPL 10/10 mk
Adapter-Spiral Ø 10 mm with inner liner und 16 mm Coupling	7,5 m	RSPL 10/10 mk-16

RAK 39 Stand Machine - The Small

for 6 - 16 mm Spirals & DN 30 - 100 mm



Type RAK

Technical Data	
Pipe Diameter	Ø 30 - 100 mm
Spiral	Ø 6 / 8 / 10 / 16 mm
Working Length	ca. 40 m with Ø 16 mm Spiral ca. 10 m with Ø 6 / 8 mm Spiral
Motor Performance	370 W Entry Performance
Revolutions	670 min-1, Right-/Left Gear
Weight	16,0 kg
Measurements (LxBxH)	47 x 16 x 41 cm
NEW ! Now optional with Start-Stop-Function ! NEW	
Article Number	RAK 39

The RAK 39 is suitable for NW 30 - 100 mm and spirals of 16 mm diameter. Can also be used with 6 mm, 8 mm and 10 mm spirals with an adapter magazine. It is a reliable, high-performance, multi-purpose pipe cleaning machine in the building service area. Like all RAK machines, it has the patented, external jaw system for quick change and maintenance of the clamping system.

RAK 40 Stand Machine - The All-Rounder

for 6 - 22 mm Spirals & DN 30 - 150 mm



Type RAK

Technical Data	
Pipe Diameter	Ø 30 - 150 mm
Spiral	Ø 6 / 8 / 10 / 16 / 22 mm
Work Length	ca. 65 m with Ø 22 mm Spiral ca. 55 m with Ø 16 mm Spiral
Motor Performance	750 W Entry Performance
Revolutions	670 min-1, Right-/Left Gear
Weight	24,0 kg
Measurements (LxBxH)	53 x 20 x 50 cm
NEW ! Now optional with Start-Stop-Function !	
Article Number	RAK 40

The RAK 40 is suitable for NW 30 - 150 mm and spirals of 16 - 22 mm diameter. Can also be used with 6 mm, 8 mm and 10 mm spirals with an adapter magazine.

RAK 41 Stand Machine - The Power Packet for 6 - 16 mm Spirals & DN 30 - 250 mm

Type RAK

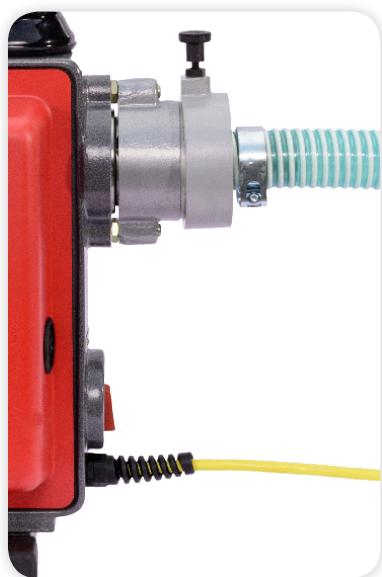
Technical Data	
Pipe Diameter	Ø 30 - 250 mm
Spiral	Ø 6 / 8 / 10 / 16 / 22 / 32 mm
Work Length	ca. 100 m with Ø 22 mm Spiral ca. 70 m with Ø 32 mm Spiral
Motor Performance	1,0 KW
Revolutions	620 min-1, Right-/Left Gear
Weight	26,0 kg
Measurements (LxBxH)	53 x 20 x 50 cm
NEW ! Now optional with Start-Stop-Function !	
Article Number	RAK 41



The RAK 41 is suitable for NW 30 - 250 mm and spirals of 16 - 32 mm diameter. 41-88 jaws for 16 mm spirals. With an adapter magazine for 8 mm and 10 mm spirals and with clamping jaws changing 16 mm for 16 mm spirals is possible.



Lead Hoses



A-Part Hose Side



For protection and vibration dampening of the spirals, it is placed over the jaw system on the stud bolts and locked by means of grub screws.

Title	Execution	Type
Lead Hoses rak-39	2,1 m lang	FS 39/KV
Lead Hoses rak-39	4,0 m lang	FS 39/KV-4m
Lead Hoses rak-40	4,0 m lang	FS 40/KV
Lead Hoses rak-41	4,0 m lang	FS 41/KV
ReplacementParte	Maschine	Type
A-Part Hose Side	rak-39	KV 39/A
B-Part Machine Side	rak-39	KV 39/B
A-Part Hose Side	rak-40	KV 40/A
B-Part Machine Side	rak-40	KV 40/B
A-Part Hose Side	rak-41	KV 41/A
B-Part Machine Side	rak-41	KV 41/B

R550 Stand Machine

for 8 - 16 mm Spirals & DN 20 - 100 mm



Type R550

Technical Data	
Pipe Diameter	Ø 20 - 100 mm
Spirals	Ø 16 mm Ø 8 / 10 mm with Adapter
Work Length	up to 40 m with 16 mm Spirals
Motor Performance	440 W Entry Performance
Revolutions	583 min-1, Right-/Left Gear
Weight	16 kg

The R550 has a torsion-resistant, extremely lightweight aluminum frame. Central force transmission through a centrally arranged and reinforced drive lever, means there is no tilting of the machine. The drive lever is locked at rest and also serves as a carrying handle for the machine. AS clamping jaws: secure, non-positive, radial clamping of the clamping jaws for optimum power transmission.

R650 Stand Machine (Powerclean)

for 8 - 22 mm Spirals & DN 20 - 150 mm



Type R650 Powerc-

Technical Data	
Pipe Diameter	Ø 20 - 150 mm
Spirals	Ø 16 / 22 mm Ø 8 / 10 mm with Adapter
Work Length	up to 65 m with 22 mm Spirals
Motor Performance	0,8 KW / 1,09 PS
Revolutions	623 min-1, Right-/Left Gear
Weight	22,8 kg

The R650 has a torsion-resistant, extremely lightweight aluminum frame. Central force transmission through a centrally arranged and reinforced drive lever, means there is no tilting of the machine. The drive lever is locked at rest and also serves as a carrying handle for the machine. AS clamping jaws: secure, non-positive, radial clamping of the clamping jaws for optimum power transmission.

R750 Stand Machine for 16 - 32 mm Spirals & DN 20 - 200 mm



Type R750

Technical Data	
Pipe Diameter	Ø 20 - 200 mm
Spirals	Ø 22 / 32 mm Ø 16 mm with Spannzange
Work Length	up to 80 m
Motor Performance	1,4 KW
Revolutions	467 min-1, Right-/Left Gear
Weight	33,5 kg
Article Number	750

The R750 has a torsion-resistant, extremely lightweight aluminum frame. Central force transmission through a centrally arranged and reinforced drive lever, means there is no tilting of the machine. The drive lever is locked at rest and also serves as a carrying handle for the machine. AS clamping jaws: secure, non-positive, radial clamping of the clamping jaws for optimum power transmission.

Lead Hoses



The spiral-lead hoses must be used to insert 16 - 32 mm spirals straight and clean into the machine.

Title	Execution	Art.Nr.:
R550 Lead Hoses for 16 mm Spirals	2 m lang	072540
R550 Lead Hoses for 16 mm Spirals	4 m lang	072547
R600/650 Lead Hoses for 22 mm Spirals	4 m lang	072541
R750/80/100 Lead Hoses for 32 mm Spirals	4 m lang	072559

RIS 16 Stand Machine

for 6 - 22 mm Spirals & DN 30 - 100 mm



Type RIS

Technical Data	
Pipe Diameter	Ø 30 - 100 mm
Spirals	Ø 6 / 8 / 10 / 16 / 22 mm
Work Length	ca. 40 m with Ø 16 mm Spiral
Motor Performance	370 W Entry Performance
Revolutions	670 min-1
Weight	16,0 kg
Measurements (LxBxH)	47 x 16 x 41 cm
Article Number	RIS 16

The RIS 16 is suitable for use in pipes from DN 30 - 100 mm. With a maximum work length of 80 m, it is suitable for operation with 6, 8 and 10 mm spirals by means of an adapter magazine or hose, and the operation of 16 and 22 mm spirals.

RIS 22 Stand Machine

for 6 - 22 mm Spirals & DN 30 - 200 mm



Type RIS

Technical Data - RIS 22	
Pipe Diameter	Ø 30 - 200 mm
Spirals	Ø 6 / 8 / 10 / 16 / 22 mm
Work Length	ca. 70 m with Ø 22 mm Spiral ca. 55 m with Ø 16 mm Spiral
Motor Performance	750 W input power
Revolutions	670 min-1, right-/left gear
Weight	24,0 kg
Measurements (LxBxH)	53 x 20 x 50 cm
Article Number	RIS 22

The RIS 22 is designed for use in pipes of DN 30 - 200 mm, with a maximum work length of 80 m and is suitable for operation with 6, 8 and 10 mm spirals by means of adapter magazine or hose, and the operation of 16 and 22 mm spirals.

RIS 32 Stand Machine for 10 - 32 mm Spirals & DN 30 - 250 mm

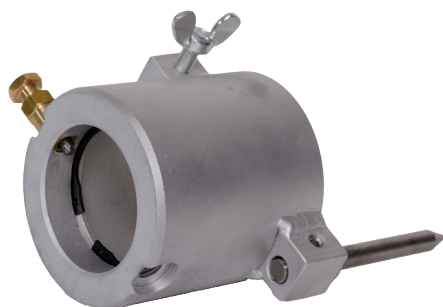
Type RIS

Technical Data - RIS 32	
Pipe Diameter	Ø 30 - 250 mm
Spirals	Ø 10 / 16 / 22 / 32 mm
Work Length	ca. 70 m with Ø 32 mm Spiral ca. 70 m with Ø 22 mm Spiral
Motor Performance	1.100 W Entry Performance
Revolutions	620 min-1, Right-/Left Gear
Weight	25,0 kg
Measurements (LxBxH)	53 x 20 x 50 cm
Article Number	RIS 32



The RIS 32 pipe and sewer cleaning machine is designed for use in pipes from DN 30 - 250 mm and is suitable for operation with 10, 16 and 22 mm spirals by means of adapters and the operation of 32 mm spirals.

Lead Hoses



A-Part Machine Side



The spiral-lead hoses must be used to insert 16 - 32 mm spirals and to clean the machine.



B-Part Hose Side

Title	Execution	Type
Lead Hoses RIS 16 with Quick-release	2 m lang	FS 16/21
Lead Hoses RIS 22 with Quick-release	4,2 m lang	FS 22/45
Lead Hoses RIS 32 with Quick-release	4,2 m lang	FS 32/42
ReplacementParte	Maschine	Type
A-Part Machine Side	rak-39	FS-16-A
B-Part Hose Side	rak-39	FS-16-B
A-Part Machine Side	rak-40	FS-22-A
B-Part Hose Side	rak-40	FS-22-B
A-Part Machine Side	rak-41	FS-32-A
B-Part Hose Side	rak-41	FS-32-B

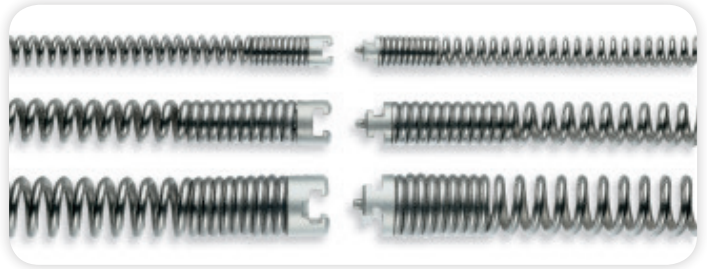
Standard Spirals



The standard spiral is flexible and designed for universal cleaning work with normal use and standard tools. It works perfectly on shorter distances, narrow or several consecutive pipe bends.

Title		Wire Strength	Type
Standard-Spiral Ø 16 mm	2,0 m	3,0 mm	RSPL 16
Standard-Spiral Ø 22 mm	4,0 m	4,5 mm	RSPL 22

Reinforced Spirals



The reinforced spiral is an additional reinforced and hardened version of the standard spiral, which allows greater stability and torque transfer. Especially suitable for demanding work (root cutting, milling).

Title		Wire Strength	Type
Reinforced-Spiral Ø 16 mm	2,0 m	3,5 mm	RSPL 16S
Reinforced-Spiral Ø 16 mm	4,0 m	3,5 mm	RSPL 16S-4
Reinforced-Spiral Ø 22 mm	4,0 m	5,0 mm	RSPL 22S

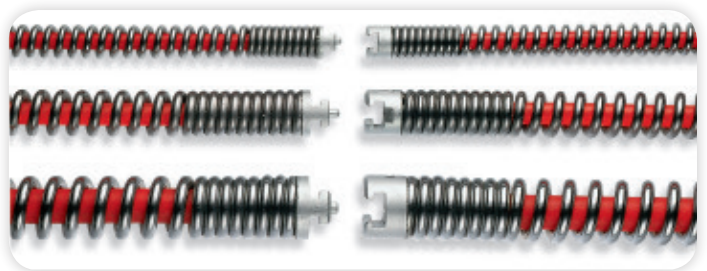
Standard Spirals with Core



The standard spiral with core is intended for heavily soiled areas. Due to its black, temperature and weather-resistant plastic core, there is almost no clogging of the spiral by items to be cleaned, such as dirt or residues in textile or pulp blockages.

Title		Wire Strength	Type
Standard-Spiral with Kern Ø 16 mm	2,0 m	3,0 mm	RSPL 16mk-ASF
Standard-Spiral with Kern Ø 22 mm	4,0 m	4,5 mm	RSPL 22mk-ASF

Reinforced Spirals with Core



The reinforced spiral with its redem core is a reinforced and hardened version of the standard spiral, which allows a higher stability and torque transmission. The plastic core allows almost no clogging of the spiral. Especially for demanding work (root cutting, milling).

Title		Wire Strength	Type
Reinforced-Spiral with Kern Ø 16 mm	2,0 m	3,5 mm	RSPL 16Smk-ASF
Reinforced-Spiral with Kern Ø 16 mm	4,0 m	3,5 mm	RSPL 16Smk-ASF
Reinforced-Spiral with Kern Ø 22 mm	4,0 m	5,0 mm	RSPL 22Smk-ASF

Kombi-Spirals



Kombi-Spiral

Reduced Spiral & Piece



Long Execution



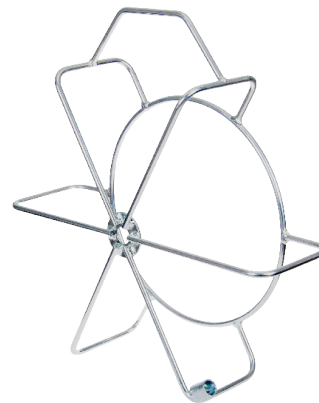
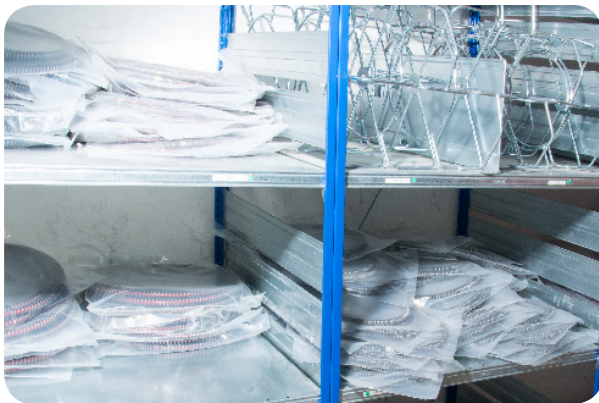
Short Execution

Title	Length	Recording	Type
Kombi-Spiral Ø 16 mm	180 mm	Groove / Groove	KSP-16NN
Kombi-Spiral Ø 16 mm	180 mm	Pivot / Pivot	KSP-16SS
Kombi-Spiral Ø 16 mm	180 mm	Groove / Pivot	KSP-16NS
Kombi-Spiral Ø 22 mm	190 mm	Groove / Groove	KSP-22NN
Kombi-Spiral Ø 22 mm	190 mm	Pivot / Pivot	KSP-22SS
Kombi-Spiral Ø 22 mm	190 mm	Groove / Pivot	KSP-22NS
Kombi-Spiral Ø 32 mm	195 mm	Groove / Groove	KSP-32NN

Reduced & Extended spirals / pieces allow spirals of a certain size to be coupled with tools of other sizes.

Title	Length	Recording	Type
Extended Spiral Ø 16/22 mm	140 mm	Groove / Pivot	RDSP 16/22
Reduced Spiral Ø 22/16 mm	140 mm	Groove / Pivot	RDSP 22/16
Extended Piece Ø 16/22 mm	40 mm	Groove / Pivot	RDSP 16/22 K

Spiral Basket / Spiral Basket Magazine



Spiral Basket



Magazine

The spiral basket is the optimal solution for storing and transporting the spirals. The magazine is a space-saving option for storing spiral baskets and machines.

Title	Dimensions / Weight	Type
Spiral Basket SK-16 for Spirals with Ø 16 mm	L530 x B440 x H200 1,6 kg	SK 16
Spiral Basket SK-22 for Spirals with Ø 22 mm	L560 x B460 x H200 1,80 kg	SK 22
Spiral Basket SK-32 for Spirals with Ø 32 mm	L590 x B520 x H200 2,00 kg	SK 32
Magazine for SK-16	L500 x B175 x H470 4,10 kg	MA 16
Magazine for SK-22 + RAK 39	L500 x B205 x H470 4,20 kg	MA 22
Magazine for SK-32 + RAK 40 und RAK 41	L500 x B235 x H470 4,30 kg	MA 32
Magazine for large machines		MM

Straight Drill



The straight drill is usually used as the first tool when the cause of the blockage is still unknown. It can also be used for light textile and cellulose clogging to achieve water flow in a total blockage.

Title	∅	Type
Straight Drill ∅ 16 mm	110 mm 16 mm	GB 16
Straight Drill ∅ 22 mm	210 mm 22 mm	GB 22
Straight Drill ∅ 32 mm	220 mm 32 mm	GB 32

Club Drill



The club drill is due to its unique and enormous flexibility only for light textile and cellulose clogs to use. The club shape facilitates penetration, especially in narrow pipe bends.

Title	∅	Type
Club Drill ∅ 16 mm	115 mm 28 mm	KLB 16
Club Drill ∅ 16 mm / 500	500 mm 28 mm	KLB 16-500
Club Drill ∅ 22 mm	180 mm 40 mm	KLB 22
Club Drill ∅ 22 mm / 500	500 mm 40 mm	KLB 22-500
Club Drill ∅ 32 mm	220 mm 50 mm	KLB 32

Funnel Drill



The funnel drill is specially designed for textile and cellulose clogging. Due to the funnel-like shape, this tool has a large detection range and can also be used with larger pipe diameters. The funnel drill can also be used as a retrieval tool.

Title	∅	Type
Funnel Drill ∅ 16 mm	110 mm 32 mm	TB 16
Funnel Drill ∅ 22 mm	185 mm 55 mm	TB 22
Funnel Drill ∅ 32 mm	195 mm 60 mm	TB 32

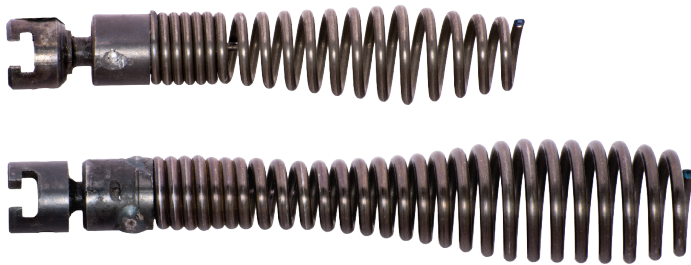
Retrieval Drill



The retrieval drill is used as soon as a spiral remaining in the pipe has to be retrieved. It is equipped with a special catching arm.

Title	∅	Type
Retrieval Drill ∅ 16 mm	55 mm 34 mm	RHB 16
Retrieval Drill ∅ 22 mm	100 mm 45 mm	RHB 22
Retrieval Drill ∅ 32 mm	125 mm 65 mm	RHB 32

Club Drill with hinge



The special joint drill facilitates penetration into narrow pipe bends. It is suitable for light textile and cellulosic blockages.

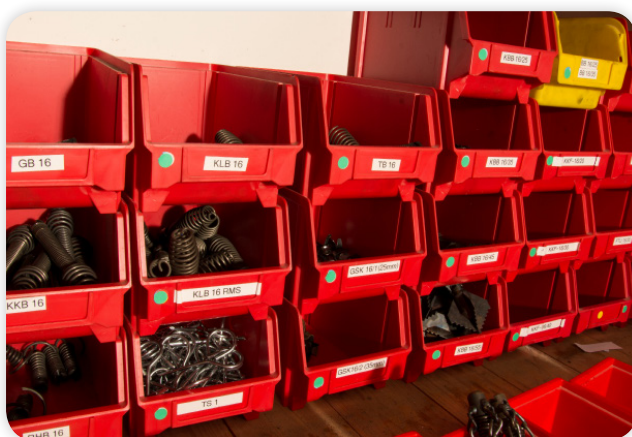
Title	Ø	Type
Hinge-Club Drill Ø 16 mm	83 mm 28 mm	GLKB 16
Hinge-Club Drill Ø 22 mm	125 mm 40 mm	GLKB 22

Club Drill with short hinge



Due to the particularly short design it is very well suited for tight pipe bends.

Title	Ø	Type
Club drill with short hinge Ø 16 mm	55 mm 28 mm	KGLB-16



Ball head drill



The ball head drill combines power and flexibility. It is particularly well suited for use in narrow pipe bends.

Title	Ø	Type
Ball head drill Ø 16 mm	115 mm 28 mm	KKB 16
Ball head drill Ø 16 mm	500mm 28 mm	KKB 16-500

Leaf drill



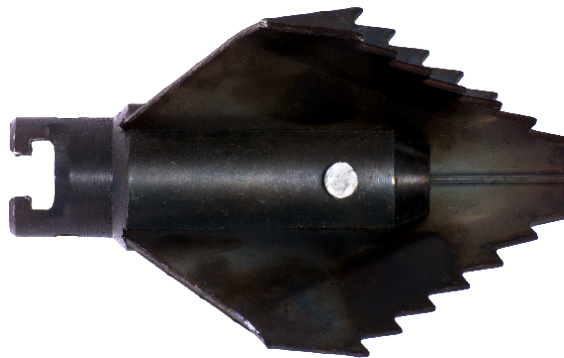
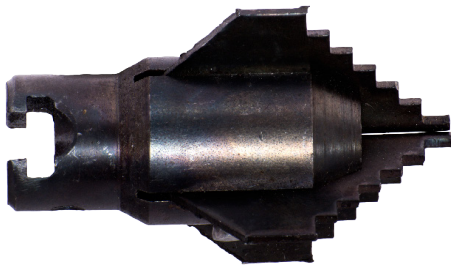
Title	Type	Working Area	Type
Leaf Drill 25 (Jagged)	Ø 16	38 - 50 mm	BB 16/25
Leaf Drill 35 (Jagged)	Ø 16	50 - 75 mm	BB 16/35
Leaf Drill 45 (Jagged)	Ø 16	60 - 100 mm	BB 16/45
Leaf Drill 55 (smooth)	Ø 16	75 - 125 mm	BB 16/55

The leaf drill is mainly used to drill fatigued or heavily silted pipes. The tough, high-strength drill sheets are made of hardened spring steel and riveted with couplings. This ensures optimum safety when working.

Title	Type	Working Area	Type
Leaf Drill 45 (Jagged)	Ø 22	50 - 100 mm	BB 22/45
Leaf Drill 55 (Jagged)	Ø 22	75 - 100 mm	BB 22/55
Leaf Drill 55 (smooth)	Ø 22	75 - 125 mm	BB 22/55 G
Leaf Drill 65 (smooth)	Ø 22	100 - 150 mm	BB 22/65 G
Leaf Drill 80 (smooth)	Ø 22	100 - 170 mm	BB 22/80 G
Leaf Drill 90 (smooth)	Ø 22	125 - 200 mm	BB 22/90 G

Title	Type	Working Area	Type
Leaf Drill 35 (Jagged)	Ø 32	50 - 100 mm	BB 32/35
Leaf Drill 45 (Jagged)	Ø 32	75 - 100 mm	BB 32/45
Leaf Drill 55 (smooth)	Ø 32	75 - 125 mm	BB 32/55
Leaf Drill 65 (smooth)	Ø 32	100 - 150 mm	BB 32/65
Leaf Drill 80 (smooth)	Ø 32	100 - 170 mm	BB 32/80
Leaf Drill 90 (smooth)	Ø 32	125 - 200 mm	BB 32/90

Cross leaf Drill



Title	Spiral Type	Working Area	Type
Cross Leaf Drill 25	Ø 16 mm	38 - 50 mm	KBB 16/25
Cross Leaf Drill 35	Ø 16 mm	50 - 75 mm	KBB 16/35
Cross Leaf Drill 45	Ø 16 mm	60 - 100 mm	KBB 16/45

Universally applicable for textile, sludge deposits, pipe inclinations etc.

The hardened cross blades are made of high-strength spring steel and are connected with the rivets through the couplings.

Title	Spiral Type	Working Area	Type
Cross Leaf Drill 35	Ø 22 mm	50 - 100 mm	KBB 22/35
Cross Leaf Drill 45	Ø 22 mm	60 - 100 mm	KBB 22/45
Cross Leaf Drill 55	Ø 22 mm	65 - 125 mm	KBB 22/55
Cross Leaf Drill 65	Ø 22 mm	75 - 125 mm	KBB 22/65
Cross Leaf Drill 80	Ø 22 mm	100 - 150 mm	KBB 22/80
Cross Leaf Drill 90	Ø 22 mm	125 - 200 mm	KBB 22/90

Title	Spiral Type	Working Area	Type
Cross Leaf Drill 35	Ø 32 mm	50 - 100 mm	KBB 32/35
Cross Leaf Drill 45	Ø 32 mm	75 - 100 mm	KBB 32/45
Cross Leaf Drill 55	Ø 32 mm	75 - 125 mm	KBB 32/55
Cross Leaf Drill 65	Ø 32 mm	100 - 200 mm	KBB 32/65
Cross Leaf Drill 80	Ø 32 mm	100 - 200 mm	KBB 32/80
Cross Leaf Drill 90	Ø 32 mm	125 - 200 mm	KBB 32/90

Fork Cutter



The smooth and serrated fork cutter is made of hardened spring steel and is mainly used in light to heavy silting or for tough fatty deposits.

Title	Spiral Type	Working Area	Type
Fork Cutter 25 mm (Flat 2 Cutters)	Ø 16 mm	40 - 75 mm	GSK 16/2

Title	Spiral Type	Working Area	Type
Fork Cutter 65 (Jagged)	Ø 22 mm	100 - 150 mm	GSK 22/65
Fork Cutter 90 (Jagged)	Ø 22 mm	120 - 200 mm	GSK 22/90
Fork Cutter 110 (Jagged)	Ø 22 mm	150 - 200 mm	GSK 22/110

Title	Spiral Type	Working Area	Type
Fork Cutter 65 (Jagged)	Ø 32 mm	100 - 150 mm	GSK 32/65
Fork Cutter 90 (Jagged)	Ø 32 mm	120 - 200 mm	GSK 32/90
Fork Cutter 125 (Jagged)	Ø 32 mm	150 - 200 mm	GSK 32/125

Hedgehog Cutter

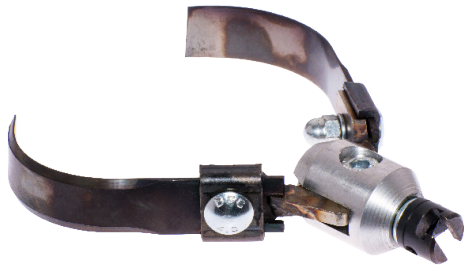


The hedgehog cutter with 6 laser-cut, strong cutter blades and two-way serrations. It was designed exclusively for straight downpipes.

The increased dead weight in connection for our devices allows for a typical fast rotation which gives the hedgehog cutter special suitability for heavy incrustations in down pipes.

Title	Spiral Type	Working Area	Type
Hedgehog Cutter 55	Ø 22 mm	from 60 mm	IGF 22/55
Hedgehog Cutter 65	Ø 22 mm	from 70 mm	IGF 22/65
Hedgehog Cutter 75	Ø 22 mm	from 80 mm	IGF 22/75
Hedgehog Cutter 90	Ø 22 mm	from 95 mm	IGF 22/90
Hedgehog Cutter 100	Ø 22 mm	from 105 mm	IGF 22/100
Hedgehog Cutter 110	Ø 22 mm	from 115 mm	IGF 22/110

Expansion Cutter Head



Title	Type	Working Area	Type
Expander Cutter 100	Ø 22	up to 125 mm	EPSK 22/100
Expander Cutter 125	Ø 22	up to 150 mm	EPSK 22/125
Expander Cutter 150	Ø 22	up to 175 mm	EPSK 22/150
Expander Cutter 200	Ø 22	up to 250 mm	EPSK 22/200
Expander Cutter 250	Ø 22	up to 300 mm	EPSK 22/250

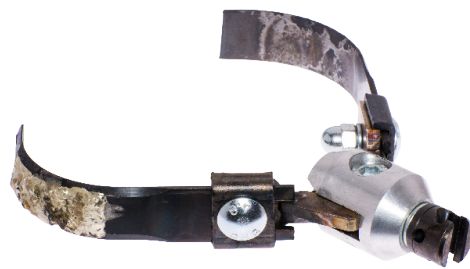
Title	Type	Working Area	Type
Expander Cutter 100	Ø 32	up to 125 mm	EPSK 32/100
Expander Cutter 125	Ø 32	up to 150 mm	EPSK 32/125
Expander Cutter 150	Ø 32	up to 175 mm	EPSK 32/150
Expander Cutter 200	Ø 32	up to 250 mm	EPSK 32/200
Expander Cutter 250	Ø 32	up to 300 mm	EPSK 32/250

The expansion cutter head is a modern special tool for intensive scraping, cutting and peeling. By means of a spring mechanism, the cutting edges of the tool exactly match the pipe inside diameter to be machined.

Title	Type	Working Area	Type
Replacement Knife Pair 100	Ø 22/32	up to 125 mm	EXPSK-EB 100
Replacement Knife Pair 125	Ø 22/32	up to 150 mm	EXPSK-EB 125
Replacement Knife Pair 150	Ø 22/32	up to 175 mm	EXPSK-EB 150
Replacement Knife Pair 200	Ø 22/32	up to 250 mm	EXPSK-EB 200

Expansion milling head

The milling head is based on the same principle as the expansion cutting head. The difference is in the carbide-tipped blades. These make the tools ideal for preparation (roughening) in renovations and for the milling of stubborn encrustations. Also particularly suitable for inliner work.



Title	Type	Working Area	Type
Expander Cutter 100	Ø 22	up to 125 mm	EPSK 22/100 HMW
Expander Cutter 125	Ø 22	up to 150 mm	EPSK 22/125 HMW
Expander Cutter 150	Ø 22	up to 175 mm	EPSK 22/150 HMW
Expander Cutter 200	Ø 22	up to 250 mm	EPSK 22/200 HMW
Expander Cutter 250	Ø 22	up to 300 mm	EPSK 22/250 HMW

Title	Type	Working Area	Type
Expander Cutter 100	Ø 32	up to 125 mm	EPSK 32/100 HMW
Expander Cutter 125	Ø 32	up to 150 mm	EPSK 32/125 HMW
Expander Cutter 150	Ø 32	up to 175 mm	EPSK 32/150 HMW
Expander Cutter 200	Ø 32	up to 250 mm	EPSK 32/200 HMW
Expander Cutter 250	Ø 32	up to 300 mm	EPSK 32/250 HMW

Title	Type	Area	Type
Replacement Knife-HMW-Set 100	Ø 22/32	up to 125 mm	EXPSK-EB100-HMW
Replacement Knife-HMW-Set 125	Ø 22/32	up to 150 mm	EXPSK-EB125-HMW
Replacement Knife-HMW-Set 150	Ø 22/32	up to 175 mm	EXPSK-EB150-HMW



Root Cutter with coarse teeth



The hardened coarse-teeth root cutter is made of high quality spring steel and is coarse toothed from the front to back. They are used especially in strongly rooted pipes.

Title	Ø	Type
Root Cutter, wide, coarse toothed, Ø 45	Ø 16	45 mm WZS 16/45
Root Cutter, wide, coarse toothed, Ø 55	Ø 16	55 mm WZS 16/55
Root Cutter, wide, coarse toothed, Ø 65	Ø 22	65 mm WZS 22/65
Root Cutter, wide, coarse toothed, Ø 90	Ø 22	90 mm WZS 22/90
Root Cutter, wide, coarse toothed, Ø 110	Ø 22	115 mm WZS 22/115
Root Cutter, wide, coarse toothed, Ø 125	Ø 22	125 mm WZS 22/125
Root Cutter, wide, coarse toothed, Ø 150	Ø 22	150 mm WZS 22/150
Root Cutter, wide, coarse toothed, Ø 175	Ø 22	175 mm WZS 22/175
Root Cutter, wide, coarse toothed, Ø 200	Ø 22	200 mm WZS 22/200
Root Cutter, wide, coarse toothed, Ø 65	Ø 32	65 mm WZS 32/65
Root Cutter, wide, coarse toothed, Ø 90	Ø 32	90 mm WZS 32/90
Root Cutter, wide, coarse toothed, Ø 110	Ø 32	110 mm WZS 32/110
Root Cutter, wide, coarse toothed, Ø 125	Ø 32	125 mm WZS 32/125
Root Cutter, wide, coarse toothed, Ø 150	Ø 32	150 mm WZS 32/150
Root Cutter, wide, coarse toothed, Ø 175	Ø 32	175 mm WZS 32/175
Root Cutter, wide, coarse toothed, Ø 200	Ø 32	200 mm WZS 32/200
Root Cutter, wide, coarse toothed, Ø 250	Ø 32	250 mm WZS 32/250
Root Cutter, wide, coarse toothed, Ø 300	Ø 32	300 mm WZS 32/300
Root Cutter, wide, coarse toothed, Ø 350	Ø 32	350 mm WZS 32/350

Root Cutter fine tooth



The hardened fine tooth root cutter made of high quality spring steel is fine toothed from front to back. They are used especially in strongly rooted pipes. The short design is characterized by a special bow and is increasingly used in renovation work.

Title	Ø	Type
Root Cutter, short, Fine toothed, Ø 45	Ø 16	45 mm WZS 16/45 F
Root Cutter, short, Fine toothed, Ø 55	Ø 16	55 mm WZS 16/55 F
Root Cutter, short, Fine toothed, Ø 45	Ø 22	45 mm WZS 22/45 F
Root Cutter, short, Fine toothed, Ø 55	Ø 22	55 mm WZS 22/55 F
Root Cutter, short, Fine toothed, Ø 65	Ø 22	65 mm WZS 22/65 F
Root Cutter, short, Fine toothed, Ø 75	Ø 22	75 mm WZS 22/75 F
Root Cutter, short, Fine toothed, Ø 90	Ø 22	90 mm WZS 22/90 F
Root Cutter, short, Fine toothed, Ø 110	Ø 22	110 mm WZS 22/110 F
Root Cutter, short, Fine toothed, Ø 125	Ø 22	125 mm WZS 22/125 F
Root Cutter, short, Fine toothed, Ø 150	Ø 22	150 mm WZS 22/150 F
Root Cutter, short, Fine toothed, Ø 175	Ø 22	175 mm WZS 22/175 F
Root Cutter, short, Fine toothed, Ø 200	Ø 22	200 mm WZS 22/200 F
Root Cutter, short, Fine toothed, Ø 55	Ø 32	55 mm WZS 32/55 F
Root Cutter, short, Fine toothed, Ø 65	Ø 32	65 mm WZS 32/65 F
Root Cutter, short, Fine toothed, Ø 75	Ø 32	75 mm WZS 32/75 F
Root Cutter, short, Fine toothed, Ø 90	Ø 32	90 mm WZS 32/90 F
Root Cutter, short, Fine toothed, Ø 110	Ø 32	110 mm WZS 32/110 F
Root Cutter, short, Fine toothed, Ø 125	Ø 32	125 mm WZS 32/125 F
Root Cutter, short, Fine toothed, Ø 150	Ø 32	150 mm WZS 32/150 F
Root Cutter, short, Fine toothed, Ø 175	Ø 32	175 mm WZS 32/175 F
Root Cutter, short, Fine toothed, Ø 200	Ø 32	200 mm WZS 32/200 F

SPIRALTECHNIK

CHAIN SLINGS

KS 16 with 12 mm Core Spiral



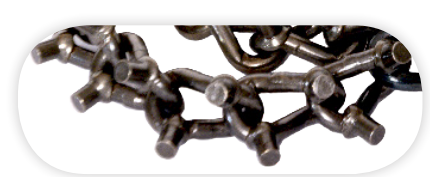
Title	Spiral Type	Working Area	Type	Title	Spiral Type	Working Area	Type
Chain Sling, 1 Smooth Chain	Ø 16 mm	50 - 100 mm	KS12or1GK	Short Variant	Ø 16 mm	50 - 125 mm	KS12or1GK-K
Chain Sling, 2 Smooth chains	Ø 16 mm	50 - 100 mm	KS12or2GK	Short Variant	Ø 16 mm	50 - 125 mm	KS12or2GK-K
Chain Sling, 3 Smooth chains	Ø 16 mm	70 - 100 mm	KS12or3GK	Short Variant	Ø 16 mm	70 - 130 mm	KS12or3GK-K
Chain Sling, 4 Smooth chains	Ø 16 mm	70 - 100 mm	KS12or4GK	Short Variant	Ø 16 mm	70 - 130 mm	KS12or4GK-K
Chain Sling, 1 Cam Chain	Ø 16 mm	50 - 100 mm	KS12or1NK	Short Variant	Ø 16 mm	75 - 130 mm	KS12or1NK-K
Chain Sling, 2 Cam Chains	Ø 16 mm	75 - 100 mm	KS12or2NK	Short Variant	Ø 16 mm	75 - 130 mm	KS12or2NK-K
Chain Sling, 3 Cam Chains	Ø 16 mm	75 - 100 mm	KS12or3NK	Short Variant	Ø 16 mm	80 - 140 mm	KS12or3NK-K

KS 16 with 16 mm Core Spiral



Title	Spiral Type	Working Area	Type	Title	Spiral Type	Working Area	Type
Chain Sling, 1 Smooth Chain	Ø 16 mm	50 - 125 mm	KS16or1GK	Short Variant	Ø 16 mm	50 - 125 mm	KS16or1GK-K
Chain Sling, 2 Smooth chains	Ø 16 mm	50 - 125 mm	KS16or2GK	Short Variant	Ø 16 mm	50 - 125 mm	KS16or2GK-K
Chain Sling, 3 Smooth chains	Ø 16 mm	70 - 130 mm	KS16or3GK	Short Variant	Ø 16 mm	70 - 130 mm	KS16or3GK-K
Chain Sling, 4 Smooth chains	Ø 16 mm	70 - 130 mm	KS16or4GK	Short Variant	Ø 16 mm	70 - 130 mm	KS16or4GK-K
Chain Sling, 1 Cam Chain	Ø 16 mm	50 - 125 mm	KS16or1NK	Short Variant	Ø 16 mm	50 - 125 mm	KS16or1NK-K
Chain Sling, 2 Cam Chains	Ø 16 mm	50 - 125 mm	KS16or2NK	Short Variant	Ø 16 mm	50 - 125 mm	KS16or2NK-K
Chain Sling, 3 Cam Chains	Ø 16 mm	70 - 130 mm	KS16or3NK	Short Variant	Ø 16 mm	70 - 130 mm	KS16or3NK-K

KS 16 with 16 mm Core Spiral S Execution 70-125



Title	Spiral Type	Working Area	Type
Chain Sling, 1 Cam Chain	Ø 16 mm	70 - 125 mm	KS16or1NK-S
Chain Sling, 2 Cam Chains	Ø 16 mm	70 - 125 mm	KS16or2NK-S
Chain Sling, 3 Cam Chains	Ø 16 mm	70 - 125 mm	KS16or3NK-S

Chain Sling 22 mm standard und short

Title	Spiral Type	Working Area	Type
Chain Sling, 1 Smooth Chain	Ø 22 mm	75 - 150 mm	KS22or1GK
Chain Sling, 2 Smooth chains	Ø 22 mm	75 - 150 mm	KS22or2GK
Chain Sling, 3 Smooth chains	Ø 22 mm	80 - 150 mm	KS22or3GK

Title	Spiral Type	Working Area	Type
KS, Short Execution, 1 Smooth Chain	Ø 22 mm	70 - 150 mm	KS22or1GK-K
KS, Short Execution, 2 Smooth chains	Ø 22 mm	70 - 150 mm	KS22or2GK-K



Title	Spiral Type	Working Area	Type
Chain Sling, 1 Cam Chain	Ø 22 mm	75 - 150 mm	KS22or1NK
Chain Sling, 2 Cam Chains	Ø 22 mm	75 - 150 mm	KS22or2NK
Chain Sling, 3 Cam Chains	Ø 22 mm	100 - 150 mm	KS22or3NK

Title	Spiral Type	Working Area	Type
KS, Short Execution, 1 Cam Chain	Ø 22 mm	70 - 150 mm	KS22or1NK-K
KS, Short Execution, 2 Cam Chains	Ø 22 mm	70 - 150 mm	KS22or2NK-K
KS, Short Execution, 3 Cam Chains	Ø 22 mm	100 - 150 mm	KS22or3NK-K

Chain Sling 32 mm standard und short

Title	Spiral Type	Working Area	Type
Chain Sling, 1 Smooth Chain	Ø 32 mm	100 - 150 mm	KS32or1GK
Chain Sling, 2 Smooth chains	Ø 32 mm	100 - 150 mm	KS32or2GK
Chain Sling, 3 Smooth chains	Ø 32 mm	100 - 150 mm	KS32or3GK

Title	Spiral Type	Working Area	Type
KS, Short Execution, 1 Smooth Chain	Ø 32 mm	100 - 150 mm	KS32or1GK-K
KS, Short Execution, 2 Smooth chains	Ø 32 mm	100 - 150 mm	KS32or2GK-K



Title	Spiral Type	Working Area	Type
Chain Sling, 1 Cam Chain	Ø 32 mm	100 - 150 mm	KS32or1NK
Chain Sling, 2 Cam Chains	Ø 32 mm	100 - 150 mm	KS32or2NK
Chain Sling, 3 Cam Chains	Ø 32 mm	100 - 150 mm	KS32or3NK

Title	Spiral Type	Working Area	Type
KS, Short Execution, 1 Cam Chain	Ø 32 mm	100 - 150 mm	KS32or1NK-K
KS, Short Execution, 2 Cam Chains	Ø 32 mm	100 - 150 mm	KS32or2NK-K
KS, Short Execution, 3 Cam Chains	Ø 32 mm	100 - 150 mm	KS32or3NK-K

Chain Sling with interchangeable ring and chain 22 mm und 32 mm

This type of chain sling has a font part that disassembles, changes and assembles as often as you like. You only need a few grooves and no special tools. On request we also supply the ring-chain sling with smooth chains.

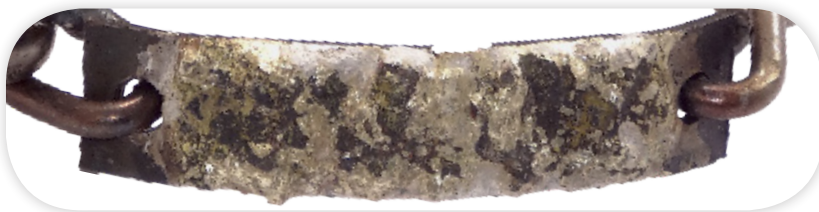


Title	Spiral Type	Working Area	Type
Ring-Chain Sling Ø 65 4 NK	Ø 22 mm	from 80 mm	KS22/65
Ring-Chain Sling Ø 75 4 NK	Ø 22 mm	from 100 mm	KS22/75
Ring-Chain Sling Ø 85 4 NK	Ø 22 mm	from 125 mm	KS22/85
Ring-Chain Sling Ø 100 4 NK	Ø 22 mm	from 125 mm	KS22/100
Ring-Chain Sling Ø 125 4 NK	Ø 22 mm	from 150 mm	KS22/125
Ring-Chain Sling Ø 150 4 NK	Ø 22 mm	from 175 mm	KS22/150
Ring-Chain Sling Ø 175 4 NK	Ø 22 mm	from 200 mm	KS22/175
Ring-Chain Sling Ø 200 4 NK	Ø 22 mm	from 250 mm	KS22/200

Spiral Type	Working Area	Type
Ø 32 mm	from 90 mm	KS32/65
Ø 32 mm	from 100 mm	KS32/75
Ø 32 mm	from 125 mm	KS32/85
Ø 32 mm	from 125 mm*	KS32/100
Ø 32 mm	from 150 mm*	KS32/125
Ø 32 mm	from 175 mm*	KS32/150
Ø 32 mm	from 200 mm*	KS32/175
Ø 32 mm	from 250 mm*	KS32/200

Chain Sling with Carbide trimming, with and without Ring Execution Standard

Carbide-tipped chain slings are very well suited for very hard cutting and roughening of pipes for refurbishment.



Title with Ring	Spiral Type	Area	Type
Ring-Chain Sling with Carbide tip Ø 65 4 HMW	Ø 22 mm	from 80 mm	KS22/65-HMW
Ring-Chain Sling with Carbide tip Ø 75 4 HMW	Ø 22 mm	from 100 mm	KS22/75-HMW
Ring-Chain Sling with Carbide tip Ø 85 4 HMW	Ø 22 mm	from 120 mm	KS22/85-HMW
Ring-Chain Sling with Carbide tip Ø 100 4 HMW	Ø 22 mm	from 126 mm	KS22/100-HMW
Ring-Chain Sling with Carbide tip Ø 125 4 HMW	Ø 22 mm	from 150 mm	KS22/125-HMW
Ring-Chain Sling with Carbide tip Ø 150 4 HMW	Ø 22 mm	from 176 mm	KS22/150-HMW

Spiral Type	Area	Type
Ø 32 mm	from 90 mm	KS32/65-HMW
Ø 32 mm	from 100 mm	KS32/75-HMW
Ø 32 mm	from 120 mm	KS32/85-HMW
Ø 32 mm	from 126 mm*	KS32/100-HMW
Ø 32 mm	from 150 mm*	KS32/125-HMW
Ø 32 mm	from 176 mm*	KS32/150-HMW

Title ohne Ring	Spiral Type	Area	Type
Chain Sling with Carbide tip	Ø 22 mm	from 80 mm	KS22-OR1-HMW
Chain Sling with Carbide tip	Ø 22 mm	from 80 mm	KS22-OR2-HMW

Spiral Type	Area	Type
Ø 32 mm	from 90 mm	KS32-OR1-HMW
Ø 32 mm	from 100 mm	KS32-OR2-HMW

Replacement parts - Chain Sling



Replacement-Smooth



Replacement-Cam

Title	Spiral Type	Length	Type
Replacement-Smooth Chain	Ø 16 mm	150 mm	KS-E 04/16
Replacement-Cam Chain	Ø 16 mm	150 mm	KS-E 03/16
Replacement-Saw Tooth Chain	Ø 16 mm	150 mm	KS-E-HSZ16
Replacement-Smooth Chain	Ø 22 / 32 mm	240 mm	KS-E 04/22
Replacement-Cam Chain	Ø 22 / 32 mm	240 mm	KS-E 03/22
Replacement-Saw Tooth Chain	Ø 22 / 32 mm	240 mm	KS-E-HSZ22
Replacement chain with cabide lband	Ø 22 / 32 mm	240 mm	KS-E-22-HMW
Replacement Ring Ø 65 mm	Ø 22 / 32 mm	-	KS-E 07/65
Replacement Ring Ø 75 mm	Ø 22 / 32 mm	-	KS-E 07/75
Replacement Ring Ø 90 mm	Ø 22 / 32 mm	-	KS-E 07/90
Replacement Ring Ø 100 mm	Ø 22 / 32 mm	-	KS-E 07/100
Replacement Ring Ø 110 mm	Ø 22 / 32 mm	-	KS-E 07/110
Replacement Ring Ø 125 mm	Ø 22 / 32 mm	-	KS-E 07/125
Replacement Ring Ø 150 mm	Ø 22 / 32 mm	-	KS-E 07/150
Replacement Ring Ø 175 mm	Ø 22 / 32 mm	-	KS-E 07/175



Replacement Ring



Replacement Ring



Replacement Ring Ø

Chain Sling with Sawtooth



Specially used for removing roots and hard encrustations. The soldered carbide saw teeth are characterized by a much lower groove depth in the chains.

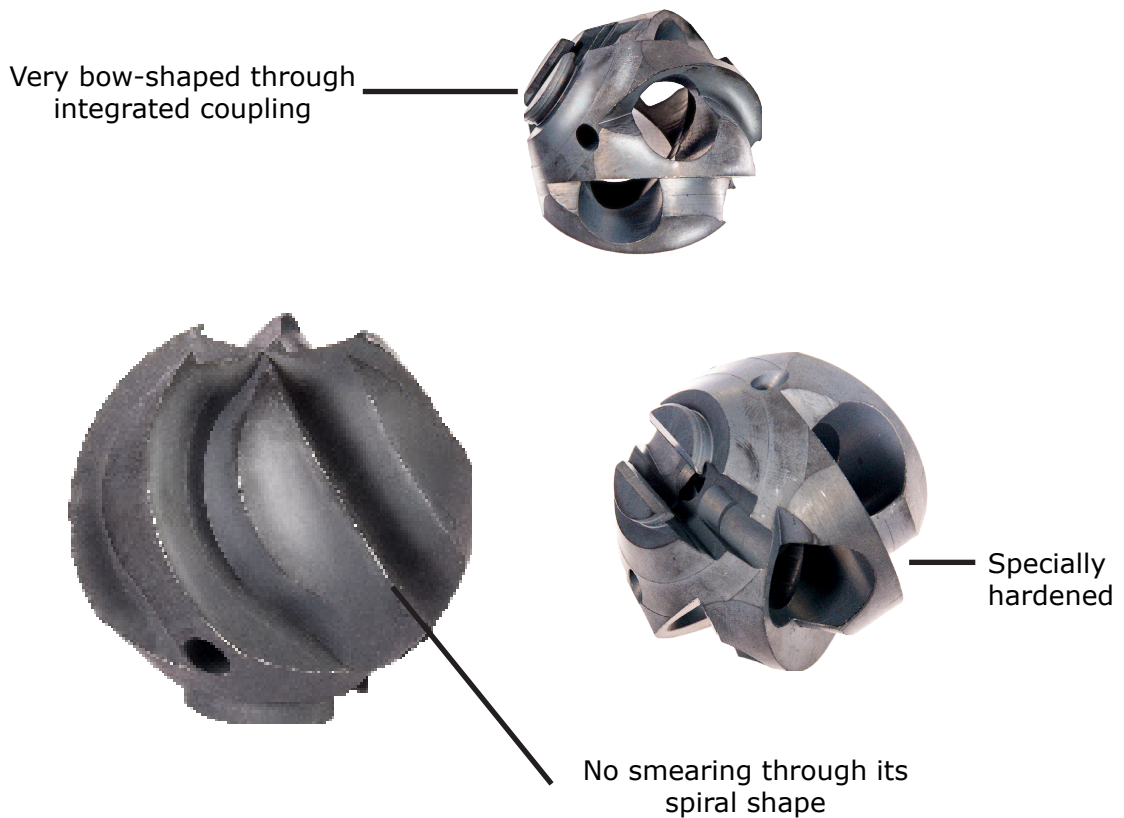
Title	Spiral Type	Working Area	Type
HSZ-KS, 1 Saw Tooth Chain	Ø 16 mm	50 - 125 mm	KS16or1HSZ
HSZ-KS, 2 Saw Tooth Chain	Ø 16 mm	50 - 125 mm	KS16or2HSZ
HSZ-KS, 3 Saw Tooth Chain	Ø 16 mm	50 - 125 mm	KS16or3HSZ
HSZ-KS, 4 Saw Tooth Chain	Ø 16 mm	50 - 125 mm	KS16or4HSZ
HSZ-KS, 1 Saw Tooth Chain	Ø 22 mm	80 - 140 mm	KS22or1HSZ
HSZ-KS, 2 Saw Tooth Chain	Ø 22 mm	80 - 140 mm	KS22or2HSZ
HSZ-KS, 3 Saw Tooth Chain	Ø 22 mm	90 - 150 mm	KS22or3HSZ

Ring Millers



These Millers have been specially developed for pipe rehabilitation. Application: for milling connections after renovation

Title	Area		Type	Area		Type	Area		Type
Ring-Millers Ø 30	Ø 16	from 35 mm	RFR 16/35	-	-	-	-	-	-
Ring-Millers Ø 35	Ø 16	from 40 mm	RFR 16/40	-	-	-	-	-	-
Ring-Millers Ø 40	Ø 16	from 45 mm	RFR 16/45	-	-	-	-	-	-
Ring-Millers Ø 45	Ø 16	from 50 mm	RFR 16/50	-	-	-	-	-	-
Ring-Millers Ø 50	Ø 16	from 55 mm	RFR 16/55	Ø 22	from 55 mm	RFR 22/55	Ø 32	from 55 mm	RFR 32/55
Ring-Millers Ø 55	Ø 16	from 60 mm	RFR 16/60	-	-	-	-	-	-
Ring-Millers Ø 60	Ø 16	from 65 mm	RFR 16/65	Ø 22	from 65 mm	RFR 22/65	Ø 32	from 65 mm	RFR 32/65
Ring-Millers Ø 75	Ø 16	from 75 mm	RFR 16/75	Ø 22	from 80 mm	RFR 22/80	Ø 32	from 80 mm	RFR 32/80
Ring-Millers Ø 90	-	-	RFR 16/90	Ø 22	from 95 mm	RFR 22/95	Ø 32	from 95 mm	RFR 32/95
Ring-Millers Ø 110	-	-	RFR 16/110	Ø 22	from 115 mm	RFR 22/115	Ø 32	from 115 mm	RFR 32/115
Ring-Millers Ø 125	-	-	RFR 16/125	Ø 22	from 130 mm	RFR 22/130	Ø 32	from 130 mm	RFR 32/130
Ring-Millers Ø 150	-	-	RFR 16/150	Ø 22	from 155 mm	RFR 22/155	Ø 32	from 155 mm	RFR 32/155



"MULTI TASK CLEANING" THE REVOLUTION IN MECHANICAL PIPE CLEANING.

With this miller, specially developed by the company Haas, millers can also be easily removed from all side deposits by tight arches. Even when milling a feed after refurbishing the main pipe, the HFR-Millers does not stop. Through a special hardening process the service life is kept very high..

Title	Usage Area	Spiral Type	Ø	Type
HAAS Millers 16/25	from 30 mm	Ø 16 mm	25 mm	HFR 16/25
HAAS Millers 16/35	from 40 mm	Ø 16 mm	35 mm	HFR 16/35
HAAS Millers 22/60	from 65 mm	Ø 22 mm	60 mm	HFR 22/60

Spiral Care Medium



Professional care product for cleaning, de-rusting, disinfecting, caring for and preserving spirals, couplings and tools.

Title	Execution	Art.Nr.:
Spiral Care Product	5 L Canister	072140
Spiral Care Product	200 ml Dose	072142

Retrieval device



stehend

Perfect tool for working on falling strings. The patented spiral return system ensures automatic recovery of the spirals through the right-hand circuit of the pipe cleaning machine. This offers optimal and very easy work. Special extrusions are available for 16 mm spirals.

Title	Type	Dimensions L x B x H	Art.Nr.:
Retrieval Device standing	Ø 22	500 x 175 x 450	SRC/22/FR50/RMS
Retrieval Device 90°	Ø 22/32	440 x 80 x 300	072135

Suction pressure pump



Title	Execution	Art.Nr.:
Ro-Pump Super Plus	incl. short and long cuffs	

Suction pressure pump



Is suitable for hand cleaning of small and medium pipe cleaning areas. Ideal for sinks, kitchen downpipes, showers, bathtubs and WC. Thanks to the ergonomic handle, it is particularly easy and comfortable to use. Also includes self-clamping. The handle for individual work positioning prevents tilting while working!

Title	Execution	Art.Nr.:
Suction pressure pump	incl. short and long cuffs	VP

Guide gloves



A robust, optimal protection when guiding spirals. Made of high quality leather and equipped with rivets on the inside.

Title	Execution	Art.Nr.:
Guide Gloves right	Studded	FHA-NL
Guide Gloves left	Studded	FHA-NR
Guide Gloves Pair	Black Granulated	FHA

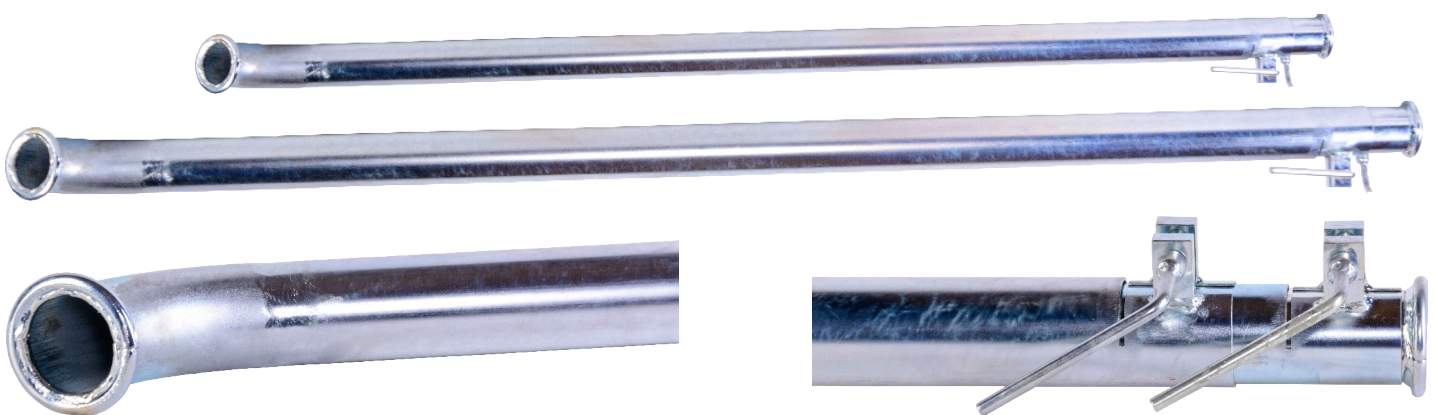
Release key



Special tools for loosening spirals and tools.

Title	Length	Art.Nr.:
Release Key 1	16 mm	TS-1
Release Key 2	22 / 32 mm	TS-2

Guide tubes



A robust, optimal protection when guiding spirals. Made of high quality steel.

Title	Ø	Length	Execution	Art.Nr.:
Guide tubes 2/1500	22 mm	1,5 m	2-Part up to 2,7 m	FR 2/22-1500
Guide tubes 2/1800	22 + 32 mm	1,8 - 3,3 m	2-Part	FR 2/22-1800
Guide tubes 3/1500	22 + 32 mm	1,5 - 4,0 m	3-Part	FR 3-1500
Guide tubes 3/2000	22 + 32 mm	2,0 - 4,8 m	3-Part	FR 3-2000



ABWASSER- UND KANALTECHNIK

MOBILE



PLUMBER



BASIC



ALLROUND



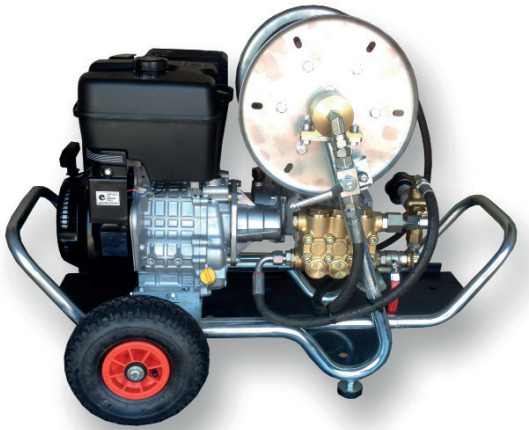
HIGH PRESSURE TECHNOLOGY

HOCHDRUCKTECHNIK

HIGH PRESSURE DEVICES

HD 40

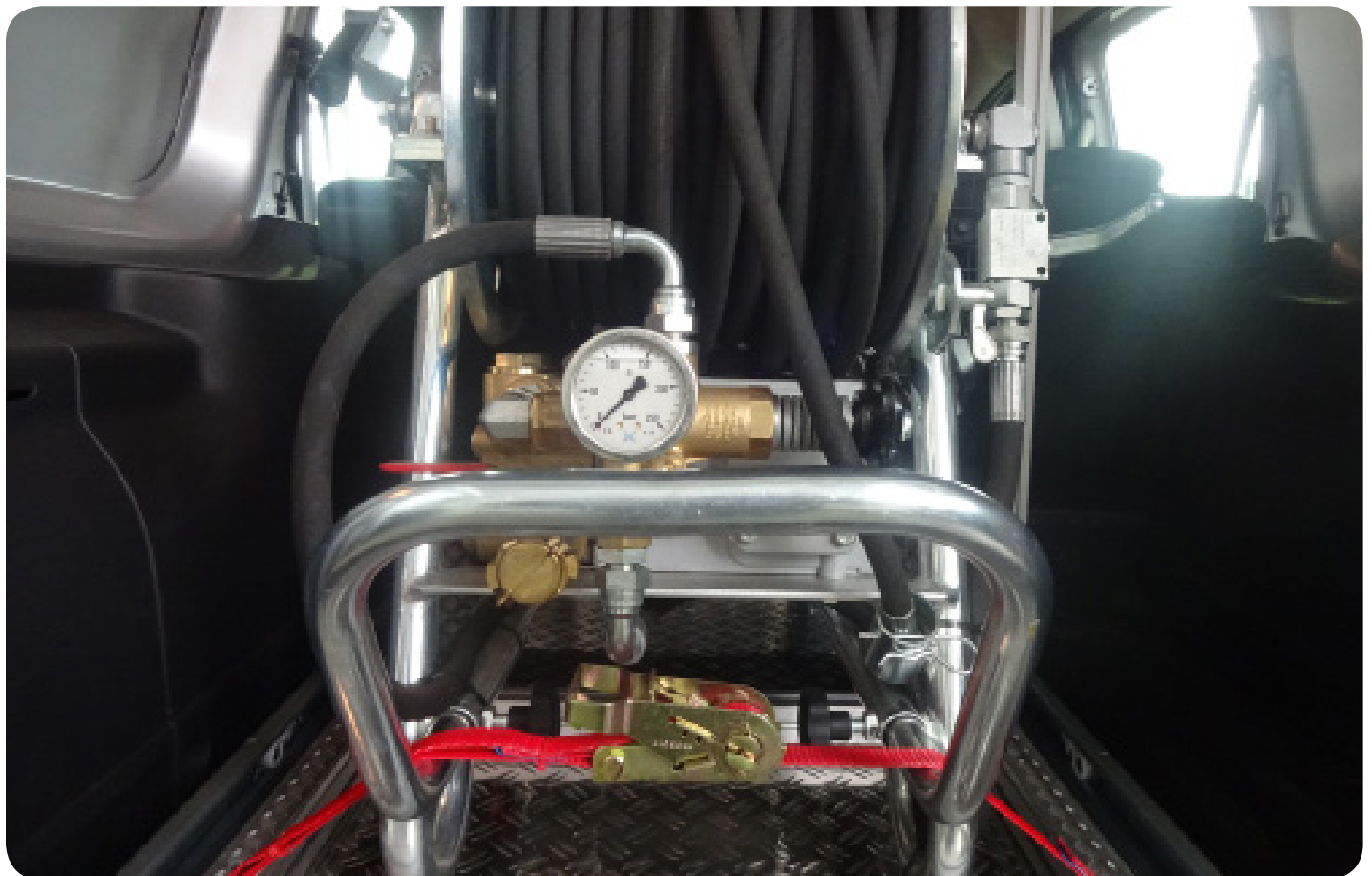
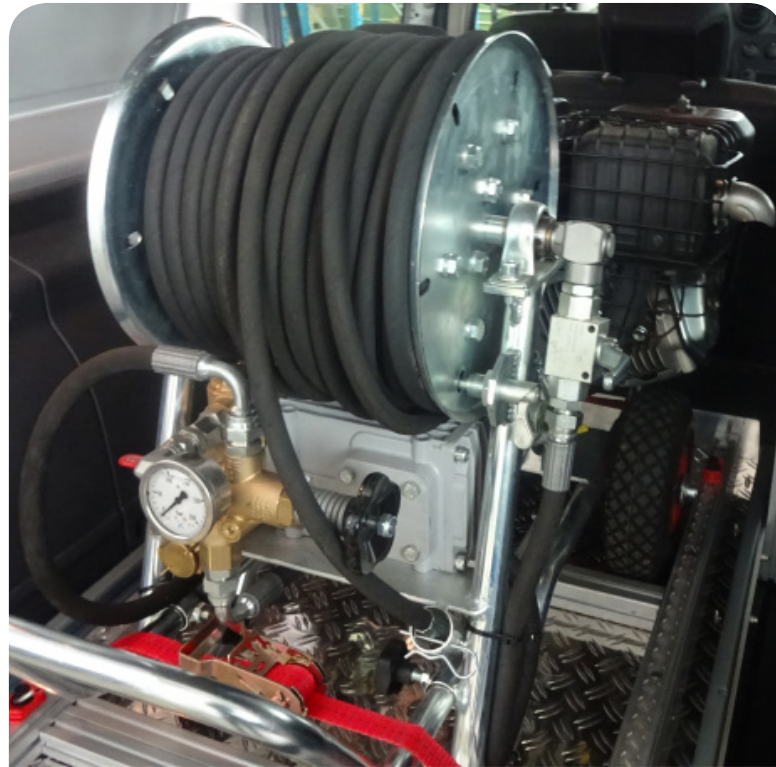
High Pressure Device



Technical Data	
Frame	The entire unit is housed in a galvanized frame with air wheels in 260x85
Drive	B & S petrol engine 13 hp with transmission for high pressure pump, hand starter
High Pressure Pump	3 ceramic piston pump NP 25 130 bar-30 l / min or 100 bar-40 l / min, with water filter, pressure regulator ULH 221 and glycerine pressure gauge 0-250 bar
Hose Reel	Galvanized hose reel with manual drive incl. 40m HD hose NW 8/10 1SN
Main Accessories	2 high-pressure nozzles ½ "(1 x open, 1 x blind)
Empty weight without accessories	ca. 60 kg
Article Number	HD 40/100

HOCHDRUCKTECHNIK

HIGH PRESSURE DEVICES



Plumber

30-130 / 40-100 / 50-120 / 60-140



Frame:
Stable welded construction made of section steel, hot-dip galvanized

Engine:
Make: Briggs & Stratton, 4-stroke gasoline engine, electric start

Cooling:
air cooling

Drive:
transmission

Pump:
High-pressure plunger pump

Fuel tank:
integrated fuel tank



Plumber

30-130 / 40-100 / 50-120 / 60-140

- Highest quality and long life
- Adequately dimensioned pump and drive motor, therefore no exceeding of the performance guidelines is possible
- Free choice of vehicle, at any time in another convertible vehicle
- No vehicle with side-drive required, thereby non-dependence on the vehicle engine
- Due to its own drive unit, there are low maintenance costs
- Clear warranty demarcation between equipment and chassis manufacturers
- Fully galvanized frame
- Revolutions limitation, thereby no over-turning of the HP pump
- Built-in pressure change valve, thus work with wash lance / spray gun possible

Technical Data				
Type	30-130	40-100	50-120	60-140
Drive	9,5 KW, 1-Cylinder Transmission	13,4 KW, 2-Cylinder Transmission	15 KW, 2-Cylinder Automatic Revolutions	17 KW, 2 Cylinder Automatic Revolutions
Fuel Tank *	6 Liter Plastic	6 Liter Plastic	20 L Steel Sheet	20 L Steel Sheet
HD Pump	30 l / min. - 130 bar	40 l / min. - 140 bar	50 l / min. - 120 bar	60 l / min. - 140 bar
HD Hose	50m DN 12/13, ½" Connection	50m DN 12/13	60m DN 12/13	60m DN 12/13
Water Tank	200 L	200 L	400 L	400 L
Filling Hose **	50m DN 19 ¾" Geka-Coupling	Storz-C	50m DN 19	50m DN 19
Dimensions	On Trailer: 2500x1500x1700 mm On Main Frame: 1580x900x950 mm	1200 x 1000 x 700 mm	1600 x 1200 x 1200 mm	1600 x 1200 x 1200 mm
Weight	On Trailer: 290 kg On Ground Frame: 185 kg	ca. 200kg	ca. 320 kg	ca. 320 kg
Article Number	76.300	76.100	76.540	76.541

* can be connected to the vehicle if necessary (depending on model and vehicle)

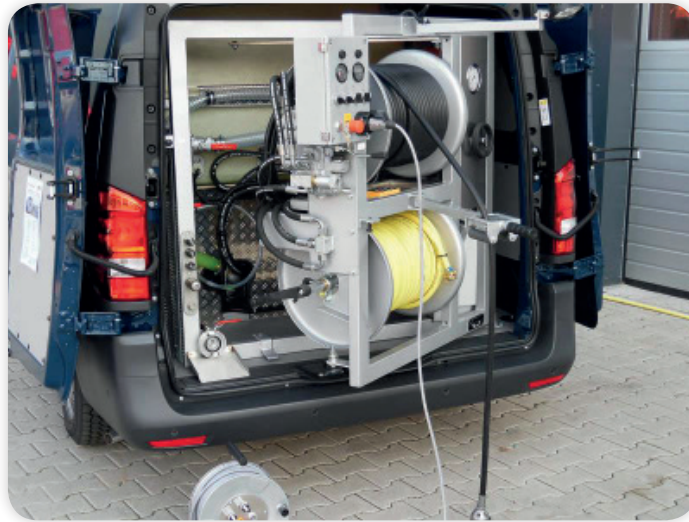
** You will also find a 2" connection with Storz-C Coupling directly on the device.
To fill even faster / at the hydrant / on site

HOCHDRUCKTECHNIK

HIGH PRESSURE DEVICES

Basic

50-120 / 60-140 / 85-160 / 100-160



Frame:
stable welded construction made of section steel, hot-dip galvanized

Engine:
Type: Briggs & Stratton, 4-stroke petrol engine

Cooling:
air cooling

Drive:
transmission

Pump:
High pressure plunger pump

Fuel tank:
integrated fuel tank

- Highest quality and long life
- Adequately dimensioned pump and drive motor, therefore no exceeding of the performance guidelines possible
- Free choice of vehicle, at any time in another convertible vehicle
- No vehicle with side drive required, thereby non-dependence on the vehicle engine
- Due to its own drive unit, there are low maintenance costs
- Clear warranty demarcation between equipment and chassis manufacturers
- Fully galvanized frame
- Revolution limitation, thereby no over-turning of the HP pump
- Built-in pressure change valve, thus work with wash lance / spray gun is possible
- Low water alarm with acoustic signal
- Including professional installation in the provided suitable vehicle
- Including standard pipe cleaning nozzle without pre-jet

Technical Data				
Type	50-120	60-140	85-160	100-160
Drive	15 KW, 2-Cylinder High performance belts	17 KW, 2-Cylinder High performance belts	37 KW, 4-Cylinder Diesel High performance belts	37 KW, 4-Cylinder Diesel High performance belts
Fuel Tank *	20 L	20 L	20 L	20 L
HD Pump	50 l / min. - 120 bar	60 l / min. - 140 bar	85 l / min. - 160 bar	100 l / min. - 160 bar
HD Hose	80m DN 13, ½" Connection	80m DN 13, ½" Connection	80m DN 13, ½" Connection	80m DN 16, ½" Connection
Water Tank	400 L	400 L	800 L	800 L
Filling Hose **	50m DN 19 ¾" Geka-Coupling	50m DN 19 ¾" Geka-Coupling	50m DN 19 ¾" Geka-Coupling	50m DN 19 ¾" Geka-Coupling
Dimensions	1700 x 1300 x 1250 mm	1700 x 1300 x 1250 mm	1850 x 1350 x 1650 mm	1850 x 1350 x 1650 mm
Weight	450 kg	450 kg	850 kg	900 kg
Article Number	76.540	76.541	76.542	76.543

Possible extra equipment "Basic"

- Type "Comfort" - reel module swivels 90 °
- Type "Professional" - reel module telescopic and hinged reel module
- Type "TV" - reel module arranged on the right side

Possible extra equipment

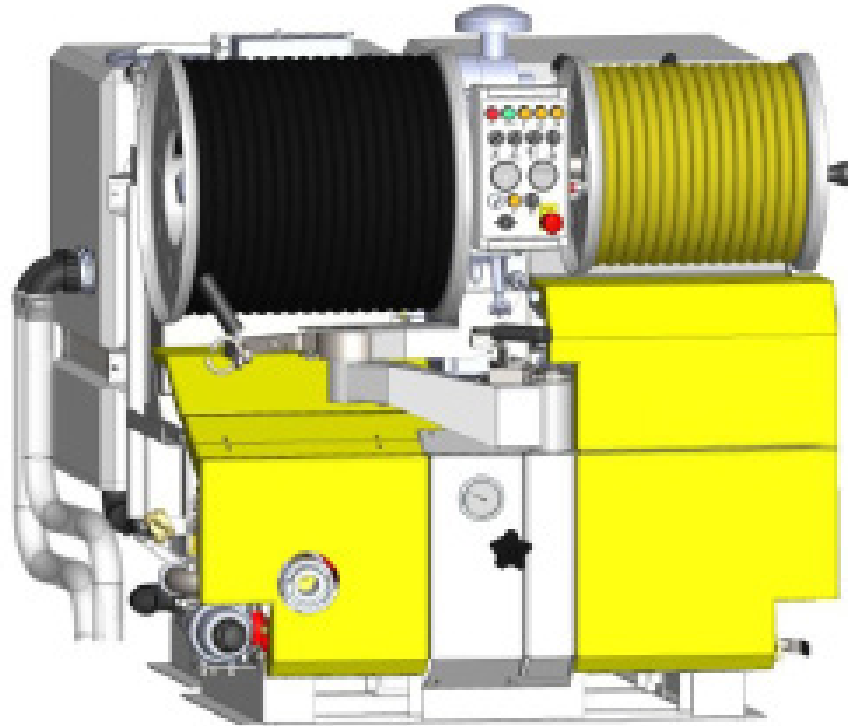
- Hydraulic drive of the filling reel
- Radio remote control 6 functions, charger, replacement battery
- Including automatic engine stop in case of lack of water
- Cable and radio remote control
- Reel winding and unwinding via radio
- Worklight LED
- Automatic water filling stop
- Automatic hose guide available for "Basic", "Comfort" and "TV"
- For the big hose reel Type "All round"

* can be connected to the vehicle if necessary (depending on model and vehicle)

** You will also find a 2 "connection with Storz-C Coupling directly on the device.
For even faster filling / draining at the hydrant / on site

Allround

60-200 / 75-150 / 100-150



Frame:
stable welded construction made of section steel, hot-dip galvanized
intake for forklifts, Over frame powder-coated

Engine:
Type: Turbodiesel

Cooling:
heat exchangers

Drive:
toothed belt

Pump:
High pressure plunger pump

Fuel Tank:
integrated fuel tank

- Highest quality and long life
- Adequately dimensioned pump and drive motor, therefore no exceeding of the performance guidelines possible
- Free choice of vehicle, at any time in another convertible vehicle
- No vehicle with side drive required, thereby non-dependence on the vehicle engine
- Due to its own drive unit, there are low maintenance costs
- Clear warranty demarcation between equipment and chassis manufacturers
- Fully galvanized frame
- Revolution limiter, thereby no over-turning of the HP pump
- Built-in pressure change valve, thus work with wash lance / spray gun possible
- Low water alarm with acoustic signal
- Including professional installation in the provided suitable vehicle
- Including standard pipe cleaning nozzle without pre-jet
- Including pre-assembled nozzle holder

Technical Data			
Type	60-200	75-150	100-150
Drive	24,5 KW, 3-Cylinder Turbo Diesel 24,2 KW 3-Zylinder Turbo Petrol	24,5 KW, 3-Cylinder Turbo Diesel 24,2 KW 3-Zylinder Turbo Petrol	33 KW, 4-Cylinder Turbo Diesel
Fuel Tank *	20 L	20 L	20 L
HD Pump	60 l / min. - 200 bar	75 l / min. - 150 bar	60 l / min. - 200 bar
HD Hose	80m DN 13, ½" Connection	80m DN 13, ½" Connection	80m DN 16, ½" Connection
Water Tank	600 L	600 L	600 L
Filling Hose **	50m DN 19 ¾" Geka-Coupling	50m DN 19 ¾" Geka-Coupling	50m DN 19 ¾" Geka-Coupling
Dimensions	1650 x 1250 x 1260 mm	1650 x 1250 x 1260 mm	1650 x 1250 x 1260 mm
Weight	680 kg	690 kg	790 kg
Article Number	R60-200	R75-150	R100/150

Optional Allround Extra Equipment

- Hydraulic drive of the filling reel
- Radio remote control 6 functions, charger, replacement battery
- Incl. autom. Engine stop in case of lack of water
- Cable and radio remote control
- Reel winding and unwinding via radio
- Worklight LED
- Automatic water filling stop
- Automatic hose guide available for "Basic", "Comfort" and "TV"
- For big hose reel type "Allround"

* can be connected to the vehicle if necessary (depending on model and vehicle)

** You will also find a 2 "connection with Storz-C Coupling directly on the device.
For even faster filling / draining at the hydrant / on site

Vacuum Injector



The ring-nozzle vacuum injector has been designed to extract shafts, containers and connections via a specially developed ring nozzle. With this it is able to go over the suction pipe (Diameter 32 mm), also due to the size of the suction opening it is able to extract solids (eg stones).

Protection Hose



For more information see page 111

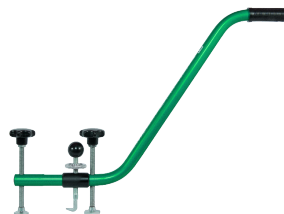
Title	Length	Art.Nr.:
Vacuum Injector	6 m	102001

Vacuum injector



Pulleys and shell
see page 110

Canal Accessories



Manhole hook and lid lifter
see page 166



ABWASSER- UND KANALTECHNIK

STANDARD & REDIRECT NOZZLES



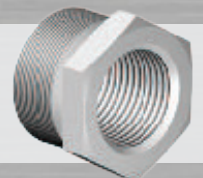
ROPE & CHAIN SLINGS



MILLERS









ACCESSORIES













NOZZLES


DÜSEN

















CHANNEL CLEANING NOZZLES

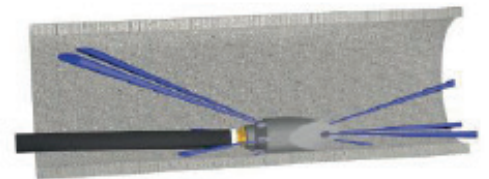
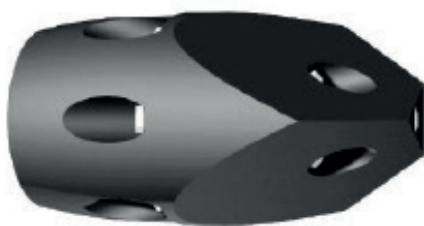
Art.Nr.:	30.012SL10	30.012SL15	30.012SL27	30.012SL10F	30.012SL15F	30.012SL30F
Channel cleaning nozzles						
Ø Connection thread inside:	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
Ø Working Area:	20 - 100	20 - 100	20 - 100	20 - 100	20 - 100	20 - 100
min. l/min at 100 bar:	10	15	27	10	17	30
Thrust jet:	4 × Ø 0.75 mm	4 × Ø 0.90 mm	4 × Ø 1.20 mm	4 × Ø 0.75 mm	4 × Ø 0.90 mm	4 × Ø 1.10 mm
Front beam:	-	-	-	Ø 0.60 mm	x Ø 0.60 mm	x Ø 1.10 mm
Rear beam angle:	25°	25°	25°	25°	25°	25°
Front beam angle:	-	-	-	-	-	-
Measurements in mm:	13 × 18	13 × 18	13 × 18	13 × 18	13 × 18	13 × 18
Weight in kg:	0.084	0.084	0.084	0.084	0.084	0.084
Maximum pressure in bar:	350	350	350	350	350	350







Art.Nr.:	30.0253SL10	30.0253SL15	30.0253SL30	30.0253SL10F	30.0253SL15F	30.0253SL30F
Channel cleaning nozzles						
Ø Connection thread inside:	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Ø Working Area:	30 - 100	30 - 100	30 - 100	30 - 100	30 - 100	30 - 100
min. l/min at 100 bar:	10	15	30	10	15	30
Thrust jet:	3 × Ø 0.85	3 × Ø 1.10	3 × Ø 1.55	3 × Ø 0.80	3 × Ø 1.00	3 × Ø 1.55
Front beam:	-	-	-	Ø 0.80 mm	Ø 0.80 mm	Ø 0.80 mm
Rear beam angle:	25°	30°	30°	30°	30°	30°
Front beam angle:	-	-	-	-	-	-
Measurements in mm:	18 × 20	18 × 20	18 × 20	18 × 20	18 × 20	18 × 20
Weight in kg:	0.018	0.018	0.018	0.018	0.018	0.018
Maximum pressure in bar:	350	350	350	350	350	350







Art.Nr.:	30.0256SL30	30.0256SL40	30.0256SL30F	30.0256SL40F
Channel cleaning nozzles				
Ø Connection thread inside:	1/4"	1/4"	1/4"	1/4"
Ø Working Area:	30 - 100	30 - 100	30 - 100	30 - 100
min. l/min at 100 bar:	30	40	30	40
Thrust jet:	6 × Ø 1.10 mm	6 × Ø 1.20 mm	6 × Ø 1.00 mm	6 × Ø 1.20 mm
Front beam:	-	-	0.80 mm	0.80 mm
Rear beam angle:	25°	25°	25°	25°
Front beam angle:	-	-	-	-
Measurements in mm:	18 × 20	18 × 20	18 × 20	18 × 20
Weight in kg:	0.018	0.018	0.018	0.018
Maximum pressure in bar:	350	350	350	350







Art.Nr.:	35.0253SL20	35.0253SL30	35.0256SL30	35.0256SL40
Channel cleaning nozzles				
Ø Connection thread inside:	1/4"	1/4"	1/4"	1/4"
Ø Working Area:	30 - 100	30 - 100	30 - 100	30 - 100
min. l/min at 100 bar:	20	30	30	40
Thrust jet:	6 × Ø 1.10 mm	6 × Ø 1.45 mm	6 × Ø 1.00 mm	6 × Ø 1.15 mm
Front beam:	4 × Ø 0.50 mm	4 × Ø 0.50 mm	4 × Ø 0.50 mm	4 × Ø 0.70 mm
Rear beam angle:	25°	25°	25°	25°
Front beam angle:	15°	15°	15°	15°
Measurements in mm:	18 × 20	18 × 20	18 × 20	18 × 20
Weight in kg:	0.018	0.018	0.018	0.018
Maximum pressure in bar:	350	350	350	350








Art.Nr.:	35.050SL70	35.050SL100	30.075SSL160	30.075SL200	35.075SL160	35.075SL200
Channel cleaning nozzles						
Ø Connection thread inside:	1/2"	1/2"	3/4	3/4	3/4	3/4
Ø Working Area:	70 - 200	70 - 200	70 - 200	70 - 200	70 - 200	70 - 200
min. l/min at 100 bar:	70	100	160	200	160	200
Thrust jet:	6 x Ø 1.40 mm	6 x Ø 1.70 mm	6 x Ø 2.45 mm	6 x Ø 2.70 mm	6 x Ø 2.20 mm	6 x Ø 2.50 mm
Front beam:	4 x Ø 1.10 mm	4 x Ø 1.30 mm	optional	optional	4 x Ø 1.70 mm	4 x Ø 1.90 mm
Rear beam angle:	30°	30°	30°	30°	30°	30°
Front beam angle:	15°	15°	15°	15°	15°	15°
Measurements in mm:	30 x 27	30 x 27	38 x 60	38 x 60	38 x 60	38 x 60
Weight in kg:	0.118	0.117	0.236	0.236	0.232	0.232
Maximum pressure in bar:	350	350	250	250	250	250
Art.Nr.:	30.0.038	30.050	30.050F	30.075	30.100	35.100
Channel cleaning nozzles						
Ø Connection thread inside:	3/8"	1/2"	1/2"	3/4"	1"	1"
Ø Working Area:	40 - 150	50 - 200	50 - 200	70 - 250	150 - 350	150 - 350
min. l/min at 100 bar:	10	50	50	50	120	120
Thrust jet:	6 x M4	6 x M6	6 x M6	6 x M6	8 x M8	8 x M8
Front beam:	1 x M4	1 x M6	3 x M6 / 1 x M4	1 x M6	1 x M8	1 x M8
Rear beam angle:	30°	30°	30°	30°	30°	30°
Front beam angle:	-	-	15°	-	-	15°
Measurements in mm:	25 x 39	30 x 47	30 x 47	38 x 60	60 x 83	60 x 83
Weight in kg:	0.066	0.119	0.119	0.241	0.705	0.705
Maximum pressure in bar:	350	350	350	250	250	250
Art.Nr.:	36.050-12	36.050	36.075	36.100		
Redodrill-Nozzles						
Ø Connection thread inside:	1/2"	1/2"	3/4"	1"		
Ø Working Area:	50 - 150	50 - 150	70 - 200	100 - 250		
min. l/min at 100 bar:	30	50	75	75		
Thrust jet:	6 x M4	6 x M4	6 x M6	6 x M8		
Front beam:	1 x 1.2	1 x 1.5	1 x 1.5	1 x 2.7		
Rear beam angle:	25°	25°	30°	30°		
Front beam angle:	7°	7°	7°	7°		
Measurements in mm:	32 x 56	32 x 56	38 x 75	55 x 95		
Weight in kg:	0.170	0.170	0.333	0.865		
Maximum pressure in bar:	350	350	350	250		







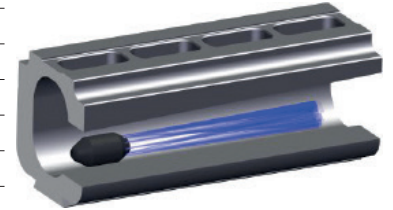
Art.Nr.:	40.025-10	40.025-30	40.025-40	40.038	40.050	42.050
Grenade-Bomb						
Ø Connection thread inside:	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"
Ø Working Area:	30 - 100	30 - 100	30 - 100	45 - 100	60 - 150	60 - 150
min. l/min at 100 bar:	10	30	40	10	50	50
Thrust jet:	4 x 0.8	4 x 1.3	4 x 1.45	6 x M6	6 x M8	3 x M8, 3 x FanJet M8
Front beam:	1 x M4	1 x M4	1 x M4	1 x M6	1 x M8	1 x M8
Rear beam angle:	20°	20°	20°	25°	25°	25°
Front beam angle:	-	-	-	-	-	-
Measurements in mm:	25 x 40	25 x 40	25 x 40	38 x 80	48 x 90	48 x 90
Weight in kg:	0.098	0.098	0.097	0.520	0.857	0.857
Maximum pressure in bar:	350	350	350	350	350	350








Art.Nr.:	40.075	40.075-SP30	42.075	40.100A	40.100A-SP10	0.100A-SP15
Grenade-Bomb						
Ø Connection thread inside:	3/4"	3/4"	3/4"	1"	1"	1"
Ø Working Area:	80 - 200	80 - 200	80 - 200	120 - 300	120 - 300	120 - 300
min. l/min at 100 bar:	100	100	150	150	150	150
Thrust jet:	4 x M8	4 x M8	4 x M8	10 x M10	10 x M10	10 x M10
Front beam:	4 x M8	4 x M8	4 x M8, 4x FanJetM8	-	-	-
Rear beam angle:	10° + 30°	30°	30°	13° + 30°	10°	15°
Front beam angle:	-	-	-	-	-	-
Measurements in mm:	58 x 116	58 x 116	58 x 116	79 x 176	79 x 176	79 x 176
Weight in kg:	1.530	1.530	1.530	4.900	4.900	4.900
Maximum pressure in bar:	250	250	250	250	250	250







Art.Nr.:	40.100A-SP30	42.100A	40.100B	40.100B-SP10	40.100B-SP30	42.100B
Grenade-Bomb						
Ø Connection thread inside:	1"	1"	1"	1"	1"	1"
Ø Working Area:	120 - 300	120 - 300	150 - 400	150 - 400	150 - 400	150 - 400
min. l/min at 100 bar:	150	150	150	150	150	150
Thrust jet:	10 x M10	5 x M10, 5 x FanJet M10	10 x M10	10 x M10	10 x M10	10 x M10
Front beam:	-	-	-	-	-	-
Rear beam angle:	30°	10° + 30°	10° + 30°	10°	30°	10° + 30°
Front beam angle:	-	-	-	-	-	-
Measurements in mm:	79 x 176	79 x 176	98 x 200	98 x 200	98 x 200	98 x 200
Weight in kg:	4.900	4.900	8.000	8.000	8.000	8.000
Maximum pressure in bar:	250	250	250	250	250	250







Art.Nr.:	40.100C	40.100C-SP10	40.100C-SP20	42.100C	40.125A	40.125A-SP10	42.125A
Grenade-Bomb							
Ø Connection thread inside:	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Ø Working Area:	150 - 400	150 - 400	150 - 400	150 - 400	300 - 600	300 - 600	300 - 600
min. l/min at 100 bar:	200	200	200	200	300	300	300
Thrust jet:	10 x M10	10 x M10	10 x M10	5 x M10 5 x FanJet M10	10 x M10	10 x M10	5 x M10 5 x FanJet M10
Front beam:	-	-	-	-	-	-	-
Rear beam angle:	10° + 30°	10°	20°	10° + 30°	10° + 30°	10°	10° + 30°
Measurements in mm:	98 x 190	98 x 190	98 x 190	98 x 190	108 x 220	108 x 220	108 x 220
Weight in kg:	8.000	8.000	8.000	8.000	10.500	10.500	10.500
Maximum pressure in bar:	250	250	250	250	250	250	250

Art.Nr.:	40.050-SP0	40.075-SP0	40.100A-SP0	40.125A-SP0
Gutter Nozzles				
Ø Connection thread inside:	1/2"	3/4"	1"	1 1/4"
Ø Working Area:	80 - 200	80 - 200	150 - 300	300 - 600
min. l/min at 100 bar:	100	100	150	300
Thrust jet:	6 x M8	8 x M8	10 x M10	10 x M10
Front beam:	1 x M8	1 x M8	-	-
Rear beam angle:	6 x 0°	8 x 0°	10 x 0°	10 x 0°
Front beam angle:	-	-	-	-
Measurements in mm:	48 x 90	58 x 116	79 x 176	108 x 220
Weight in kg:	0.8	1.5	4.9	10.5
Maximum pressure in bar:	250	250	250	250









Art.Nr.:	60.012SL15	60.025SL15	60.025SL30	60.038-30	60.038SL40	60.038-60	60.038SL60
Pointed Nozzles							
Ø Connection thread inside:	1/8"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
Ø Working Area:	20 - 40	22 - 50	22 - 50	28 - 100	28 - 100	28 - 100	28 - 100
min. l/min at 100 bar:	15	15	30	30	40	60	60
Thrust jet:	3 x Ø 0.95	3 x Ø 0.90	3 x Ø 1.35	3 x Ø 1.30	3 x Ø 1.45	3 x Ø 1.50	3 x Ø 1.85
Front beam:	4 x Ø 0.50	4 x Ø 0.60	4 x Ø 0.70	4 x M4	4 x Ø 0.80	4 x M4	4 x Ø 0.95
Rear beam angle:	25°	25°	25°	25°	25°	20°	20°
Front beam angle:	15°	15°	15°	15°	15°	15°	15°
Measurements in mm:	16 x 25	22 x 33	22 x 33	25 x 40	25 x 40	25 x 40	25 x 40
Weight in kg:	0.020	0.034	0.032	0.060	0.060	0.060	0.060
Maximum pressure in bar:	350	350	350	350	350	350	350




Art.Nr.:	60.050	0061.0504	61.050	60.075	0061.0504	61.075
Pointed Nozzles						
Ø Connection thread inside:	1/2"	M4	1/2"	3/4"	M4	3/4"
Ø Working Area:	40 - 150	-	40 - 150	60 - 250	-	60 - 250
min. l/min at 100 bar:	50	-	50	100	-	100
Thrust jet:	3 x M6	-	3 x M6	3 x M6	-	3 x M6
Front beam:	4 x M4	-	3 x M4	4 x M4	-	3 x M4
Rear beam angle:	25°	-	25°	25°	-	25°
Front beam angle:	15°	-	15°	15°	-	15°
Measurements in mm:	32 x 55	6 x 25	32 x 82	38 x 80	6 x 25	38 x 104.5
Weight in kg:	0.140	-	0.145	0.320	-	0.325
Maximum pressure in bar:	350	-	350	250	-	250








Art.Nr.:	60.100	0061.1004	61.100	60.100L	0061.1004	61.100L
Pointed Nozzles						
Ø Connection thread inside:	1"	M6	1"	1"	M6	1"
Ø Working Area:	100 - 300	-	100 - 300	150 - 400	-	150 - 400
min. l/min at 100 bar:	150	-	150	200	-	200
Thrust jet:	6 x M6	-	6 x M6	6 x M10	-	6 x M10
Front beam:	4 x M4	-	3 x M4	4 x M8	-	3 x M8
Rear beam angle:	25°	-	25°	25°	-	25°
Front beam angle:	15°	-	15°	15°	-	15°
Measurements in mm:	48 x 90	9 x 33	48 x 123.5	68 x 187	9 x 33	68 x 220
Weight in kg:	0.550	-	0.560	2.700	-	2.715
Maximum pressure in bar:	250	-	250	250	-	250








DÜSEN






POINTED & RADIAL NOZZLES







Art.Nr.:	60.100L80	0061.1254	61.100L80	60.125	0061.1004	61.125
Pointed Nozzles						
Ø Connection thread inside:	1"	M8	1"	1 1/4"	M6	1 1/4"
Ø Working Area:	150 - 500	-	150 - 500	150 - 400	-	150 - 400
min. l/min at 100 bar:	200	-	200	200	-	200
Thrust jet:	6 x M10	-	6 x M10	6 x M6	-	6 x M6
Front beam:	4 x M8	-	3 x M8	4 x M6	-	3 x M6
Rear beam angle:	10°	-	10°	20°	-	20°
Front beam angle:	15°	-	15°	15°	-	15°
Measurements in mm:	79 x 218	11 x 40	79 x 260	58 x 100	9 x 33	58 x 133
Weight in kg:	4.680	-	4.705	0.925	-	0.940
Maximum pressure in bar:	250	-	250	250	-	250



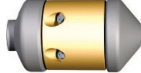
Art.Nr.:	60.125L	0061.1254	61.125L
Pointed Nozzles			
Ø Connection thread inside:	1 1/4"	M8	1 1/4"
Ø Working Area:	200 - 800	-	200 - 800
min. l/min at 100 bar:	300	-	300
Thrust jet:	6 x M10	-	6 x M10
Front beam:	4 x M8	-	3 x M8
Rear beam angle:	10°	-	10°
Front beam angle:	15°	-	15°
Measurements in mm:	98 x 258	11 x 40	98 x 300
Weight in kg:	8.400	-	8.425
Maximum pressure in bar:	250	-	250

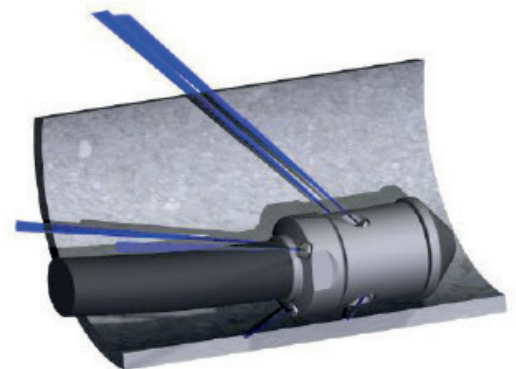
Art.Nr.:	01.028	01.040	01.050A	01.050B	01.060	01.100A	01.100B
RGS Radial Nozzles							
Ø Connection thread inside:	1/4"	1/2"	1/2"	3/4"	1"	1"	1 1/4"
Ø Working Area:	30 - 100	70 - 150	100 - 200	100 - 200	30 - 100	200 - 600	200 - 600
min. l/min at 100 bar:	20	40	70	70	100	200	200
Change nozzles:	4 x M4	4 x M6	4 x M6	4 x M6	4 x M8	4 x M10	4 x M10
Thrust jet:	3 x M4	3 x M6	3 x M6	3 x M6	3 x M8	3 x M10	3 x M10
Front beam:	optional	optional	optional	optional	optional	optional	optional
Measurements in mm:	28 x 56	40 x 80	50 x 99	50 x 99	60 x 111	100 x 180	100 x 180
Weight in kg:	0.200	0.560	1.100	1.100	1.600	7.400	7.400
Maximum pressure in bar:	350	350	350	250	250	250	250

Art.Nr.:	03.028	03.040	03.050A	03.050B	03.060	03.100A	03.100B
HRV Half Radial Nozzles							
Ø Connection thread inside:	1/4"	1/2"	1/2"	3/4"	1"	1"	1 1/4"
Ø Working Area:	30 - 100	70 - 150	100 - 200	100 - 200	30 - 100	200 - 600	200 - 600
min. l/min at 100 bar:	30	50	70	70	100	200	200
Change nozzles:	4 x M4	4 x M6	4 x M6	4 x M6	4 x M8	4 x M10	4 x M10
Thrust jet:	3 x M4	3 x M6	3 x M6	3 x M6	3 x M8	3 x M10	3 x M10
Front beam:	optional	optional	optional	optional	optional	optional	optional
Measurements in mm:	28 x 56	40 x 80	50 x 99	50 x 99	60 x 111	100 x 180	100 x 180
Weight in kg:	0.200	0.560	1.100	1.100	1.600	7.400	7.400
Maximum pressure in bar:	350	350	350	250	250	250	250

Art.Nr.:	02.028A	02.028B	02.028AS	02.040A	02.040B
HRH Half Radial Nozzles					
Ø Connection thread inside:	1/4"	3/8"	1/4"	1/2"	3/4"
Ø Working Area:	30 - 100	30 - 100	30 - 100	70 - 150	70 - 150
min. l/min at 100 bar:	10	10	12	16	16
Change nozzles:	4 x M4	4 x M4	4 x M4	4 x M6	4 x M6
Thrust jet:	-	-	3 x M4	-	-
Front beam:	optional	optional	optional	optional	optional
Measurements in mm:	28 x 56	28 x 56	28 x 56	40 x 80	40 x 80
Weight in kg:	0.200	0.200	0.200	0.560	0.560
Maximum pressure in bar:	350	350	350	350	250






Art.Nr.:	02.040AS	02.040HV	02.050A	02.050B	02.050AS	02.050BS
HRH Half Radial Nozzles						
Ø Connection thread inside:	1/2"	1/2"	1/2"	3/4"	1/2"	3/4"
Ø Working Area:	70 - 150	70 - 150	100 - 200	100 - 200	100 - 200	100 - 200
min. l/min at 100 bar:	20	50	40	40	40	40
Change nozzles:	4 x M6	8 x M6	4 x M6	4 x M6	4 x M6	4 x M6
Thrust jet:	3 x M6	-	-	-	3 x M6	3 x M6
Front beam:	optional	optional	optional	optional	optional	optional
Measurements in mm:	40 x 80	40 x 80	50 x 99	50 x 99	50 x 99	50 x 99
Weight in kg:	0.560	0.560	1.100	1.100	1.100	1.100
Maximum pressure in bar:	350	350	350	250	350	250








Art.Nr.:	02.060	02.100A	02.100B
HRH Half Radial Nozzles			
Ø Connection thread inside:	1"	1"	1 1/4"
Ø Working Area:	100 - 300	200 - 600	200 - 600
min. l/min at 100 bar:	60	200	200
Change nozzles:	4 x M8	4 x M10	4 x M10
Thrust jet:	3 x M8	3 x M10	3 x M10
Front beam:	optional	optional	optional
Measurements in mm:	60 x 111	100 x 180	100 x 180
Weight in kg:	1.600	7.400	7.400
Maximum pressure in bar:	250	250	250










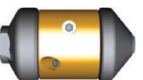
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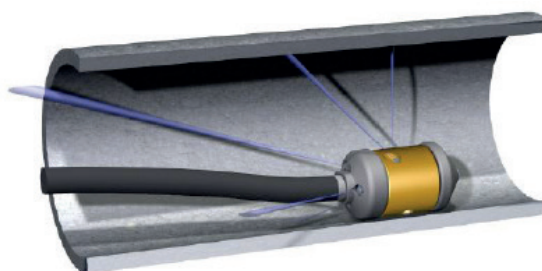
RADIAL NOZZLES






Art.Nr.:	04.011A	04.011B	04.011LA	04.012	04.012LA
KBR Combination nozzle					
Ø Connection thread inside:	M7	M8	M7	1/8"	1/8"
Ø Working Area:	12 - 30	12 - 30	12 - 30	13 - 30	13 - 30
min. l/min at 100 bar:	10	10	10	10	10
Change nozzles:	90°/ 2 × 0.85 45°/ 2 × 0.90	90°/ 2 × 0.85 45°/ 2 × 0.90	90°/ 2 × 0.85 45°/ 2 × 0.90	90°/ 2 × 0.85 45°/ 2 × 0.90	90°/ 2 × 0.85 45°/ 2 × 0.90
Thrust jet:	-	-	-	-	-
Front beam:	optional	optional	optional	optional	optional
Measurements in mm:	11 x 31	11 x 31	11 x 38	12 x 31	12 x 38
Weight in kg:	0.016	0.016	0.020	0.020	0.021
Maximum pressure in bar:	350	350	350	350	350





Art.Nr.:	04.016Axx	04.016Bxx	04.028A	04.028B	04.028AS	04.040A	04.040B
KBR Combination nozzle							
Ø Connection thread inside:	1/8"	1/4"	1/4"	3/8"	1/4"	1/2"	3/4"
Ø Working Area:	18 - 60	18 - 60	30 - 100	30 - 100	30 - 100	70 - 150	70 - 150
min. l/min at 100 bar:	10	10	10	10	10	20	20
Change nozzles:	4 x 0.40 - 1.10	4 x 0.40 - 1.10	4 x M4	4 x M4	4 x M4	4 x M6	4 x M6
Thrust jet:	-	-	-	-	3 x M4	-	-
Front beam:	optional	optional	optional	optional	optional	optional	optional
Measurements in mm:	16 x 30	16 x 30	28 x 56	28 x 56	28 x 56	40 x 80	40 x 80
Weight in kg:	0.027	0.027	0.200	0.200	0.200	0.540	0.540
Maximum pressure in bar:	350	350	350	350	350	350	250


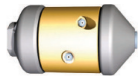

Art.Nr.:	04.040AS	04.050A	04.050B	04.050AS	04.050BS
KBR Combination nozzle					
Ø Connection thread inside:	1/2"	1/2"	3/4"	1/2"	3/4"
Ø Working Area:	70 - 150	100 - 200	100 - 200	100 - 200	100 - 200
min. l/min at 100 bar:	20	70	70	70	70
Change nozzles:	4 x M6	4 x M6	4 x M6	4 x M6	4 x M6
Thrust jet:	3 x M6	-	-	3 x M6	3 x M6
Front beam:	optional	optional	optional	optional	optional
Measurements in mm:	40 x 80	50 x 99	50 x 99	50 x 99	50 x 99
Weight in kg:	0.560	1.100	1.100	1.100	1.100
Maximum pressure in bar:	350	350	250	350	250

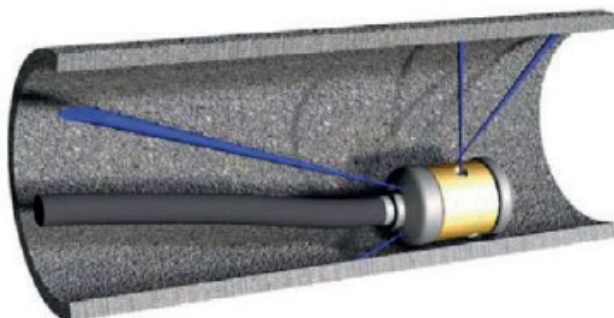
Art.Nr.:	04.060	04.100A	04.100B
KBR Combination nozzle			
Ø Connection thread inside:	1"	1"	1 1/4"
Ø Working Area:	100 - 300	200 - 600	200 - 600
min. l/min at 100 bar:	80	200	200
Change nozzles:	4 x M8	4 x M10	4 x M10
Thrust jet:	3 x M8	3 x M10	3 x M10
Front beam:	optional	optional	optional
Measurements in mm:	60 X 111	100 X 175	100 X 175
Weight in kg:	1.600	7.300	7.300
Maximum pressure in bar:	250	250	250



Art.Nr.:	04.011AV	04.011BV	04.012V	04.016AVxx	04.016BVxx
KBRV Combination nozzle front					
Ø Connection thread inside:	M7	M8	1/8"	1/8"	1/4"
Ø Working Area:	12 - 30	12 - 30	13 - 30	18 - 60	18 - 60
min. l/min at 100 bar:	10	10	10	10	10
Change nozzles:	90°/ 2 × 0.85 45°/ 2 × 0.90	90°/ 2 × 0.85 45°/ 2 × 0.90	90°/ 2 × 0.85 45°/ 2 × 0.90	4 × 0.40 - 1.10	4 × 0.40 - 1.10
Thrust jet:	-	-	-	-	-
Front beam:	optional	optional	optional	optional	optional
Measurements in mm:	11 x 31	11 x 31	11 x 31	16 x 30	16 x 30
Weight in kg:	0.016	0.016	0.016	0.027	0.027
Maximum pressure in bar:	350	350	350	350	350




Art.Nr.:	04.028AV	04.040AV	04.050AV	04.050BV
KBRV Combination nozzle front				
Ø Connection thread inside:	1/4"	1/2"	1/2"	3/4"
Ø Working Area:	30 - 100	70 - 150	100 - 200	100 - 200
min. l/min at 100 bar:	20	30	70	70
Change nozzles:	4 x M4	4 x M6	4 x M6	4 x M6
Thrust jet:	3 x M4	3 x M6	3 X M6	3 x M6
Front beam:	optional	optional	optional	
Measurements in mm:	28 x 56	40 x 80	50 x 99	50 x 99
Weight in kg:	0.200	0.540	1.100	1.100
Maximum pressure in bar:	350	350	350	250







Art.Nr.:	04.060V	04.100AV	04.100BV
KBRV Combination nozzle front			
Ø Connection thread inside:	1"	1"	1 1/4"
Ø Working Area:	100 - 300	200 - 600	200 - 600
min. l/min at 100 bar:	100	200	200
Change nozzles:	4 x M8	4 x M10	4 x M10
Thrust jet:	3 x M8	3 x M10	3 x M10
Front beam:	optional	optional	optional
Measurements in mm:	60 x 111	100 x 175	100 x 175
Weight in kg:	1.600	7.300	7.300
Maximum pressure in bar:	250	250	250








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RADIAL NOZZLES

Art.Nr.:	400.037	400.037C	400.037S	00100.03720	00100.03720C
Bulldog® Radial Nozzles					
Ø Connection thread inside:	1/2"	3/4"	1/2"	1/2"	3/4"
Ø Working Area:	40 - 200	40 - 200	40 - 200	75 - 200	75 - 200
min. l/min at 100 bar:	50	50	50	-	-
Change nozzles:	6 x M6	6 x M6	6 x M6	-	-
Thrust jet:	-	-	3 x M4	-	-
Front beam:	1 x M6	1 x M6	1 x M6	-	-
Measurements in mm:	37 x 85	37 x 89	37 x 85	60 x 110	60 x 110
Weight in kg:	0.400	0.420	0.410	0.250	0.250
Maximum pressure in bar:	200	200	200	200	200

Art.Nr.:	400.060A	400.060B	00100.0807	404.080LS100 404.080HS100	402.080LS150 404.080HS150	400.080SET100 400.080SET150
Bulldog® Radial Nozzles LS = Slow Rotation HS = Fast Rotation						
Ø Connection thread inside:	3/4"	1"	1"	1"	1"	1"
Ø Working Area:	100 - 300	100 - 300	125 - 400	125 - 400	170 - 400	170 - 400
min. l/min at 100 bar:	100	100	-	200	200	200
Change nozzles:	6 x M8	6 x M8	-	6 x M10	6 x M10	6 x M10
Thrust jet: *can be closed with push-stop	1 x M8	1 x M8	-	(6 x M8)*	(6 x M8)*	(6 x M8)*
Front beam:	1 x M8	1 x M8	-	1 x M10	1 x M10	1 x M10
Measurements in mm:	60 x 153.5	60 x 153.5	100 x 135	100 x 200	150 x 260	150 x 260
Weight in kg:	2.070	2.070	1.100	3.700	5.770	5.770
Maximum pressure in bar:	200	200	200	200	200	200

Art.Nr.:	400.101A	400.101B	Art.Nr.:	600.080	600.100A	600.100B
Bulldog® Radial Nozzles			Bulldog® Antiblaster			
Ø Connection thread inside:	1"	1 1/4"	Ø Connection thread inside:	1"	1"	1"
Ø Working Area:	250 - 600	250 - 600	Ø Working Area:	200 - 400	250 - 600	250 - 600
min. l/min at 100 bar:	200	200	min. l/min at 100 bar:	min. 180 l/min	min. 200 l/min	min. 200 l/min
Change nozzles: *from 300l/min	3 x M10 2 x M 10 90° *	3 x M10 2 x M 10 90° *	Change nozzles:	6 x M10	6 x M10	6 x M10
Thrust jet:	6 x M10	6 x M10	Thrust jet:	6 x M8	6 x M10	6 x M10
Front beam:	1 x M10	1 x M10	Front beam:	1 x M10	1 x M10	1 x M10
Measurements in mm:	130 x 260	130 x 260	Measurements in mm:	100 x 206	130 x 260	130 x 260
Weight in kg:	7.200	7.200	Weight in kg:	4.260	7.600	7.600
Maximum pressure in bar:	200	200	Maximum pressure in bar:	80 an der Düse	80 an der Düse	80 an der Düse



Art.Nr.:	10.028	10.060ATR*	10.060BTR*	10.060CTR*	10.125TR*	10.061A	10.061B
* different Ø available							
Ø Connection thread inside:	1/4"	3/8"	1/2"	3/4"	1"	1/2"	3/4"
Ø Working Area:	40 - 100	60 - 200	60 - 200	60 - 200	100 - 300	80 - 150	80 - 150
min. l/min at 100 bar:	20	30 (50 @ Ø 200)	30 (50 @ Ø 200)	30 (50 @ Ø 200)	30 (50 @ Ø 300)	60	60
Change nozzles:	3 x M4	1 x M6	1 x M6	1 x M6	2 x M6	3 x M6	3 x M6
Thrust jet:	3 x M4	4 x M6	4 x M6	4 x M6	4 x M8	3 x M6	3 x M6
Measurements in mm:	40/28 x 81	40 x 112	40 x 112	40 x 134	60 x 144	60 x 134	60 x 134
Weight in kg:	0.320	0.947	0.947	1.050	2.500	1.400	1.400
Maximum pressure in bar:	350	350	350	250	250	250	250

Art.Nr.:	10.150RL	10.150TR	10.200R	10.400R	10.800R*
* Only per order					
Ø Connection thread inside:	1"	1"	1"	1"	1 1/4"
Ø Working Area:	150 - 250	150 - 250	200 - 400	400 - 800	800 - 1200
min. l/min at 100 bar:	100	100	200	300	400
Change nozzles:	3 x M8	3 x M6	3 x M10	3 x M10	6 x M10
Thrust jet:	3 x M10	4 x M8	3 x M10	3 x M10	3 x M10
Measurements in mm:	135-235 x 500	135-235 x 380	185-385 x 560	385-785 x 625	800 x 1540
Weight in kg:	13.100	12.900	35.000	47.000	185.000
Maximum pressure in bar:	200	250	200	200	200

Replacement Parts, Accessories and Sets are available from us on request!

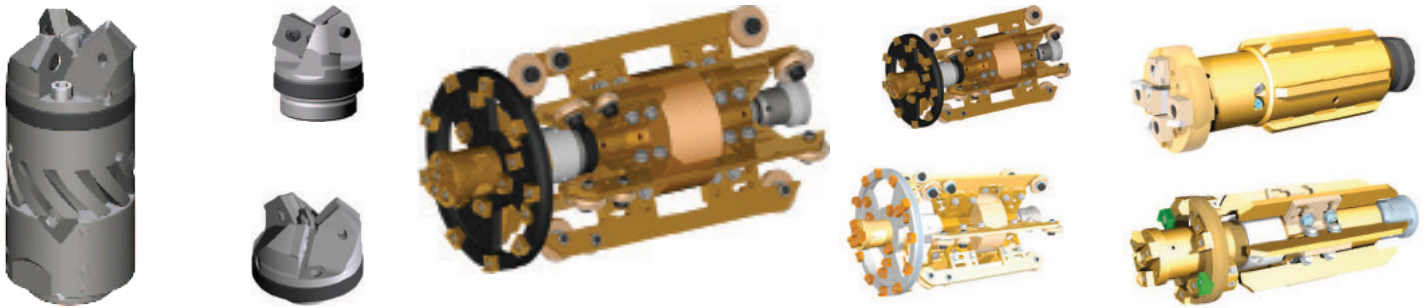


Millers & Hammer Millers on request






We carry a variety of Millers & Hammer Millers




- Millers 1/2"
- Millers 1"
- Hammer Millers 1"
- Hammer Millers 1 1/4"

For more detailed information contact us!












Ceramic inserts

Art.Nr.:	22.04	22.06	22.08	22.10	22.025
enz® JetMax (Round Jet)					
Ø Connection thread inside:	M4	M6	M8	M10 x 1	G 1/4
Maximum pressure in bar:	1000	1000	500	500	500
Key-width:	3.5	5	7	10	14
Available bore diameters: *Gradation 0.1	0.3 - 1.5*	0.3 - 3.0*	0.3 - 3.0* 3.2, 3.4	1.0 - 3.0* 3.2, 3.4, 3.6, 3.8, 4.0	1.0 - 3.0* 3.2, 3.4, 3.6, 3.8, 4.0

Art.Nr.:	22.08F	22.10F	22.025F
enz® FanJet (Flat Jet)			
Ø Connection thread inside:	M8	M10 x 1	G 1/4
Maximum pressure in bar:	500	500	500
Key-width:	7	10	14
Front jet angle:	30°	30°	30°
Available bore diameters:	1.0 (= 1.1 Roundstrahl) 1.5 (= 1.6 Roundstrahl)	1.0 (= 1.1 Roundstrahl) 1.5 (= 1.6 Roundstrahl) 1.9 (= 2.1 Roundstrahl) 2.2 (= 2.4 Roundstrahl) 2.5 (= 2.7 Roundstrahl) 2.8 (= 3.0 Roundstrahl)	1.0 (= 1.1 Roundstrahl) 1.5 (= 1.6 Roundstrahl) 1.9 (= 2.1 Roundstrahl) 2.2 (= 2.4 Roundstrahl) 2.5 (= 2.7 Roundstrahl) 2.8 (= 3.0 Roundstrahl)






Ceramic inserts adapter

Art.Nr.:	19.025012	19.050038	19.050038N	19.075	19.100A
Reducers:					
Ø Connection Thread:	1/4" - 1/8"	1/2" - 3/8"	G 1/2 - NPT 3/8	3/4" - 1/2"	1" - 1/2"




Art.Nr.:	19.100B	19.125	19.150A	19.150B
Reducers:				
Ø Connection Thread:	1" - 3/4"	1 1/4" - 1"	1 1/2" - 1"	1 1/2" - 1 1/4"








Art.Nr.:	C210	C211	19.050075	C217	C213	19.100125	C214	C215
Extensions:								

Swivel joints

Art.Nr.:	24.075	24.100	24.125S	24.125	24.150
Swivel joints:					
Ø Connection Thread Outer Inner:	3/4" 3/4"	1" 1"	1" 1 1/4"	1 1/4" 1 1/4"	1 1/2" 1 1/2"
Thrust jet:	-	-	3 x M10	-	-
Ø x L:	59 x 74	75 x 80	80 x 126	60 x 121	84 x 96
Weight in kg:	1.200	2.200	1.850	1.370	2.700

Spray guns & nozzles

Art.Nr.:	18.42	18.43	18.44
Spray Pistols			
Ø Connection Thread:	3/8"	1/2"	3/8"
L/min:	1200	720	1010
Weight in kg:	1.800	2.100	1.900
Maximum pressure in bar:	310	600	210

Art.Nr.:	0018.050	08.0501	08.0502	08.0751	08.0752	08.1001	08.1002
Swivel: Gun nozzles:							
Ø Connection Thread:	1/2"	1/2"	1/2"	3/4"	3/4"	1"	1"
Key-width:	-	27	27	36	36	46	46

Pulley device - UK

Hose guide Rolls to protect and guide the high pressure hose



Title

Guide Rolls UK for DN 25/32, 5 Alu-Rolls (78 mm) from Ø 150 mm

Guide Rolls UK for DN 32/40, 5 Alu-Rolls (88 mm) from Ø 200 mm

Guide Rolls UK for DN 19/25, 3 Alu-Rolls (78 mm) from Ø 150 mm

Guide Rolls UK for DN 13/19, 2 Plastic-Rolls (58 mm) from Ø 100 mm

Guide Rolls UK for DN 8/13, 2 Plastic-Rolls (58 mm) from Ø 100 mm

Replacement Rolls Plastic 78 mm

Replacement Rolls Alu 78 mm without stock

Replacement Rolls Alu 78 mm with VA-Stock und Plastic casing

Replacement Rolls Alu 88 mm without stock

Replacement Rolls Alu 88 mm with VA-Stock und Plastic casing

Replacement Rolls Alu 88/60 mm without stock

Replacement Rolls Alu 88/60 mm with VA-Stock und Plastic casing

Guide Rolls GK for Large canals, 7 Alu-Rolls (88 mm)

Deflection cup devices – UK

Plastic shell as a hose saver and hose guide



Title

Deflection Cup Device UK for DN 25-40 from Ø 150 mm

Deflection Cup Device UK for DN 13-25 Ø 100 mm

UK Replacement Cup for DN 25-40

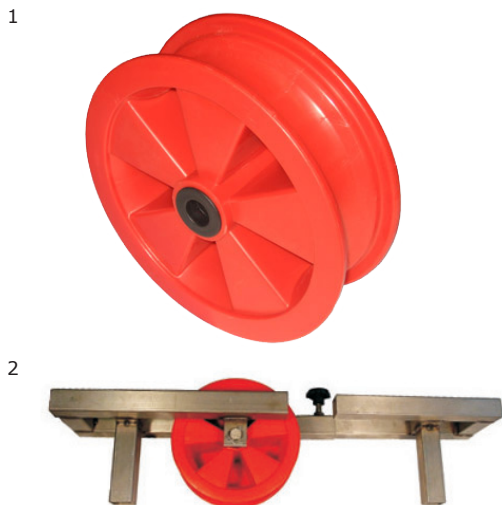
UK Replacement Cup for DN 13-25

Protection Hose from 1/2" - 3/4" (Deflection Hose for HD Hoses) Made of Plastic



Title	Dimensions Ø x L
Deflection Hose for Hoses from 1/2" - 3/4"	75 (Inner) x 900 mm
Deflection Hose for Hoses from 1" - 1 1/4"	100 (Inner) x 1000 mm

Guide Rolls Upper edge adjustable



Weitere Executionen auf Seite 154
Ø Roll

Title	Ø Roll
1 Replacement roll	250 mm
2 Guide rolls for top edge, adjustable. Hose guide for shaft openings, adjustable, opened at the side	250 mm
3 Rust cover with guide rolls	250 mm



ABWASSER- UND KANALTECHNIK

PLASTIC GJ



GUMMY GP



GUMMY GK



PLASTIC GJ



HD HOSES

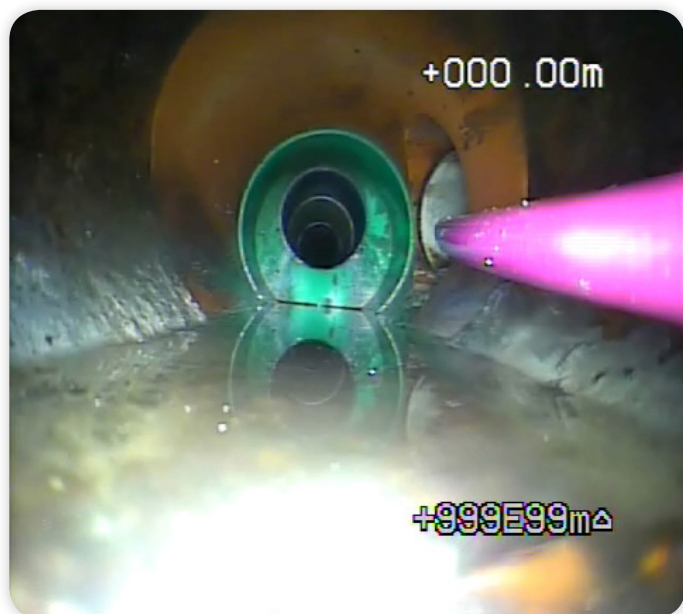
HD SCHLÄUCHE

PLASTIC HOSE

FP 300

Pipe Cleaning Hose

The FP300 has been developed as a plastic hose with a steel fabric insert specifically for water applications in the ailing area. It is ideal as a flushing hose, as well as for applications in house connections. As a service we offer various connection options!



Title	Length	Art.Nr.:
FP-Flex 20	20 m	10551-006-20
FP-Flex 20	40 m	10551-006-40

Inner-Ø mm	6,4
Inner-Ø Inches	1/4
Colour	Magenta
BD bar	300
PD bar	1200
Vacuum bar	0,93
Bend Radius mm	40
Cover	PU, abrasion resistant, UV resistant
Inlay	Steel wire inlay
Body	Thermoplastic polyester

GP-Flex Pipe Cleaning Hose

The GP-Flex offers all the advantages of a high-quality gummy high-pressure hose. The GP-Flex is extremely flexible, resistant to abrasion, pressure and oil resistant. With an Op. Pressure of 250 bar, it is ideal for use on cleaning lances when cleaning manholes. Also for provisional sewer cleaning in house connections it is well usable.



Norm	EN853 1 SN (R1 AT)
Colour	Black
Cover	SBR, very smooth
Inlay	High flowrate resistance. Fletched with steel wire
Body	SBR, black, smooth

Title	Ø-Inner	Wall Thickness	BD bar	PD bar	Bend Radius	Length	Art.Nr.:
GP-Flex 13/40	13 mm 1/2"	4 mm	250	640	180 mm	40 m	10550-013-040
GP-Flex 13/60	13 mm 1/2"	4 mm	250	640	180 mm	60 m	10550-013-060
GP-Flex 13/80	13 mm 1/2"	4 mm	250	640	180 mm	80 m	10550-013-080
GP-Flex 13/100	13 mm 1/2"	4 mm	250	640	180 mm	100 m	10550-013-100
GP-Flex 13/120	13 mm 1/2"	4 mm	250	640	180 mm	120 m	10550-013-120
GP-Flex 16/40	16 mm 5/8"	4 mm	250	640	210 mm	40 m	10550-016-040
GP-Flex 16/60	16 mm 5/8"	4 mm	250	640	210 mm	60 m	10550-016-060
GP-Flex 16/80	16 mm 5/8"	4 mm	250	640	210 mm	80 m	10550-016-080
GP-Flex 16/100	16 mm 5/8"	4 mm	250	640	210 mm	100 m	10550-016-100
GP-Flex 16/120	16 mm 5/8"	4 mm	250	640	210 mm	120 m	10550-016-120
GP-Flex 19/40	19 mm 3/4"	4 mm	200	600	240 mm	40 m	10550-018-040
GP-Flex 19/60	19 mm 3/4"	4 mm	200	600	240 mm	60 m	10550-018-060
GP-Flex 19/80	19 mm 3/4"	4 mm	200	600	240 mm	80 m	10550-018-080
GP-Flex 19/100	19 mm 3/4"	4 mm	200	600	240 mm	100 m	10550-018-100
GP-Flex 19/120	19 mm 3/4"	4 mm	200	600	240 mm	120 m	10550-018-120

GK 250

Pipe Cleaning Hose



Colour	Black
Cover	NR/SBR, extremely resistant to abrasion, smooth
Inlay	Double braided aramid inlay

The GK250 offers all the advantages of a professional gummy sewer cleaning hose. The specially developed rubber compound guarantees an extremely long service life, high abrasion resistance and high flexibility. The GK250 is more than adequate for the high demands in the working area of sewer cleaning. Furthermore, it impresses with its easy handling, low weight, high flexibility, compressive strength and excellent tensile strength. The tubular cover is resistant to abrasion and cutting effects, as well as resistant to aging and weathering. The delivery is done on both sides with fittings and a test certificate, as a service, we offer you other connection options.

Title	Ø-Inner	Wall Thickness	BD bar	PD bar	Bend Radius	Length	Art.Nr.:
GK-Textil 13/60	13 mm 1/2"	6 mm	250	625	70 mm	60	166013-060
GK-Textil 13/80	13 mm 1/2"	6 mm	250	625	70 mm	80	166013-080
GK-Textil 13/100	13 mm 1/2"	6 mm	250	625	70 mm	100	166013-100
GK-Textil 13/120	13 mm 1/2"	6 mm	250	625	70 mm	120	166013-120
GK-Textil 13/160	13 mm 1/2"	6 mm	250	625	70 mm	160	166013-160
GK-Textil 13/180	13 mm 1/2"	6 mm	250	625	70 mm	180	166013-180
GK-Textil 13/200	13 mm 1/2"	6 mm	250	625	70 mm	200	166013-200
GK-Textil 13/240	13 mm 1/2"	6 mm	250	625	70 mm	240	166013-240
Gk-Textil 19/60	19 mm 3/4"	6 mm	250	625	90 mm	60	166019-060
GK-Textil 19/80	19 mm 3/4"	6 mm	250	625	90 mm	80	166019-080
GK-Textil 19/100	19 mm 3/4"	6 mm	250	625	90 mm	100	166019-100
GK-Textil 19/120	19 mm 3/4"	6 mm	250	625	90 mm	120	166019-120
GK-Textil 19/160	19 mm 3/4"	6 mm	250	625	90 mm	160	166019-160
GK-Textil 19/180	19 mm 3/4"	6 mm	250	625	90 mm	180	166019-180
GK-Textil 19/200	19 mm 3/4"	6 mm	250	625	90 mm	200	166019-200
GK-Textil 19/240	19 mm 3/4"	6 mm	250	625	90 mm	240	166019-240
Gk-Textil 25/60	25 mm 1"	7 mm	250	625	105 mm	60	166025-060
GK-Textil 25/80	25 mm 1"	7 mm	250	625	105 mm	80	166025-080
GK-Textil 25/100	25 mm 1"	7 mm	250	625	105 mm	100	166025-100
GK-Textil 25/120	25 mm 1"	7 mm	250	625	105 mm	120	166025-120
GK-Textil 25/160	25 mm 1"	7 mm	250	625	105 mm	160	166025-160
GK-Textil 25/180	25 mm 1"	7 mm	250	625	105 mm	180	166025-180
GK-Textil 25/200	25 mm 1"	7 mm	250	625	105 mm	200	166025-200
GK-Textil 25/240	25 mm 1"	7 mm	250	625	105 mm	240	166025-240
Gk-Textil 32/60	32 mm 1 1/4"	7,5 mm	250	625	140 mm	60	166032-060
GK-Textil 32/80	32 mm 1 1/4"	7,5 mm	250	625	140 mm	80	166032-080
GK-Textil 32/100	32 mm 1 1/4"	7,5 mm	250	625	140 mm	100	166032-100
GK-Textil 32/120	32 mm 1 1/4"	7,5 mm	250	625	140 mm	120	166032-120
GK-Textil 32/160	32 mm 1 1/4"	7,5 mm	250	625	140 mm	160	166032-160
GK-Textil 32/180	32 mm 1 1/4"	7,5 mm	250	625	140 mm	180	166032-180
GK-Textil 32/200	32 mm 1 1/4"	7,5 mm	250	625	140 mm	200	166032-200
GK-Textil 32/240	32 mm 1 1/4"	7,5 mm	250	625	140 mm	240	166032-240

GJ 200 Ultraflexx Canal Cleaning Hose

Temperature Area	-40 °C up to + 55 °C
Colour	Yellow-Orange
Cover	Polyurethane, extremely cut and abrasion resistant
Inlay	Double layer of highly tear-resistant, braided synthetic fibers
Body	Polyurethan



The GrüloJet 200 Ultraflexx is a PU sewer cleaning hose that impresses with its high flexibility. With a print carrier made of double high-tensile synthetic fibers and a cover made of highly abrasion- and cut-resistant polyurethane and an Op. Pressure of over 200 bar, the GrüloJet 200 Ultraflexx is ideal for equipping all sewer cleaning vehicles. Its extremely smooth polyurethane body allows a lower pressure drop than standard Gummy sewer flushing hoses. Delivered on both sides with pressure fittings DKR / EGR (IG / AG) BSP 60 ° sealing cone, self-sealing and test certificate according to EN 10 204.3.1B. As a service, we offer you other connection options!

Title	Ø-Inner	Wall Thickness	BD bar	PD bar	Bend Radius	Length	Art.Nr.:
GJ-200 19/40	19 mm 3/4"	5,3 mm	210	500	120 mm	40 m	11063019-040
GJ-200 19/60	19 mm 3/4"	5,3 mm	210	500	120 mm	60 m	11063019-060
GJ-200 19/80	19 mm 3/4"	5,3 mm	210	500	120 mm	80 m	11063019-080
GJ-200 19/100	19 mm 3/4"	5,3 mm	210	500	120 mm	100 m	11063019-100
GJ-200 19/120	19 mm 3/4"	5,3 mm	210	500	120 mm	120 m	11063019-120
GJ-200 19/160	19 mm 3/4"	5,3 mm	210	500	120 mm	160 m	11063019-160
GJ-200 19/180	19 mm 3/4"	5,3 mm	210	500	120 mm	180 m	11063019-180
GJ-200 19/200	19 mm 3/4"	5,3 mm	210	500	120 mm	200 m	11063019-200
GJ-200 19/240	19 mm 3/4"	5,3 mm	210	500	120 mm	240 m	11063019-240
GJ-200 19/300	19 mm 3/4"	5,3 mm	210	500	120 mm	300 m	11063019-300
GJ-200 25/40	25 mm 1"	5,85 mm	207	500	150 mm	40 m	11063025-060
GJ-200 25/60	25 mm 1"	5,85 mm	207	500	150 mm	60 m	11063025-060
GJ-200 25/80	25 mm 1"	5,85 mm	207	500	150 mm	80 m	11063025-080
GJ-200 25/100	25 mm 1"	5,85 mm	207	500	150 mm	100 m	11063025-100
GJ-200 25/120	25 mm 1"	5,85 mm	207	500	150 mm	120 m	11063025-120
GJ-200 25/160	25 mm 1"	5,85 mm	207	500	150 mm	160 m	11063025-160
GJ-200 25/180	25 mm 1"	5,85 mm	207	500	150 mm	180 m	11063025-180
GJ-200 25/200	25 mm 1"	5,85 mm	207	500	150 mm	200 m	11063025-200
GJ-200 25/240	25 mm 1"	5,85 mm	207	500	150 mm	240 m	11063025-240
GJ-200 25/300	25 mm 1"	5,85 mm	207	500	150 mm	300 m	11063025-300
GJ-200 32/40	32 mm 1 1/4"	7 mm	207	500	235 mm	40 m	11063032-060
GJ-200 32/60	32 mm 1 1/4"	7 mm	207	500	235 mm	60 m	11063032-060
GJ-200 32/80	32 mm 1 1/4"	7 mm	207	500	235 mm	80 m	11063032-080
GJ-200 32/100	32 mm 1 1/4"	7 mm	207	500	235 mm	100 m	11063032-100
GJ-200 32/120	32 mm 1 1/4"	7 mm	207	500	235 mm	120 m	11063032-120
GJ-200 32/160	32 mm 1 1/4"	7 mm	207	500	235 mm	160 m	11063032-160
GJ-200 32/180	32 mm 1 1/4"	7 mm	207	500	235 mm	180 m	11063032-180
GJ-200 32/200	32 mm 1 1/4"	7 mm	207	500	235 mm	200 m	11063032-200
GJ-200 32/240	32 mm 1 1/4"	7 mm	207	500	235 mm	240 m	11063032-240
GJ-200 32/300	32 mm 1 1/4"	7 mm	207	500	235 mm	300 m	11063032-300

FlexJet 250 Ultraflexx Canal Cleaning Hose

Colour	Green
Cover	Polyurethane, Red, extreme cut and Abrasion Resistance
Inlay	Double layer of highly tear-resistant, braided synthetic fibers
Body	Thermoplastic elastomer



The Jet 250 Ultraflexx is a highly flexible PU-Canal cleaning pants with a print carrier made of high-quality aramid fibers and a cover made of super abrasion and cut-resistant polyurethane. The homogenous connection of the body and the cover with the print carrier leaves out problems such as the release of the cover or blistering. Due to its extremely smooth body made of a special polyether polyurethane, the Jet 250 Ultraflexx has a lower pressure drop than standard gummy sewer cleaning hoses. Furthermore, it is very light compared to gummy hoses and guarantees you a longer service life than other products currently on the market. Delivered on both sides with pressure fittings DKR / EGR (IG / AG) BSP 60 ° sealing cone, self-sealing and test certificate according to EN 10 204.3.1B. As a service, we offer you other connection options!

Title	Ø-Inner	Wall Thickness	BD bar	PD bar	Bend Radius	Length	Art.Nr.:
GJ-250 Green 19/40	19 mm 3/4"	5,3 mm	250	625	100 mm	40 m	11189019-040
GJ-250 Green 19/60	19 mm 3/4"	5,3 mm	250	625	100 mm	60 m	11189019-060
GJ-250 Green 19/80	19 mm 3/4"	5,3 mm	250	625	100 mm	80 m	11189019-080
GJ-250 Green 19/100	19 mm 3/4"	5,3 mm	250	625	100 mm	100 m	11189019-100
GJ-250 Green 19/120	19 mm 3/4"	5,3 mm	250	625	100 mm	120 m	11189019-120
GJ-250 Green 19/160	19 mm 3/4"	5,3 mm	250	625	100 mm	160 m	11189019-160
GJ-250 Green 19/180	19 mm 3/4"	5,3 mm	250	625	100 mm	180 m	11189019-180
GJ-250 Green 19/200	19 mm 3/4"	5,3 mm	250	625	100 mm	200 m	11189019-200
GJ-250 Green 19/240	19 mm 3/4"	5,3 mm	250	625	100 mm	240 m	11189019-240
GJ-250 Green 19/300	19 mm 3/4"	5,3 mm	250	625	100 mm	300 m	10089019-300
GJ-250 Green 25/40	25 mm 1"	5,85 mm	250	625	150 mm	40 m	11189025-040
GJ-250 Green 25/60	25 mm 1"	5,85 mm	250	625	150 mm	60 m	11189025-060
GJ-250 Green 25/80	25 mm 1"	5,85 mm	250	625	150 mm	80 m	11189025-080
GJ-250 Green 25/100	25 mm 1"	5,85 mm	250	625	150 mm	100 m	11189025-100
GJ-250 Green 25/120	25 mm 1"	5,85 mm	250	625	150 mm	120 m	11189025-120
GJ-250 Green 25/160	25 mm 1"	5,85 mm	250	625	150 mm	160 m	11189025-160
GJ-250 Green 25/180	25 mm 1"	5,85 mm	250	625	150 mm	180 m	11189025-180
GJ-250 Green 25/200	25 mm 1"	5,85 mm	250	625	150 mm	200 m	11189025-200
GJ-250 Green 25/240	25 mm 1"	5,85 mm	250	625	150 mm	240 m	11189025-240
GJ-250 Green 25/300	25 mm 1"	5,85 mm	250	625	150 mm	300 m	11189025-300
GJ-250 Green 32/40	32 mm 1 1/4"	7 mm	250	625	235 mm	40 m	11189032-040
GJ-250 Green 32/60	32 mm 1 1/4"	7 mm	250	625	235 mm	60 m	11189032-060
GJ-250 Green 32/80	32 mm 1 1/4"	7 mm	250	625	235 mm	80 m	11189032-080
GJ-250 Green 32/100	32 mm 1 1/4"	7 mm	250	625	235 mm	100 m	11189032-100
GJ-250 Green 32/120	32 mm 1 1/4"	7 mm	250	625	235 mm	120 m	11189032-120
GJ-250 Green 32/160	32 mm 1 1/4"	7 mm	250	625	235 mm	160 m	11189032-160
GJ-250 Green 32/180	32 mm 1 1/4"	7 mm	250	625	235 mm	180 m	11189032-180
GJ-250 Green 32/200	32 mm 1 1/4"	7 mm	250	625	235 mm	200 m	11189032-200
GJ-250 Green 32/240	32 mm 1 1/4"	7 mm	250	625	235 mm	240 m	11189032-240
GJ-250 Green 32/300	32 mm 1 1/4"	7 mm	250	625	235 mm	300 m	11189032-300



ABWASSER- UND KANALTECHNIK

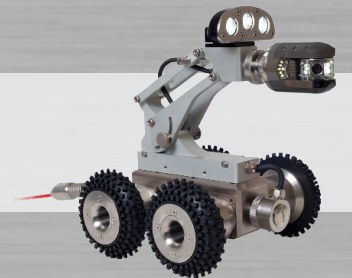
MINI III & H-CAM



PUSH CAMERAS



VEHICLES



CANAL CAMERAS

KANALKAMERA

AXIAL HEAD CAMERAS

Mini III

Axial Head Cameras

minCord® cameras are extremely small, lightweight and compact color camera inspection systems for the optical, non-destructive control of pipes, cavities, fly seams, turbines, hollow beams and cast parts. With the help of this miniature camera system, cracks, surface damage, side deposits, cavities and deformations in narrow, winding, hard-to-reach and dangerous locations can be illuminated and detected without the need for costly disassembly.

Mini III

with 13mm Head

Properties	<ul style="list-style-type: none"> - Splashproof - 15 m extremely robust PP-Cable as standard - 30 m extremely robust PP-Cable alternatively available - 13 mm color camera head in the VA housing - Directly attached to 10 cm highly flexible Vario Cable - 12 LEDs continuously adjustable - 560 TV lines - 1 bar waterproof - Cylinder length 9 mm - Diagonal opening angle: 84 °
Monitor	<ul style="list-style-type: none"> - 3.5 "TFT-LCD monitor in aluminum housing - Easy to use, robust buttons - Storage on SD card (max 4 GB) - Video and damage pictures - Video in / out, USB port - Lithium polymer battery, plug network part
Article Number:	91004.3



Mini III

with 18mm Head

Properties	<ul style="list-style-type: none"> - Splashproof - 15 m extremely sturdy PP cable as standard - 30 m extremely robust PP cable alternatively available - 18 mm color camera head in VA housing - Directly attached to 10 cm highly flexible Vario cable - 4 LEDs infinitely adjustable - 3 bar waterproof - Cylinder length 9 mm - Diagonal opening angle: 84 °
Monitor	<ul style="list-style-type: none"> 3.5 "TFT-LCD monitor in aluminum housing Easy to use, robust buttons Storage on SD card (max 4 GB) Video and damage pictures Video in / out, USB port Lithium polymer battery, plug network part
Article Number:	91003



KANALKAMERA

AXIAL HEAD CAMERAS

H-Cam 29

For smaller pipe diameters, the H-Cam camera is best suited. With the small camera head Ø 29 mm and very short construction, the camera head in a tube from DN50 can easily be pushed through a 90 ° arc.

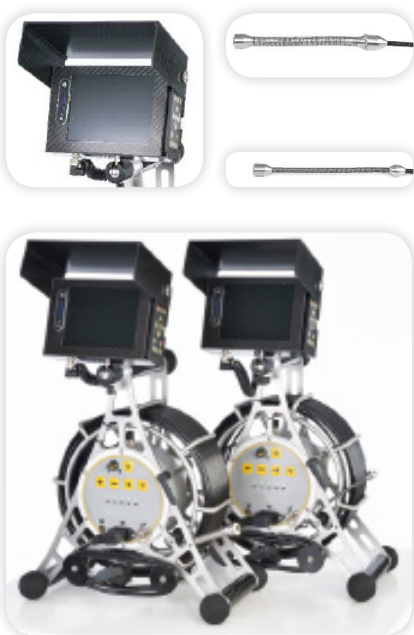


Properties	<ul style="list-style-type: none"> - 90 ° bendable from DN50 - 10 bar waterproof - 30 m / 6.7 mm fiberglass rod with internal ladders - rotatable and changeable by special connection to the reel and camera head - Steel reel, powder coated with slip ring - Control unit with on / off switch; continuous light regulation; - Socket power supply, video out - 12V power adapter; battery (optional) - Meter counter, electronic meter insertion in the video image (optional) - Location transmitter 512 Hz or 33 kHz (optional) - Excitation board in the control unit, locating coil behind the camera head
Monitor	<ul style="list-style-type: none"> - 5.6 "TFT LCD monitor, can be removed with 1.5 m extension reel - Storage jpeg images with 704 x 528 pixels (optional) - Video with 768 x 576 pixels (* .asf file), sequential videos (max 5 min) - SD slot for SDHC card, max 4 GB - AV in / out; USB socket for connection to PC
Camera Head	<ul style="list-style-type: none"> - Color camera, camera head made of VA, D = 29 mm - 560 TV lines
Article Number:	95100.1

HmC15

Pipe Camera 15 - 125 mm

Well-known for the design and production of small camera systems and camera heads, we present with the HmC15 sliding rod and the HmC15 push-pull cable two complete camera systems for the inspection of pipes in the area of 15 - 125 mm. Constructed, developed and manufactured in Germany, these systems are ideal for the industry or building inspections.



Properties	<ul style="list-style-type: none"> - Complete set with centering aid - Reel made of VA and carbon - Control unit with function keys Meter counter - Light control, battery indicator, BNC video out - High-resolution color camera module - Internal power supply 100 - 240 V, 12 V DC charging input - Battery for operating time of more than 2 hours - Dimensions: ca L 350 x W 230 x H 395 mm
Monitor 1500cd	<ul style="list-style-type: none"> - 5.6 "TFT-LCD monitor in carbon housing - Ball joint attachment to the reel - SD card recording of videos, pictures and audio max. 32 GB; MPEG-4 video - 0.02 lux; Diagonal opening angle 84 ° - Display meter reading and date in video image
Push-Pull-Set 15-80 mm Article Number: 91086.8	30 meters push-pull cable with direct connection via 10 cm vario cable to camera head 1 bar waterproof, external diameter 13 mm
Schiebestrom-Set 30-125 mm Article Number: 91086.9	30 Meter 5.6 mm Schiebestrom, dreh- und wendbar 3 bar wasserdicht, OutsideDiameter 18 mm




KANALKAMERA

AXIAL HEAD CAMERAS

HMC30 Set

Pipe Camera 40-150 mm

The HMC30 set is a camera system with an inspection range from 40mm up to 150mm. This makes the system a flexible, compact and suitable for everyday use device with unparalleled appearance. Ideal for examinations in the house area.

<p>Properties</p> 	<ul style="list-style-type: none"> - Complete set with centering aid - Reel made of VA and carbon - 30 m 6.7 mm sliding test (max 40 m), rotating and reversible - Control unit with function keys and meter counter - Light control, battery indicator, BNC video out - High-resolution color camera module - 560 TV lines; 0.02 lux - Internal power supply 100 - 240 V, 12 V DC charging input - Battery for operating time about 3 hours - Dimensions: approx. L 420 x W 230 x H 480 mm
<p>Monitor 1500cd</p> 	<ul style="list-style-type: none"> - 5.6 "TFT-LCD monitor in carbon casing - Ball joint attachment to the reel - SD card recording of videos, pictures and audio max. 32 GB; MPEG-4 video - Display meter reading and date in video image
<p>kk29sl Camera Head 560 TV Linie</p> 	<ul style="list-style-type: none"> - Upright picture function - 10 bar waterproof - Diagonal picture opening angle: 121° - Ø outer: 29 mm; cylinder length: 16 mm
<p>Article Number:</p>	<p>Set: 91084.9</p>

HMC30 Duo Set

Pipe Camera 15-150 mm

The HMC30 Duo Set is a 2in1 camera system with a unique inspection range from 15 mm up to 200 mm pipe diameter. Two differently sized camera heads, as well as two differently flexible push rods combined in one system, make the system a flexible, compact and practical device with an incomparable appearance. Ideal for examinations in the house area. Also available as HMC 30 set. This only has the 29 mm head for tubes 50 -150 mm.

<p>Properties</p> 	<ul style="list-style-type: none"> - Complete set with centering aid - reel made of VA and carbon - 15 m push-pull cable - 30 m 6.7 mm sliding test (max 40 m), rotating and reversible - Control unit with function keys and meter counter - Light control, battery indicator, BNC video out - High-resolution color camera module - 560 TV lines; 0.02 lux - Internal power supply 100 - 240 V, 12 V DC charging input - Battery for operating time about 3 hours - Dimensions: approx. L 420 x W 230 x H 480 mm
<p>Monitor 1500cd</p> 	<ul style="list-style-type: none"> - 5.6 "TFT-LCD monitor in carbon housing - Ball joint attachment to the reel - SD card recording of videos, pictures and audio max. 32 GB; MPEG-4 video - Display meter reading and date in video image
<p>kk13 Camera Head 560 TV Line</p> 	<ul style="list-style-type: none"> - Directly attached to Vario cable - 1 bar waterproof - Diagonal picture opening angle: 84 ° - Ø outer: 13 mm; Cylinder length: 9 mm
<p>kk29sl Camera Head 560 TV Line</p> 	<ul style="list-style-type: none"> - Upright image function - 10 bar waterproof - Diagonal picture opening angle: 121 ° - Ø outer: 29 mm; Cylinder length: 16 mm
<p>Article Number:</p>	<p>Duo: 91084.8</p>




KANALKAMERA

AXIAL HEAD CAMERAS

HmC50 Set

Pipe Camera 70 - 400 mm

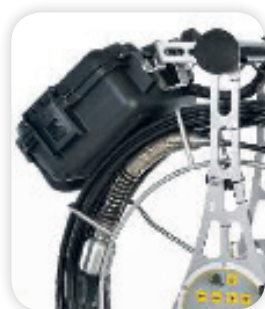
The HmC50 set is a camera system with an inspection range of 70 - 400 mm pipe diameter. This makes the system a flexible, compact and suitable for everyday use device with unparalleled appearance. Ideal for home inspections up to street canals DN 400.





<p>Properties</p> 	<ul style="list-style-type: none"> - Complete set with centering aid - Reel made of VA and carbon - 60 m 9.2 mm sliding test, rotating and turnable on outer basket - Control unit with function keys and meter counter - Light control, battery indicator, BNC video out - High-resolution color camera module - 560 TV lines; 0.02 lux - Internal Power Supply 100 - 240 V, 12 V DC charging input - Battery for operating time about 2.5 hours - Second battery optional - Dimensions: ca L 645 x W 300 x H 665 mm
<p>Monitor 1400cd</p> 	<ul style="list-style-type: none"> - 8 "TFT-LCD monitor in a sturdy pelicote - Grid attachment to the reel - SD card recording of videos, pictures and audio max. 32 GB; MPEG-4 video - Display meter reading and date in video image
<p>kk55sl Camera Head 740 TV Line</p> 	<ul style="list-style-type: none"> - Upright picture function - 10 bar waterproof - Diagonal picture opening angle: 103 ° - Ø outer: 55 mm; Cylinder length: 36 mm
<p>Article Number:</p>	<p>Set: 91085.9</p>

HmC50 Duo Set

Pipe Camera 70 - 400 mm

The HmC50 Duo Set is a 2in1 camera system with a unique inspection range from 50mm up to over 400mm pipe diameter. Two differently sized camera heads as well as two differently flexible push rods combined in one system make the system a flexible, compact and practical device with an incomparable appearance. Ideal for home inspections up to road canals of DN 50 mm. Also available as HMC 50 SET. This only has the 55 mm Head for tubes 70 - 400 mm.



<p>Properties</p> 	<ul style="list-style-type: none"> - Complete set with centering aid - Reel made of VA and carbon - 20 m 6.7 mm sliding test from rotating and Turnable on Inner Basket (DUO Only) - 60 m 9.2 mm sliding test, rotating and Turnable on outer basket - Control unit with function keys and meter counter - Light control, battery indicator, BNC video out - High-resolution color camera module - 560 TV lines; 0.02 lux - Internal Power Supply 100 - 240 V, 12 V DC charging input - Battery for operating time about 2.5 hours - Second battery optional - Dimensions: ca L 645 x W 300 x H 665 mm
<p>Monitor 1400cd</p> 	<ul style="list-style-type: none"> - 8 "TFT-LCD monitor in a sturdy Peli case - Grid attachment to the reel - SD card recording of videos, pictures and audio max. 32 GB; MPEG-4 video - Display meter reading and date in video image
<p>kk29sl Camera Head (Nur DUO) 560 TV Line</p> 	<ul style="list-style-type: none"> - Upright picture function - 10 bar waterproof - Diagonal picture opening angle: 121 ° - Ø outer: 29 mm; Cylinder length: 16 mm
<p>kk55sl Camera head 740 TV Line</p> 	<ul style="list-style-type: none"> - Upright picture function - 10 bar waterproof - Diagonal picture opening angle: 103 ° - Ø outer: 55 mm; Cylinder length: 36 mm
<p>Article Number:</p>	<p>Duo: 91085.8</p>


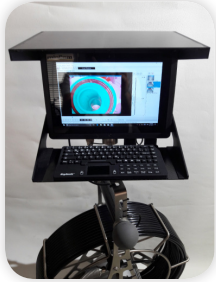

KANALKAMERA

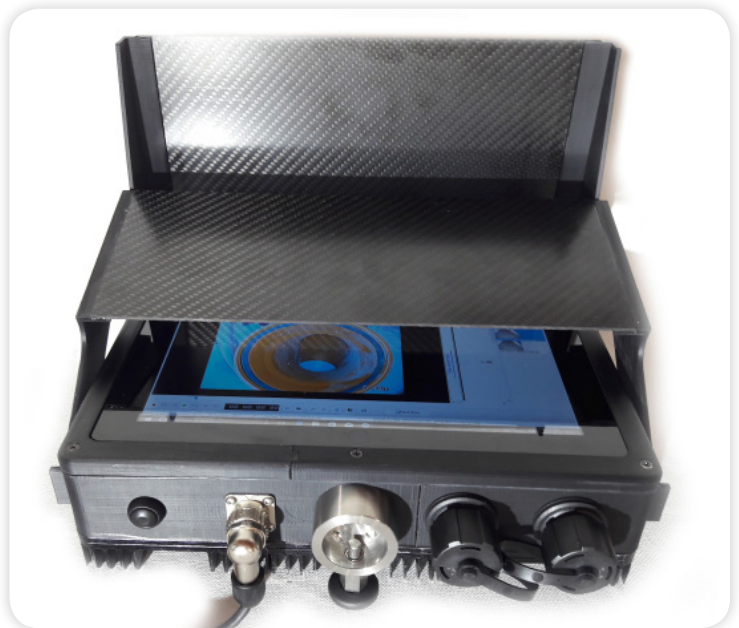
HmC50 PC101

Pipe Camera 70 - 400 mm with Tablet PC

The All In One package including protocol software for creating simple work reports.

- Optionally, WinCan software can also be installed on the tablet.
- We can also integrate the air / water pressure test with our Aquametrics products, and other software based on Windows 10.
- With the tablet version, we provide a much more flexible and future-oriented system than many other manufacturers.
- The noble materials such as real carbon paired with a reel of glass bead blasted stainless steel leaves make the product desirable.
- It guarantees a professional appearance.




<p>Properties</p> 	<ul style="list-style-type: none"> - Complete set with centering aid - reel made of VA and carbon - 60 m 9.2 mm push cable - Meter counter - Probe for locating the camera heads 33 kHz - Light control, battery indicator, BNC video out - High-resolution color camera module - Power over 100-240 V mains or 12V DC car output - Battery for operating time of about 2.5 hours - Second battery optional - BNC Connection - Dimensions: ca L 645 x W 300 x H 665 mm
<p>PC101 Touch PC</p> 	<ul style="list-style-type: none"> - Sunlight-compatible 10.1" touch display - 1280 x 800 px - Keyboard IP68 (Optional) - Splashproof - The operation is pious from the reel or with the quick-change system directly on the reel possible - Equipped with 2x USB, 10 pool connection - Sun and rain protection - On Windows basis - MinREC software license included and already installed (to create simple reports with line diagram) - WinCan Software capable (not included) - Power supply via reel - Compatible with Aquametrik software
<p>kk55sl Camera Head 740 TV Line</p> 	<ul style="list-style-type: none"> - Self-leveling - 10 bar waterproof - 100 ° wide-angle optics - Location 33kHz - Stepless light control - Ø outer: 55 mm; Cylinder length: 36 mm
<p>Article Number: 101-005-001</p>	



HmC360

Pipe Camera 70 - 400 mm



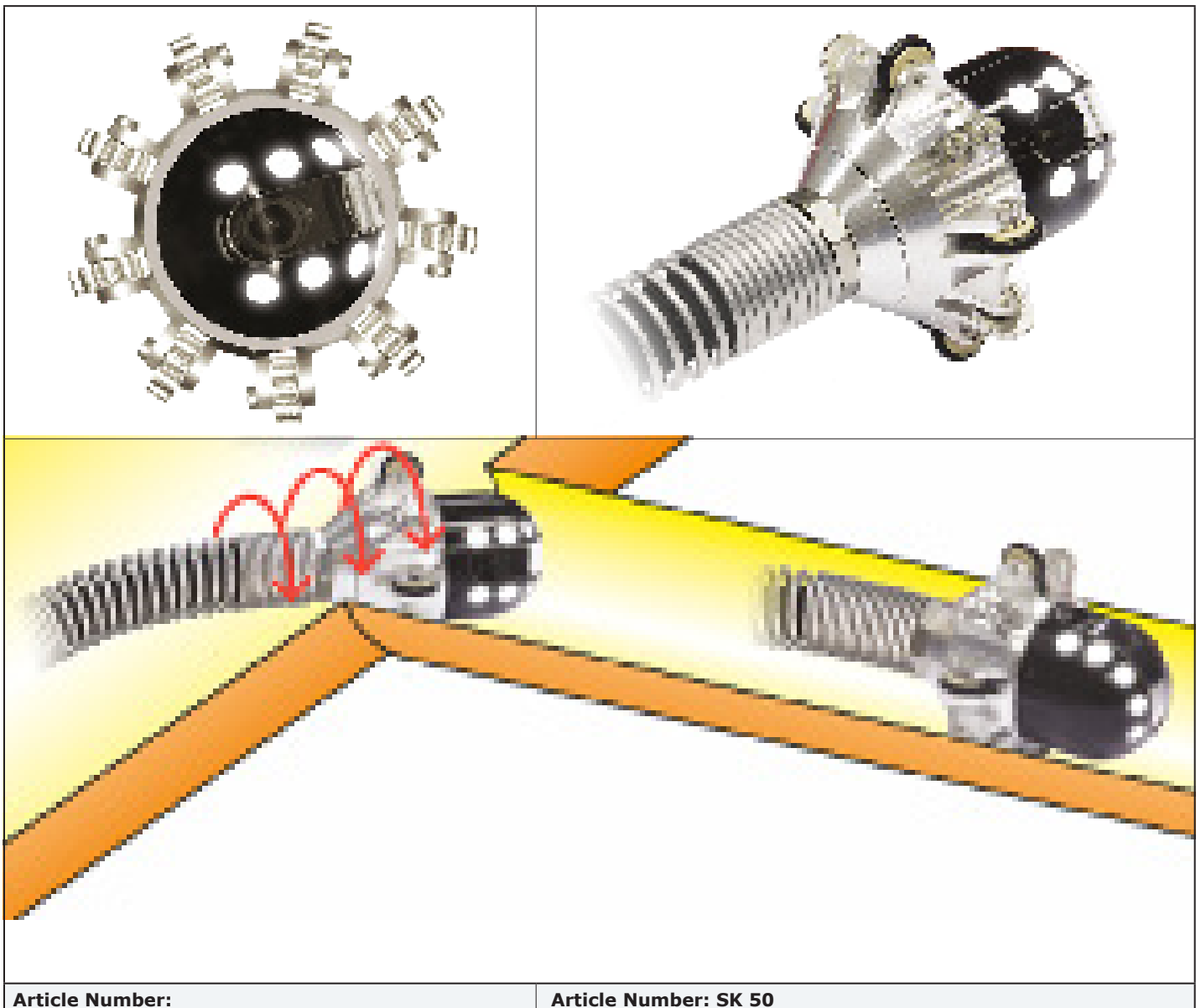
<p>Properties</p> 	<ul style="list-style-type: none"> - Complete set with centering aid, roller carriage - reel made of VA and carbon - 60 m / 9.2 mm glass fiber tape (max 90 m) - Control unit with function keys for camera head control - Light control, battery indicator, BNC video out - Internal power supply 110 - 240 V - Dual battery changeable during operation - More than 4 hours of operation - Dimensions: ca L 585 x W 300 x H 660 mm
<p>Monitor 1400cd</p> 	<ul style="list-style-type: none"> - 8.4" TFT-LCD monitor in a sturdy Peli case - 560 TV line - Ball joint attachment to the reel - SD card recording of videos, pictures and audio; MPEG-4 video - Display of the sensor values in the video image
<p>360° Camera Head</p> 	<ul style="list-style-type: none"> - 6 bar waterproof - Automechanical focus adjustment - Intelligent lighting control - Electronic zoom - Endless editing, Sight Area tilting 150 ° - Built-in, very strong tracking coil with 640 Hz, 512 Hz and 33 kHz - Diagonal opening angle: 106 ° - Ø outside: 50 mm; Cylinder length 32 mm
<p>Article number:</p>	<p>91095.9</p>

The HmC360 is one of the smallest swivel head cameras on the market for tubes from 70 - 400 mm. A small, compact, but exceptionally robust and everyday device that uses a revolutionary camera head design. This unique design allows the camera head size to be designed to allow optical inspection of 70mm tubes.

SK 50 ROLL IN HmC360 Turn Aid

!!! NEW SK 50 ROLL IN !!!

The scaffold "SK 50 ROLL IN" provides optimal support in the investigation of branches. It is possible to navigate side inlets and tees. A big advantage is that no annoying rod can be seen in the picture, the camera head can be used without restricting the panning function.



KANALKAMERA

PUSH CAMERAS

Configuration Possibilities MSE Control Devices



MSE-100 with SHP-6.30 Pipe Camera DN 40 - DN 150

MSE-100: Your central control and documentation unit for all our Push Cameras systems.
 SHP-6.30: Push Cameras for Control Case. For the areas such as electrical installation, plumbing or house connections.

Control Device MSE-100	<ul style="list-style-type: none"> - High-resolution, bright 5.6 inches TFT display - Integrated MPEG4 video recorder (avi) with Single image function (bmp) - Digital meter counting with display in the video image - Li-ion battery with built-in charger and charging Indicator
Reel SHP-6.30	<ul style="list-style-type: none"> - can be used from DN 40 up to DN 150 - 87 ° bendable from DN 50 - 30 meters high flexible push cable (6mm Ø) - Stable ball joint with quick change system for the control device
Power supply	12 - 24 V DC via external power supply (100 - 240 V AC)



Accessories



Title	Ø	Operation area	Pipe bends	Objective
RIK-3240 / nur for SHP-6.30	32 mm	DN 40 - 150	87° from DN 50	90°
RIK-3240/RO / nur for SHP-6.30	32 mm	DN 40 - 150	87° from DN 50	90°
Leading brush DN 150		From DN 150	for crossing sleeve offsets	
Leading sleeve		From DN 70	Guide sleeve for centering the camera	

MSE-100 with SHP-9x Pipe Camera DN 70 - DN 400

MSE-100: Your central control and documentation unit for all our push camera systems.
SHP-9x: Our professional system for renovation, house connection and sewer inspection.



Control Device MSE-100	<ul style="list-style-type: none"> - High-resolution, bright 5.6 inches TFT display - Integrated MPEG4 video recorder (avi) with Single image function (bmp) - Digital meter counting with display in the video image - Li-ion battery with built-in charger and charging indicator
Reel SHP-9x	<ul style="list-style-type: none"> - can be used from DN 70 up to DN 400 - 87 ° bendable from DN 100 - 60/80 meters highly flexible push cable (9mm Ø) - Stable ball joint with quick-change system for the control device - 2 independent brakes acting on each other
Power Supply	12 - 24 V DC via external power supply (100 - 240 V AC)

MSE-300 with SHP-9x Pipe Camera DN 70 - DN 400

MSE-300: Your central control and documentation unit for all our camera systems.
SHP-9x: Our professional system for renovation, house connection and sewer inspection.



Control Device MSE-300	<ul style="list-style-type: none"> - High-resolution, bright 8 inches TFT display - Integrated MPEG4 video recorder (avi) with Single image function (bmp) - Digital meter counting with display in the video image - Data entry with digital meter counting in video image - Li-ion battery (limited runtime) with built-in charger and charge level indicator - 12 V socket for the car operation - 1 x BNC video IN, 1 x BNC video OUT
Reel SHP-9x	<ul style="list-style-type: none"> - can be used from DN 70 up to DN 400 - 87 ° bendable from DN 100 - 60/80 meters highly flexible push cable (9mm Ø) - Stable ball joint with quick-change system for the control device - 2 independent brakes acting on each other
Power Supply	12 - 24 V DC via external power supply (100 - 240 V AC)

Accessories



Title	Ø	Operation area	Pipe bends	Objective
RIK-5570/RO	55 mm	DN 70 - 400	87° from DN 100	97°
RSK-60100	60 mm	DN 70 - 400	87° from DN 100	68° +/-115° Schwenkbar
RSK-78110	78 mm	DN 100 - 400	87° from DN 100	97° +/-110° Schwenkbar
Title	Operation area	Properties		
Turning Module	-	for turning into side branches		
Roll carriage	DN 150			
Location transmitter 33 kHz / 512 Hz				

KANALKAMERA

CONTROL DEVICE

MSE-500

Universal Control Device

Your central control and documentation unit for all our camera and vehicle systems

The high-resolution, daylight-compatible 12.4 inches TFT display delivers a brilliant image quality and, together with the ergonomically designed controls, makes working pleasant. The existing USB ports allow devices such as usage of keyboard and mouse with the control device. Videos and pictures are recorded on the internal memory and can be easily exported to USB data carriers.



MSE-500	<ul style="list-style-type: none"> - touchscreen - High-resolution, bright 12.4 inches TFT display - keyboard, mouse etc connectable - Internal memory for recording videos and pictures child-friendly export via USB - Powerful industrial PC with SSD hard drive - Expansion and sustainable system through software updates - 2 x USB 2.0, 1 x RJ45, 1 x Video IN, 1 x Video OUT
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Software - RiVision

The specially developed, innovative software RiVision allows you to create documentation on site and provides important monitoring functions for our inspection systems.

- ECapture software for videos and images
- Color data entry with touchscreen keypad
- Adaptable to your needs: selection of the desired fade-ins / position / colour and much more.
- Possible impressions: recording time, date and time, print carriage, camera pressure, company name, company logo, meter counter, pitch / roll, location, redation °, swivel °, street, from -> to
- Project and contact management
- Fixed text database
- Easy capture of observations
- Monitoring functions such as internal pressure, temperature, voltage etc. of the connected RIEZLER systems
- snapshot function
- Export the data to USB disk. The data export of the RiVision software is compatible with WinCan v8. Data can be easily imported into WinCan and further processed

Extension - RiVision Report

- Extended module for the RiVision software. Allows you to create inspection reports with country-specific claims catalogs. Free updates for the damage catalogs.

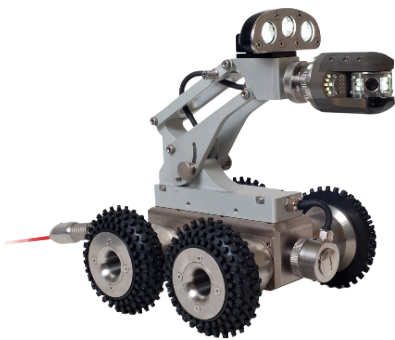
Vehicle FWL-100

Extended module for the RIVision software. Allows you to create inspection reports with country-specific claims catalogs. Free updates for the damage catalogs.



FWL-100 Vehicle

- Can be used from DN 100 - DN 600
- 45 ° bendable from DN 200
- Material: brass / stainless steel
- 2x BLDC motor à 30 W
- 6 driven wheels
- Pressure tight up to 1 bar
- Internal pressure monitoring
- Slope measurement longitudinal axis
- Slope measurement transverse axis
- Power Supply via Control Device
- Dimensions: L 240 x W 87 x H 78 mm
- Weight: 6.6 kg



Extension - RIVision Tilt

Documents the position and angle of inclination of the vehicle in the pipe.

Cable drums



<p>KTM-150 Manual Cable drum</p>	<ul style="list-style-type: none"> - stable slip ring cable drum - 50 - 150 meters extremely stable camera cable with Kevlar reinforcement, abrasion and acid resistant - precise length measurement by attached mechanical meter counter with incremental encoder - Weight: about 17 kg - Dimensions: L 450 x W 260 x H 480 mm
<p>KTA-250 Motor Cable drum</p>	<ul style="list-style-type: none"> - automatic cable management - Control unit integrated in cable drum - 150 - 250 meters extremely stable camera cable with kevlar reinforcement, abrasion resistance and acid-resistant - Vehicle synchronization or manual operation - infinitely adjustable traction - Meter counter with incremental encoder and outgoing roll - Weight: 32 kg (without cable) - Dimensions: L 880 x W 350 x H 480 mm

KANALKAMERA

PORTABLE KAMERAS

Micro Series

The drum selection depends on the size of the line to be inspected and how many inspections (applications) are to be made during the day. Whether you choose a drum for normal, semi-professional use or very heavy duty, you can be sure to always frame a system with the familiar and best RIDGID® quality.



nanoReel



microDrain



microReel

	nanoReel	microDrain	microDrain probe	microReel	microReel Counter
For normal usage					
Pipe Diameter	20-50 mm	30-75/100 mm*	30-75/100 mm*	40-1005/125 mm*	40-1005/125 mm*
90° Bends from	30 mm	40 mm	40 mm	50 mm	50 mm
Thrust Cable Length	25 m	10 m	20 m	30 m	30 m
Transmitter (512Hz)	Standard	-	Standard	Standard	Standard
Transmitter Performance	Low	-	Low	Middle	Middle
Meter counter	-	-	-	-	Standard

SeeSnake®



Compact



Mini



Standard



Self-leveling

	Compact	Mini	Standard	Self-leveling
	Semi-professional usage		Professional, very heavy duty	
Pipe diameter	40-150 mm	40-200 mm	50-300 mm	50-300 mm
90° bends from	50 mm	50 mm	75 mm	75 mm
Thrust cable length	30 m	30 m oder 61 m	61 m oder 99 m	61 m oder 99 m
Transmitter (512Hz)	Standard	Standard	Standard	Standard
Transmitter performance	High	High	High	High
Meter counter	Standard	Standard	Standard	Standard
Self-leveling head	-	optional	-	Standard

Works with every SeeSnake® Monitor

KANALKAMERA

RIDGID MONITORS

You can choose between monitors with or without digital recording and with a large or small screen. The micro CA-300 can also be connected to some drums. You can connect a recording device to monitors with a video output connection.



micro CA-300



MiniPak



CS10



CS1000



LT1000

	micro CA-300	MiniPak	CS10	CS1000	LT1000 Laptop Interface
Display size	3,5" LCD	5,7" LCD	12,1" LCD	12,1" LCD	Laptop Dependant
Resolution	320 x 240	320 x 240	640 x 480	640 x 480	Laptop Dependant
Recording	Digital	-	-	Digital	Laptop Dependant
Video Output *	Ja	Ja	Ja	Ja	Ja
Battery	3,7 V Li	18 V Li	1 oder 2 18 V Li	1 oder 2 18 V Li	1 oder 2 18 V Li
Battery life ca.	1,5 - 2 h	5 h	4,5 h (2 Batteries)	4 h (2 Batteries)	5 h (2 Batteries)
230 V Operation	Ja	Ja	Ja	Ja	Ja
Display Operational conditions	0 up to 45°C	-20 up to 70°C	-10 up to 50°C	-10 up to 50°C	Laptop Dependant
Inkl. SeeSnake® HQ Software	-	-	Ja	Ja	Ja
USB Connection	Ja	Ja	Ja	Ja	Ja
Keyboard incl.	-	-	-	Ja	-

Individually assembled or readily configured order. Talk to us, we will gladly submit an offer.



ABWASSER- UND KANALTECHNIK

RADIO DETECTION



RIDGID

ACCESSORIES



CANAL LOCATION

RD 7100 DL

The RD7100 offers the power of Radiodetection's most advanced tracking technologies - with each model individually optimized for a specific industry. Users benefit from intuitive styling with menu options and features tailored to their needs.



Super small Probe



Canal Probe



Ultra Probe



Super Probe

Title	Dimensions B x L	Frequency	max. Depth	Art.Nr.:
RD 7100 DL	-	-	-	1060101
Canal Probe 33KHz	39 x 105 mm	33 kHz	5 m	260003
Super Small Probe	18 x 82 mm	33 kHz	4 m	260004
Ultra Probe	64 x 168 mm	33 kHz	8 m	105336

NaviTrack Scout®

The NaviTrack Scout Locator is designed to enable the sophisticated location of transmitters (probes) through multidirectional localization technology.

Easy localization:

The NaviTrack Scout's multidirectional antenna technology "sees" the whole signal all the time. Just maximize the signal strength and you will find the target. No zeros or false highpoints which make the localization difficult.

Accuracy:

This locator checks the locating position through a micro-map display to mark different poles in front of and behind the target so that accurate localization is ensured.

The depth is automatically calculated and displayed above the target.



Title	Frequency	Weight	Power Supply	Art.Nr.:
NaviTrack Scout®	512 Hz, 640 Hz, 33 kHz	1,4 kg	4 C-cell Battery	1051220

NaviTrack II

SR 20



Title	Frequency	Weight	Power Supply	Art.Nr.:
NaviTrack II	15Hz, 512 Hz, 640 Hz, 874 kHz, 33 kHz			1051221
SR 20	all up to 35 kHz	1,8 kg	Integrated Battery	21943

Stepped Transmitter To push

Stepped Transmitter Floating



Title	Frequency	Weight	Power Supply	Art.Nr.:
Stepped Transmitter (To Push)	512 Hz	0,18 kg	AAA	16728
Stepped Transmitter (Floating)	512 Hz	0,27 kg	CR2032	19793

Metal Detector

MR-10

Quickly locate magnified items made of iron or steel, such as B. Valve / Shut-off Boxes, Manhole Covers, Cast Iron Pipes, Steel Casings, Well Pipes, Reinforced Sumps, Surveying Pivot.

The device with ergonomic, robust design comes with a carrying case and batteries. A high sensitive instrument with acoustic and visual feedback.

The auto zeroing feature eliminates interference from metal in the environment such as cars or chain-link fences.



Title	Display	Length	Weight	Power Supply	Art.Nr.:
NaviTrack Scout®	SW-LCD	100 cm	0,77 kg	6 x AA Batteries incl.	53068

Lug detector RD 312

The RD 312 is suitable for civil engineering and road construction companies, pipeline construction and water utilities. Also for gas suppliers, municipalities, industry and telecommunication companies. It is very easy to use.

Applications:

Locating pusher caps at a depth of up to 20 cm

Location of manhole cover at a depth of up to 40 cm



Title

RD 312

**max.
Depth**

up to 40 cm

Art.Nr.:

RD 312



ABWASSER- UND KANALTECHNIK

COMPLETE SETS



CONDUIT SNAKES



REEL & ACCESSORIES



CONDUIT SNAKES

RÖHRENSCHLANGEN

COMPLETE SETS & SINGLE PARTS

Conduit snakes with Glass Fiber Core 4,5 mm

4,5 mm fiberglass rod with polypropylene outer coating comes spooled on a vertical galvanised steel cage with reel Ø 330mm with starting/ending M5 threaded ends and starting spinner with pulling eyelet. Replacement rods are sold by the meter and available in all lengths!



Title	Description	Ø	m	Weight	Art.Nr.:
GVFO20SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	4,5 mm	20*	3,5 kg	15001
GVFO30SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	4,5 mm	30*	3,7 kg	15002
GVFO40SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	4,5 mm	40*	3,9 kg	15003
GVFO50SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	4,5 mm	50	4,2 kg	15004
GVFO60SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	4,5 mm	60	4,4 kg	15005
GVFO70SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	4,5 mm	70	4,6 kg	15006
GVFO80SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	4,5 mm	80	4,8 kg	15007
GVFOOGGR	Receiving Bulb M5 with Shackles for 4,5mm RS / Starting spinner M5 with shackle	23 mm	-	22 g	JZ-RFrom 201
GVFOOGRO	Receiving Bulb with Roll M5 for 4,5mm RS / Starting Roll with M5 thread	25 mm	-	23 g	JZ-RUS 198
GVFOR	Beginning end sleeve, M5 for 4,5mm RS / Starting Ending threaded end M5	6 mm	-	2 g	10201700

*Standard Length

Conduit snakes with Glass Fiber Core 6 mm

6 mm fiberglass rod with polypropylene outer coating comes spooled on a vertical galvanised steel cage with reel Ø 550mm with starting/ending M6 threaded ends and starting spinner with pulling eyelet. Replacement rods are sold by the meter and available in all lengths!



Title	Description	Ø	m	Weight	Art.Nr.:
GVSV30SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	6 mm	30*	7,2 kg	105008
GVSV40SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	6 mm	40*	7,8 kg	105009
GVSV50SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	6 mm	50*	8,3 kg	105010
GVSV60SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	6 mm	60*	8,9 kg	105011
GVSV70SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	6 mm	70	9,4 kg	105012
GVSV80SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	6 mm	80	4,8 kg	105013
GVSOGGR	Receiving Bulb M6 with Shackles for 6 mm RS / Starting spinner M6 with shackle	23 mm	-	19 g	JZ-RFrom 202
GVSOGRO	Receiving Bulb with Roll M6 for 6 mm RS / Starting Roll with M6 thread	25 mm	-	26 g	JZ-RVS 199
GVSR	Beginning end sleeve, M6 for 6 mm RS / Starting Ending threaded end M6	8 mm	-	12 g	S 806-9950
GVSG	Connecting sleeve for Retracting rodfor 6 mm RS / Coupling joint for rods	8 mm	-	13 g	S 806-9990

*Standard Length

RÖHRENSCHLANGEN

COMPLETE SETS & SINGLE PARTS

Conduit snakes with Glass Fiber Core 7,5 mm

7,5 mm fiberglass rod with polypropylene outer coating comes spooled on a vertical galvanised steel cage with reel Ø 630mm with starting/ending M12 threaded ends and starting spinner with schackle. Replacement rods are sold by the meter and available in all lengths!



Title	Description	Ø	m	Weight	Art.Nr.:
GVFI30SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	7,5 mm	30	7,5 kg	105014
GVFI40SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	7,5 mm	40*	8,1 kg	105015
GVFI50SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	7,5 mm	50*	8,8 kg	105016
GVFI60SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	7,5 mm	60*	9,4 kg	105017
GVFI70SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	7,5 mm	70*	10,0 kg	10501-1
GVFI80SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	7,5 mm	80	10,7 kg	105018
GVFI100SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	7,5 mm	100	11,9 kg	105019
GVM12OGGR	Receiving Bulb M12 with Shackles / Starting spinner M12 with schackle	50 mm	-	91 g	JZ-RFrom 203
GVM12OGRO	Receiving Bulb with Roll M12 / Starting Roll with M12 thread	50 mm	-	195 g	JZ-RVS 200
GVFIR	Beginning end sleeve, M12 / Starting Ending threaded end M12	11 mm	-	36 g	S 806-9750
GVFIG	Connecting sleeve for Retracting rod/ Coupling joint for rods	11 mm	-	33 g	S 807-9990

*Standard Length

Conduit snakes with Glass Fiber Core 9 mm

9 mm fiberglass rod with polypropylene outer coating comes spooled on a vertical galvanised steel cage with reel Ø 630mm with starting/ending M12 threaded ends and starting spinner with shackle. Replacement rods are sold by the meter and available in all lengths!



Title	Description	Ø	m	Weight	Art.Nr.:
GVST30SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	9 mm	30	8,4 kg	105020
GVST40SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	9 mm	40	9,3 kg	105021
GVST50SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	9 mm	50	10,2 kg	105022
GVST60SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	9 mm	60*	11,2 kg	105026
GVST70SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	9 mm	70*	12,1 kg	105027
GVST80SCC	Conduit snakes with Glass Fiber Core / Fiberglass Rod	9 mm	80*	13,0 kg	105028
GVM12OGGR	Receiving Bulb M12 with Shackles / Starting spinner M12 with schackle	35 mm	-	91 g	JZ-RFrom 203
GVM12OGRO	Receiving Bulb with Roll M12 / Starting Roll with M12 thread	50 mm	-	195 g	JZ-RVS 200
GVSTR	Beginning end sleeve, M12 / Starting Ending threaded end M12	12 mm	-	35 g	JZ-RAS 201
GVSTG	Connecting sleeve for Retracting rod/ Coupling joint for rods	12 mm	-	48 g	S 800-9990

*Standard Length

RÖHRENSCHLANGEN

COMPLETE SETS & SINGLE PARTS

Conduit snakes with Glass Fiber Core 11 mm mobile

11 mm fiberglass rod with polypropylene outer coating comes spooled on a wheeled vertical galvanised steel cage Ø 1000mm with starting/ending M12 threaded ends and starting spinner with shackle. Replacement rods are sold by the meter and available in all lengths!



Title	Description	Ø	m	Weight	Art.Nr.:
GVP100SCC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	11 mm	100*	35 kg	105032
GVP120SCC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	11 mm	120*	38kg	105033
GVP150SCC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	11 mm	150*	43 kg	105034
GVP200SCC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	11 mm	200*	50 kg	105035
GVP250SCC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	11 mm	250*	56,5 kg	105036
GVP300SCC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	11 mm	300*	65 kg	105037
GVP350SCC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	11 mm	350	72 kg	GUP350SCC
GVM120GGR	Receiving Bulb M12 with Shackles / Starting spinner M12 with schackle	35 mm	-	91 g	JZ-RFrom 203
GVM120GRO	Receiving Bulb with Roll M12 / Starting Roll with M12 thread	50 mm	-	195 g	JZ-RVS 200
GVPR	Beginning end sleeve, M12 / Starting Ending threaded end M12	14 mm	-	53 g	10201702
GVPG	Connecting sleeve for Retracting rod/ Coupling joint for rods	14 mm	-	68 g	S 801-990

*Standard Length

Conduit snakes with Glass Fiber Core 15 mm mobile

15 mm fiberglass rod with polypropylene outer coating comes spooled on a vertical galvanised steel cage with reel Ø 1500mm with starting/ending M12 threaded ends and starting spinner with shackle. Replacement rods are sold by the meter and available in all lengths!



Title	Description	Ø	m	Weight	Art.Nr.:
GVKI150SC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	15 mm	150	85 kg	105045
GVKI200SC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	15 mm	200	99 kg	105040
GVKI250SC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	15 mm	250*	113 kg	105041
GVKI300SC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	15 mm	300*	127 kg	105042
GVKI350SC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	15 mm	350*	141 kg	105043
GVKI400SC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	15 mm	400*	156 kg	105044
GVKI450SC	Conduit snakes rollbar with Glass Fiber Core / wheeled Fiberglass Rod	15 mm	450	170 kg	GVK/450SC
GVM120GGR	Receiving Bulb M12 with Shackles / Starting spinner M12 with schackle	35 mm	-	91 g	JZ-RAV 203
GVJ120GRO	Receiving Bulb with Roll M12 / Starting Roll with M12 thread	50 mm	-	195 g	JZ-RVS 200
GVKIR	Beginning end sleeve, M12 / Starting Ending threaded end M12	20 mm	-	128 g	S 815-9950
GVKIG	Connecting sleeve for Retracting rod/ Coupling joint for rods	20 mm	-	240 g	S 815-9990

*Standard Length

Glass Fiber Replacement Rods



Glass Fiber Replacements from 4,5 mm

Title	Description	Ø	m	Art.Nr.:
	Glass Fiber Replacement Rod / Spare Fiberglass rods	4,5 mm	30	105113.30
	Glass Fiber Replacement Rod / Spare Fiberglass rods	4,5 mm	40	105113.40
	Glass Fiber Replacement Rod / Spare Fiberglass rods	4,5 mm	50	105113.50
	Glass Fiber Replacement Rod / Spare Fiberglass rods	4,5 mm	60	105113.60
	Glass Fiber Replacement Rod / Spare Fiberglass rods	4,5 mm	70	105113.70
	Glass Fiber Replacement Rod / Spare Fiberglass rods	4,5 mm	80	105113.80

Glass Fiber Replacement Rod 6 mm

Title	Description	Ø	m	Art.Nr.:
GVSRIC30MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	6 mm	30	105114.30
GVSRIC40MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	6 mm	40	105114.40
GVSRIC50MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	6 mm	50	105114.50
GVSRIC60MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	6 mm	60	105114.60
GVSRIC70MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	6 mm	70	105114.70
GVSRIC80MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	6 mm	80	105114.80

Glass Fiber Replacement Rod 7,5 mm

Title	Description	Ø	m	Art.Nr.:
GVFIRIC30MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	7,5 mm	30	105115.30
GVFIRIC40MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	7,5 mm	40	105115.40
GVFIRIC50MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	7,5 mm	50	105115.50
GVFIRIC60MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	7,5 mm	60	105115.60
GVFIRIC70MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	7,5 mm	70	105115.70
GVFIRIC80MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	7,5 mm	80	105115.80
GVFIRIC100MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	7,5 mm	100	105115.100

Glass Fiber Replacement Rods



Glass Fiber Replacement Rod 9 mm

Title	Description	Ø	m	Art.Nr.:
GVSTRIC30MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	30	105116.30
GVSTRIC40MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	40	105116.40
GVSTRIC50MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	50	105116.50
GVSTRIC60MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	60	105116.60
GVSTRIC70MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	70	105116.70
GVSTRIC80MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	80	105116.80
GVSTRIC100MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	100	105116.100
GVSTRIC120MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	120	105116.120
GVSTRIC150MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	150	105116.150
GVSTRIC200MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	9 mm	200	105116.200

Glass Fiber Replacement Rod 11 mm

Title	Description	Ø	m	Art.Nr.:
GVPRIC100MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	11 mm	100	105117.100
GVPRIC120MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	11 mm	120	105117.120
GVPRIC150MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	11 mm	150	105117.150
GVPRIC200MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	11 mm	200	105117.200
GVPRIC250MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	11 mm	250	105117.250
GVPRIC300MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	11 mm	300	105117.300
GVPRIC350MB	Glass Fiber Replacement Rod / Spare Fiberglass rods	11 mm	350	105117.350

Glass Fiber Replacement Rod 15 mm

Title	Description	Ø	m	Art.Nr.:
GVKIRIC150SC	Glass Fiber Replacement Rod / Spare Fiberglass rods	15 mm	150	105118.150
GVKIRIC200SC	Glass Fiber Replacement Rod / Spare Fiberglass rods	15 mm	200	105118.200
GVKIRIC250SC	Glass Fiber Replacement Rod / Spare Fiberglass rods	15 mm	250	105118.250
GVKIRIC300SC	Glass Fiber Replacement Rod / Spare Fiberglass rods	15 mm	300	105118.300
GVKIRIC350SC	Glass Fiber Replacement Rod / Spare Fiberglass rods	15 mm	350	105118.350
GVKIRIC400SC	Glass Fiber Replacement Rod / Spare Fiberglass rods	15 mm	400	105118.400
GVKIRIC450SC	Glass Fiber Replacement Rod / Spare Fiberglass rods	15 mm	450	105118.450



ABWASSER- UND KANALTECHNIK

WARNING DEVICE



EVACUATION DEVICES



VENTILATION TECH



WORKPLACE SAFETY



SAFETY TECHNOLOGY

GasAlertMicro 5 IR Honeywell

Extended gas warning device - BW Micro 5:

This portable gas detector protects against up to five potentially dangerous gases, including oxygen, as well as flammable and toxic gases, it is unsurpassed in its versatility.

- Monitors H₂S, CO, O₂, SO₂, PH₃, Cl₂, NH₃, NO₂, HCN, ClO₂, O₃ and flammable gases
- Integrated shockproof protective cover depending on equipment
- Triple alarms (audible, visual and vibration alarms)
- Dimensions: 5.7 "x 2.9" x 1.5 " / 14.5cm x 7.4cm x 3.8cm
- Weight: 13.1 oz / 370 g
- Pump: Optional; Sampling from up to 20 m depth
- Lithium ion battery



GasAlertMicro 5



GA-BM5-1/GA-BM5-2



M5-PUMP

Impact Pro	Gas warning devices	
Protection Classes	EMC / RFI: Meets EMC Directive 89/336 / EEC IP 65/66	
Operating Temperature	-20 °C up to +50 °C	
Alarms	optical, haptic, acoustic (95 dB) Low (A1), High (A2), STEL, AGW, OL (Over limit)	
Licenses	SA: FromS: ATEX: IECEX: CE:	Class I, Div. 1, Gr. A, B, C, D American Bureau of Shipping - model for poisonous gases & PID CE II 1G GA Ex ia IIC T4 CE II 2 G - only IR-Modell Ex d ia IIC T4 Ga Ex ia IIC T4* Ex d ia IIC T4* - only IR-Modell European Conformity

Oxy K 30/50 S

An Oxy K escape device should not be missing at any point, with suddenly occurring, toxic gases and / or lack of oxygen is to be expected. When the Oxy K 30/50 S is stored, it does not require upkeep and service for ten years. The device is approved according to DIN EN 13794 and can be used up to temperature class 4.



Title	Description	possible usage time	Art.Nr.:
Oxy K 30/50 S	Evacuation Device	30 - 50 min	6303000

Oxy 3000

Robust and always under control: Oxy 3000 and 6000 oxygen self-sustaining carriers withstand even the toughest conditions. The new product concept reliably protects the inner functional unit from damage. Additional safety is provided by the Safety-Eye: Through the inspection window you can see in seconds whether the device is functional.



Title	Description	possible usage time	Art.Nr.:
Oxy 3000	Evacuation Device	30 - 60 min	6303000-1

MSA Auer SSR 30/100

SSR 30/100 is airtight and packed in a stainless steel container and can be carried on a belt. It is created in a few seconds and ensures the oxygen supply depending on demand. By simulating the weight and other properties of the right equipment, the TR device allows quick and economical training to set up and use.



Title	Description	Art.Nr.:
SSR 30/100	Evacuation Device	1123-701

Aluminium Tripod



The tripods are specially designed for mobile use with the H-HRA lifeline safety device. They are easy to set up, have no loose parts and are constructed and assembled in minutes. Benefits are the individual variable length of legs to compensate for bumps. With the Rolls Tripod H-DB-AR, the steerable roll is automatically braked in the two end positions of the shunting rod.

H-DB-A1:

Size telescopic: 153 up to 248 cm
Transport length: 164 cm

H-DB-A1 short:

Size telescopic: 120 up to 186 cm
Transport Length: 128 cm

Title	Class	Persons	Application	Weight	Art.Nr.:
H-DB-A1	EN 795:1996/Class B	for 2 Persons	With all H-HRA up to 42 m	19 kg	41/53

Fall safety device



Fall safety device with internal fall dampening

- EN 360, EN 1496, ANSI / ASSE Z359.1-2007, ANSI / ASSE Z359.14-2012, CSAZ259.2.2
- Aluminum housing with galvanized steel cable as connecting means
- Hanger suspension
- Standard connector IKV 21 (EN 360) IKV 33 (ANSI, CSA), other snap hooks available at extra cost
- Rescue lifting device with integrated fall-dampening function according to EN 1496
- Alternatively also available with reel chain operation

Title	Connecting medium	Weight	Art.Nr.:
Fall safety device	12 m	7,0 kg	41-HRA 12
Fall safety device	18 m	11,5 kg	41-HRA 18
Fall safety device	24 m	16,0 kg	41-HRA 24
Fall safety device	30 m	21,0 kg	41-HRA 30

Bracket Fall safety device



Bracket H-HRA for fastening on H-DB-A1 Tripod

Title	Weight	Art.Nr.:
Bracket	1,8 kg	41-54 9,5-30

Guide Rolls

Guide Rolls for tripods with light running guide golls for steel rope up to 6 mm



Title	Weight	Art.Nr.:
Guide Rolls	1,1 kg	41-Z 20

Cargo winch and bracket

Cargo winch

- Winch
- With galvanized steel rope 6 mm

Bracket cargo winch for Tripod

- For securing on the Tripod



Title	Weight	Art.Nr.:
Cargo winch H901	1,0 kg	41/Z7
Bracket cargo winch	7,0 kg	41-54/DWS

Safety Harness

Safety harness with quick-release buckles

- EN 361: 2002, EN 1497: 2007
- 1 rescue and collection loop
- 1 eyelet in the back (shoulder area)
- Easy and versatile size adjustment through individually adjustable leg and shoulder straps
- Quick on and off by quick fasteners, increases the motivation of the worker to put on the belt
- Rated load: 136 kg



Title	Weight	Art.Nr.:
H G1 BR	1,65	45-IK G1BR

Warning vest with harness / Entry vest

Warning Vest:

Warning Vest with integrated harness tested to DIN EN 361 and EN 471

Entry-West (Delivery Time 4-12 Weeks):

Rescue harness with V-band, specially developed for canal works



Warning



Entry-West Vorderseite



Entry-West Rückseite

Title	Norm	authorized up to	Size	Equipment	Art.Nr.:
Warning Vest	EN 361, 471	136 kg	44-54 / 56-62 / 64-70	Adjustable shoulder and leg straps	11076

Rescue Devices H-R300 ES

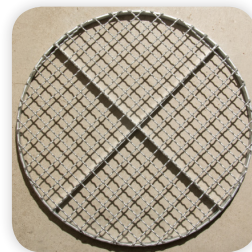
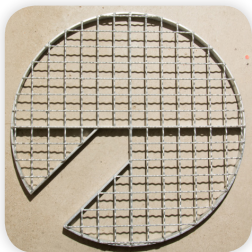


Abseil & Rescue Devices R300 ES / Entry with a reduction of 3: 1

The Swiss Rescue R300 according to DIN EN 341 is a Universal Abseiling and Rescue Device for securing and rescuing persons from heights and depths. In conjunction with our rescue chair and an additional backup, the Swiss Rescue R300 is also authorized as a working device.

Title	Material	Max. Abseil weight	Max. Abseil Length	Weight	Art.Nr.:
H-R300 ES	Aluminium	250 kg	150 m	1,9 kg	1000212

Manhole cover



Title	Ø Outside	Carrying weight up to	Weight	Art.Nr.:
Manhole cover, Closed, galvanised	65,5 cm	100 kg	8 kg	RO-AG/01
Manhole cover with Cut-out, galvanised	65,5 cm	100 kg	8 kg	RO-AG/02

Traffic cones / folding signals / warning beacons

Traffic Cone: Equipped with a reinforced stand these traffic cones are for use on public roads according to StVO authorization. For use on state and federal highways as well as in inner city areas, the traffic cone is intended to be 500 mm. On highways the traffic cone is 750 mm

Folding Signal: With signals covered in different types. To protect your work on highways, folding signals with a side length of 900 mm are required. On federal and rural roads and in the inner city area, a leg length of 700 mm is required.



Title	Dimensions	Colour	Type	Weight	Art.Nr.:
Traffic Cone 500 mm	H 500 mm	signal Red / white Full Reflective	TL - Traffic Cone Class III, Type A	2,5 kg	71110-5
Traffic Cone 750 mm	H 750 mm	signal Red / white Full Reflective	TL - Traffic Cone Class III, Type A	5 kg	530055
Title	Dimensions	Colour	Print	Art.Nr.:	
Folding Signal	B 700 mm	Red / white / Black (Writing)	Canal Work		560505
Folding Signal	B 900 mm	Red / white / Black (Writing)	Canal Work		560506
Folding Signal	B 700 mm	Red / white / Black (Writing)	Canal Sanitation		560510
Folding Signal	B 900 mm	Red / white / Black (Writing)	Canal Sanitation		560525
Folding Signal	B 700 mm	Red / white / Black (Writing)	TV-Test		560515
Folding Signal	B 700 mm	Red / white / Black (Writing)	Builder Pictogram		560507
Folding Signal	B 900 mm	Red / white / Black (Writing)	Builder Pictogram		560506.1

Hose Bridges



Our hose bridges are durable and sturdy. Their use can be found in the fire department, sewer engineering, industry and events.

Title	Material	for hoses up to
Hose Bridges 3 1/2" two canals	Gummy	3 1/2"
Hose Bridges 3 1/2" two canals, foldable	Gummy	3 1/2"
Hose Bridges 4" two canals, foldable	Gummy	4"

Industrial Fans AXIAL 8" 220 V

Trim for dome canister and 8 "ventilation. Polyethylene housing. 3 m cable.
 Power 1335 m³/h with Ventilation 4,60m und 90° Arc
 Power 1123 m³/h with Ventilation 4,60m und 2x90° Arc



Title	Power Supply	Weight	Power	License
H-CVF-8AC50	220 V AC / 50 Hz	6,8 kg	0,3 PS / 1654 m ³ /h	EU: CE / USA: CSA

Industrial Fans AXIAL 8" 12 V

Trim for dome canister and 8 "ventilation. Polyethylene housing. 3 m cable with battery terminals.
 Power 1192 m³/h with Ventilation 4,60m und 90° Arc
 Power 1002 m³/h with Ventilation 4,60m und 2x90° Arc



Title	Power Supply	Weight	Power	License
H-CVF-8DC	12 V DC	6,8 kg	0,25 PS / 1440 m ³ /h	EU: CE / USA: CSA

Industrial Fans AXIAL 8" SET's



Title / Description
Axial 8" + Canister m. 4,6m Ventilation (CVF-15ACAN)
Axial 8" + Canister m. 7,6m Ventilation (CVF-25ACAN)
Axial 8" + Canister m. 4,6m Ventilation + Saddle Vent (CVF8A15Kit)

Partially protected AXIAL 8" ATEX Explosion Protection

Nozzle for dome canister, polyethylene housing. 3m cable. Integrated on-off switch, without plug
 Power 1335 m³/h with Ventilation 4,60m und 90° Arc
 Power 1123 m³/h with Ventilation 4,60m und 2x90° Arc
 Licenses EU: ATEX II 2 G Ex d IIB T6 Gb, -20°C Ta 40°C
 Licenses: USA UL/CSA Approved Explosion-Proof for Class I, Groups C and D, Class II, Groups E,F, and G environments



Title	Power Supply	Weight	Power
CVF-8X	220 V AC / 50 Hz / 60 Hz	8,6 kg	0,3 PS / 1654 m ³ /h

Partially protected AXIAL 8" SET's



Title / Description

Partially protected Axial Fan 8" + Canister m. 4,6m Ventilation ATEX Kit 4,6m (CVF-15CANX)

Partially protected Axial Fan 8" + Canister m. 7,6m Ventilation ATEX Kit 7,6m (CVF-25CANX)

Partially protected Axial Fan 8" + Canister m. 4,6m Ventilation + Saddle Vent ATEX Kit SV 4,6m (CVF-X15KIT)

Partially protected Axial Fan 8" + Canister m. 7,6m Ventilation + Saddle Vent ATEX Kit SV 7,6m (CVF-X25KIT)

H-MWM 150 E and H-MWM 200 E ex

The H-MWM 150 E is our ultra-compact entry-level model of the centrifugal fan series. The folded aluminum housing guarantees highest stability at low weight. On-off switch on the device, suction and pressure protective grille, carrying handle, rubber buffer.

The centrifugal fan 200 E ex MWM series with AC motor and operational capacitor is the device of your choice in connection with a small generator or in operation on domestic electricity network. The explosion protection complies with EN 14986 and allows use in Zones 1 and 2. ATEX 94/9 / EC-authorized, motor protection switch, 2-pin rubber connector, connection cable 10 m long, protective grille on the suction and pressure side, carrying frame.

Technical Data	H-MWM 150 E	H-MWM 200 E ex
Power according to DIN 24163	1.000 m3/h	2.000 m3/h
Total Pressure increase:	300 Pa (10 m Hose)	850 Pa (35 m Hose)
Nominal voltage:	230 V, 50 Hz	230 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	0,37 kW	0,75 kW
Nominal Revolutions:	2.850 1/min	2.850 1/min
Fuse:	10 A	10 A
Dimensions LxBxH:	532x438x542 mm	610x600x550
Hose Connection:	Ø 150 mm	Ø 200 mm
Weight:	20 kg	36 kg



H-MWM 150 E



H-MWM 200 E ex

H-MWM 200 E and H-MWM 300 E

The MWM with its AC motor and operating capacitor centrifugal fan is the device of choice in conjunction with a small generator set or when operating on the domestic grid. 2-pin rubber connector, connection cable 10 m long, rotary switch on-off, on-off switch on the device, protective grille on the suction and pressure side, carrying frame.

The H-MWM centrifugal fan with AC motor and operational capacitor is the device of your choice in conjunction with a small generator or in operation on a household electricity network. Rubber plug 2-pole, connection cable 10 m long, rotary switch on-off, protective grille on the suction and pressure side, carrying frame.

Technical Data	H-MWM 200 E	H-MWM 300 E
Power nach DIN 24163	2.000 m3/h	2.400 m3/h
Total Pressure increase:	850 Pa (35 m Hose)	750 Pa (35 m Hose)
Nominal voltage:	230 V, 50 Hz	230 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	0,75 kW	0,75 kW
Nominal Revolutions:	2.850 1/min	2.850 1/min
Fuse:	10 A	10 A
Dimensions LxBxH:	610x600x550 mm	610x600x550 mm
Hose Connection:	Ø 200 mm	Ø 300 mm
Weight:	28 kg	28 kg
Art.Nr.:	302079	302069



H-MWM 200 E



H-MWM 300 E ex

H-MWM 300 E ex and H-MWM 300 D



H-MWM 300 E ex



H-MWM 300 D

The MWM with AC motor and operating capacitor centrifugal fan is the device of your choice in conjunction with a small generator set or when operating on a household electricity network. The explosion protection complies with EN 14986 and allows use in Zones 1 and 2. ATEX 94/9 / EC-authorized, motor protection switch, 2-pin rubber connector, connection cable 10 m long, protective grille on the suction and pressure side, carrying frame.

The MWM three-phase AC centrifugal fan offers even more power than the MWM 200 or 300 E ex. The explosion protection complies with EN 14986 and allows use in Zones 1 and 2. Thus, the 5-pin CE plug is also partially protected here. ATEX 94/9 / EC-authorized, flameproof motor protection switch, connection cable 10 m long, protective grille on the suction and pressure side, carrying frame.

Technical Data	H-MWM 300 E ex	H-MWM 300 D
Power nach DIN 24163	2.400 m ³ /h	3.000 m ³ /h
Total Pressure increase:	750 Pa (35 m Hose)	800 Pa (35 m Hose)
Nominal voltage:	230 V, 50 Hz	400 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	0,75 kW	1,1 kW
Nominal Revolutions:	2.850 1/min	2.850 1/min
Fuse:	10 A	10 A
Dimensions LxBxH:	610x600x550 mm	610x565x580
Hose Connection:	Ø 300 mm	Ø 400 mm
Weight:	36 kg	
Art.Nr.:	302156	302030

H-MWM 300 H-MWM 400 D ex



H-MWM 300 B



H-MWM 400 D ex

The centrifugal fan 300 B of the H-MWM with its petrol engine series offers the highest degree of independence in terms of energy supply. Manual starter, revolution limiter and anti-interference plug, aluminum construction, protective grille on the suction and pressure side, carrying handles and vibration dampers.

The Type H-MWM 400 D ex with three-phase motor is a powerful standard fan among portable devices. The explosion protection complies with EN 14986 and allows use in Zones 1 and 2. Thus, the 5-pin CE plug is also partially protected here. Flameproof motor protection switch, connection cable 10 m long, protective grille on the suction and pressure side, carrying frame.

Technical Data	H-MWM 300 B	H-MWM 400 D ex
Power nach DIN 24163	3.600 m ³ /h	6.000 m ³ /h
Motor:	4-Tact, Briggs & Stratton	
Total Pressure increase:	1000 Pa (35 m Hose)	700 Pa (35 m Hose)
Nominal voltage:	230 V, 50 Hz	3 x 400 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	3,6 PS	2,5 kW; 4,9 A
Nominal Revolutions:	3.600 1/min	2.850 1/min
Fuse:	-	16 A
Dimensions LxBxH:	610 x 600 x 640 mm	660 x 810 x 860 mm
Hose Connection:	Ø 300 mm	Ø 400 mm
Weight:	30 kg	50 kg
Art.Nr.:	302050	302010

H-MWM 400 B and H-MWM 500 D ex

The centrifugal fan 400 B of the H-MWM with its petrol engine series offers the highest degree of independence in terms of energy supply. Maintenance-free, manual starter, revolution delimiter and anti-interference plug, aluminum construction, protective grille on the suction and pressure side, carrying handles, vibration damper.

The Type H-MWM 500D ex with three-phase motor is our most powerful centrifugal fan among portable devices. An attached chassis makes handling easier in use. The explosion protection complies with EN 14986 and allows use in zones 1 and 2. Thus, the plug is also partially protected here. Maintenance-free, ATEX 94/9 / EC-authorized, flameproof motor protection switch. Connection cable 10 m long, grille suction and pressure side, wheels.

Technical Data	H-MWM 400 B	H-MWM 500 D ex
Power nach DIN 24163	6.000 m ³ /h	10.000 m ³ /h
Total Pressure increase:	1000 Pa (10 m Hose)	650 Pa (35 m Hose)
Motor:	4-Tact, Briggs & Stratton	
Nominal voltage:	230 V, 50 Hz	230 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	4 PS	4 kW; 7,5 A
Nominal Revolutions:	3.600 1/min	2.920 1/min
Fuse:	-	16 A
Dimensions LxBxH:	860 x 660 x 810 mm	945 x 740 x 755
Hose Connection:	Ø 400 mm	Ø 500 mm
Weight:	51 kg	65 kg
Art.Nr.:	302020	302022



H-MWM 400 B



H-MWM 500 D ex

H-VL 400 D ex and H-VL 500 D ex

The axial fans of the VL series are the ideal device for higher pressure requirements, such as when connecting several hoses. The explosion protection complies with EN 14986 and allows use in zones 1 and 2. Thus, the plug is also partially protected.

Maintenance-free, ATEX 94/9 / EC-authorized. Flameproof motor protection switch, connection cable 10 m long, protective grille on the suction and pressure side, carrying frame. Complies with DIN 14555.

Technical Data	H-VL 400 D ex	H-VL 500 D ex
Power nach DIN 24163	6.000 m ³ /h	10.000 m ³ /h
Total Pressure increase:	800 Pa (35 m Hose)	800 Pa (35 m Hose)
Nominal voltage:	3 x 400 V, 50 Hz	3 x 400 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	2,5 kW; 4,9 A	2,5 kW; 4,9 A
Nominal Revolutions:	2.850 1/min	2.850 1/min
Fuse:	16 A idle	16 A idle
Dimensions LxBxH:	472 x 400 x 655 mm	472 x 400 x 655 mm
Hose Connection:	Ø 400 mm	Ø 500 mm
Weight:	52 kg	30 kg
Art.Nr.:	301911	302000



H-VL 400 D ex



H-VL 500 D ex

H-VM 315 E ex and H-VM 400 E



H-VM 315 E ex



H-VM 400 E

The axial fan VM 315 ex with AC motor and operating capacitor is unbeatable in limited space. The explosion protection complies with EN 14986 and allows use in zones 1 and 2. Maintenance-free, ATEX 94/9 / EC-authorized, rubber plug, 2-pin, connection cable 10 m long, protective grille on the suction and pressure side, carrying frame.

Handy axial fan H-VM 400 E with AC motor and operating capacitor for classic overpressure ventilation. Optimum power through sophisticated fluidic details. Easy shifting thanks to solid transport wheels. Durable metal construction made of aluminum and steel. Maintenance-free, air jet wide adjustable. Gummy plug, 2-pin, connection cable 10 m long, rotary switch on-off, protective grille on suction and pressure side.

Technical Data	H-VM 315 E ex	H-VM 400 E
Power nach DIN 24163	2.200 m3/h	8.000 m3/h
Power nach AMCA 240:	-	29.000 m3/h
Total Pressure increase:	300 Pa (10 m Hose)	-
Nominal voltage:	230 V, 50 Hz	230 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	0,75 kW	1,1 kW
Nominal Revolutions:	2850 1/min	2870 1/min
Fuse:	10 A	16 A idle
Dimensions LxBxH:	408 x 340 x 355 mm	400 x 542 x 623 mm
Hose Connection:	Ø 200 mm	-
Weight:	23 kg	32 kg
Art.Nr.:	301906	301908

H-VM 400 D ex and H-VM 600 D



H-VM 400 D ex



H-VM 600 D ex

The H-VM 400 D ex is the partially protected variant of the VM 400 E. Authorized for Zones 1 and 2. Easily move Middles solid transport wheels. Durable metal construction made of aluminum and steel. Maintenance-free and widely adjustable air jet. Flameproof motor protection switch, connection cable 10 m long, protective grille on suction and pressure side.

Axial fan H-VM 600 D for classic overpressure ventilation in firefighting applications. Easy shifting thanks to solid transport wheels. Durable metal construction made of aluminum and steel. Maintenance-free and widely adjustable air jet. It is the first overpressure fan made in Germany. CEKON plug, 5-pin, connection cable 10 m long, protective grille on the suction and pressure side.

Technical Data	H-VM 400 D ex	H-VM 600 D
Power nach DIN 24163	9.000 m3/h	14.000 m3/h
Power nach AMCA 240:	29.000 m3/h	40.000 m3/h
Nominal voltage:	3 x 400 V	3 x 400 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	1,3 kW	2,5 kW
Nominal Revolutions:	2.870 1/min	2.870 1/min
Fuse:	16 A idle	16 A idle
Dimensions LxBxH:	400 x 542 x 623 mm	619 x 700 x 910 mm
Weight:	32 kg	50 kg
Art.Nr.:	301911	301910

H-VM 600 E and H-VM 600 D ex

Axial fan H-VM 600 E for classic overpressure ventilation in firefighting applications. Easy shifting thanks to solid transport wheels. Durable metal construction made of aluminum and steel. The stable support frame can be placed directly on open manholes, no diffuser is necessary! Maintenance-free, air jet wide adjustable. Gummy plug, 2-pin, with 10 m connection cable, on-off rotary switch, protective grille suction and pressure side.

Partially protected fan H-VM 600 D ex for ventilation in zone 1 and zone 2. Easy to move thanks to solid transport wheels. Durable metal construction made of aluminum and steel. The stable support frame can be placed directly on open manholes, no diffuser is necessary! Maintenance-free, air jet wide adjustable. It is the first overpressure fan made in Germany, ATEX 94/9 / EC-authorized. Partially protected CE connector, 5-pin, flameproof motor protection switch, connection cable 10 m long, protective grille suction and pressure side



H-VM 600 E



H-VM 600 D ex

Technical Data	H-VM 600 E	H-VM 600 D ex
Power nach DIN 24163	6.000 m ³ /h	10.000 m ³ /h
Total Pressure increase:	1000 Pa (10 m Hose)	650 Pa (35 m Hose)
Motor:	4-Tact, Briggs & Stratton	
Nominal voltage:	230 V, 50 Hz	3 x 400 V, 50 Hz
Protection Type:	IP55	IP55
Nominal Power:	4 PS	4 kW; 7,5 A
Nominal Revolutions:	3.600 1/min	2.920 1/min
Fuse:	-	16 A
Dimensions LxBxH:	860 x 660 x 810 mm	945 x 740 x 755
Hose Connection:	Ø 400 mm	Ø 500 mm
Weight:	51 kg	65 kg
Art.Nr.:	301080/W	301907

Suction Hose

Wear-resistant hoses made of flexible plastic film with fabric inlay and steel wire spiral. The hoses are provided with end rings on both sides. They can be used for the suction side as well as the pressure side operation. For use in hazardous areas, the material is electrically conductive. For easier transport, the hoses are collapsible. The adjacent standard lengths are also available in other lengths on request.



Title	Diameter x Length	Weight	Art.Nr.:
Suction Hose	150 mm x 5 m	4 kg	302220
Suction Hose	200 mm x 7,5 m	8 kg	302300
Suction Hose	300 mm x 7,5 m	11 kg	302185
Suction Hose	400 mm x 5 m	11 kg	301934
Suction Hose	400 mm x 7,5 m	13 kg	301941
Suction Hose	500 mm x 5 m	12 kg	301807
Suction Hose	500 mm x 7,5 m	20 kg	301817

Pressure Hose



Tubes made of single-layer plastic-coated fabric with whipped end rings. These hoses can only be used for pressure side operation. They are also electrically conductive. The adjacent standard lengths are also available in other lengths on request.

Title	Diameter x Length	Weight	Art.Nr.:
Pressure Hose	150 mm x 5 m	5 kg	302221
Pressure Hose	200 mm x 20 m	9,5 kg	302280
Pressure Hose	300 mm x 20 m	13 kg	302166
Pressure Hose	400 mm x 10 m	9,5 kg	301915
Pressure Hose	400 mm x 20 m	18 kg	301924
Pressure Hose	500 mm x 10 m	21,5 kg	301787
Pressure Hose	500 mm x 20 m	22 kg	301797

Clamp



Quick connection clamps for attaching the hoses to the fan. They also serve to connect two hose ends. Sturdy plastic clamps with multi-stage wire tensioner made of galvanized sheet metal. Available for all hose diameters.

Title	Diameter x Length	Weight	Art.Nr.:
Clamp	150 mm	0,8 kg	302222
Clamp	200 mm	1 kg	302319
Clamp	300 mm	1 kg	302195
Clamp	320 mm	1 kg	301909
Clamp	400 mm	1 kg	302021
Clamp	500 mm	1 kg	301895

Lightings Unit

Mini-Cube™

Lightweight lighting unit for outdoor use with 16 up to 30+ hours runtime. Mast height 66 - 244 cm. Thanks to its built-in 33 amp lead-acid battery, made in "Absorbent Glass Mat" (AGM) construction, and the particularly energy-efficient LED lights, the ACCU-CUBE is a high-transport-light source with extended running time for illuminating the working area. Due to the possibility of permanent discharge and power delivery via the built-in 12V connection, it is always ready for use and offers a theoretically unlimited lighting duration with existing 12V power supply. Its particularly stable design and high-quality components not only allow use in all weather conditions, but also the safe transport in aircraft according to the relevant regulations.

Properties:

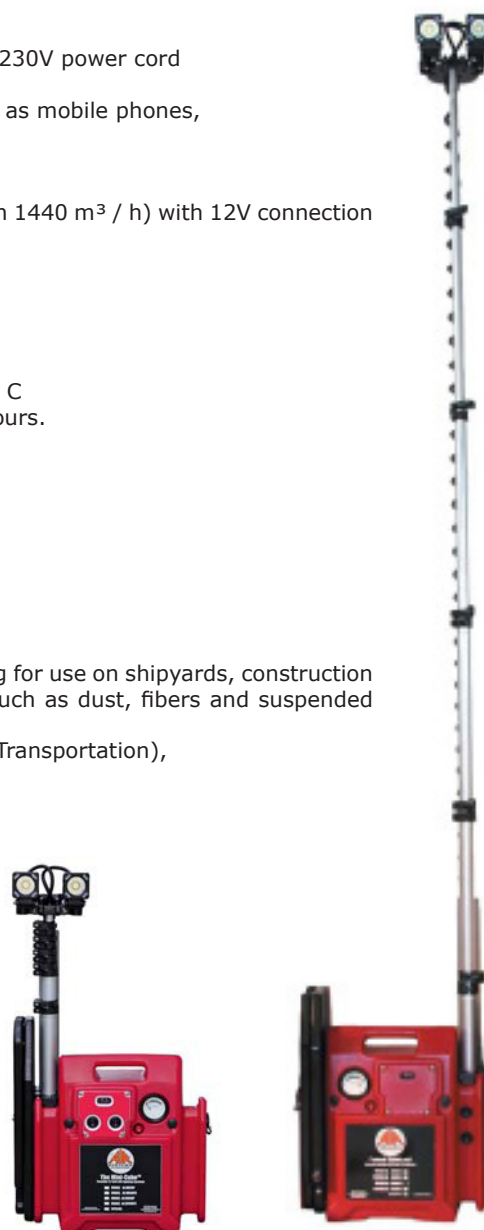
- Splashproof - can be used in wet and dusty environments!
- Retractable aluminum mast with locking cams and spiral cable
- Can be powered by both the built-in battery and external 12V DC power outlet or 230V power cord
- The test button can be used to check the voltage on the voltmeter in the front
- 12V DC socket for fast charging on the cigarette lighter and / or 12V devices such as mobile phones,
- GPS devices or hand lamps to charge or operate
- Independently Alignable Lamps (Dual Cube)
- Two foldable feet provide stability even on uneven ground
- Optional external flashlight (800 lumens) or ventilation unit Axial 8 "(CVF-8DC) with 1440 m³ / h) with 12V connection available.

Internal battery:

- 12V DC, 33 Ah, lead acid battery, sealed
- Built-in 110-240V AC, 50Hz / 60Hz charger with 3A, UL certified
- Operating and storage temperature certainly possible between -40 ° C and + 60 ° C
- Two LED Cubes with 1600 lumens total, 20W and full charge, running time 16+ hours.
- Push button with voltage indicator on the front
- Permanent charge maintenance recommended when not in use
- Built for 500+ charge cycles
- Charging on a complete empty battery approx. 24h
- One year warranty on battery and charger
- 16 kg weight

Licenses:

- Weatherproof housing according to NEMA, type 3 against rain, snow, sleet, sleet (eg for use on shipyards, construction sites, tunnels, roads and subways) and against the intrusion of foreign objects such as dust, fibers and suspended matter.
- Battery authorized to FAA (Federal Aviation Administration), DOT (Department of Transportation),
- CAB (Civil Aeronautics Board) and IATA (International Air Transport Association).
- Complies with RoHS, 2002/95 / EC.



Title	Power Supply	Weight	Power
ACCU-CUBE	12V DC, 33 Ah Bleiakku	16 kg	4000 Lumen
			4000 Lumen
			7000 Lumen
			8000 Lumen



ABWASSER- UND KANALTECHNIK

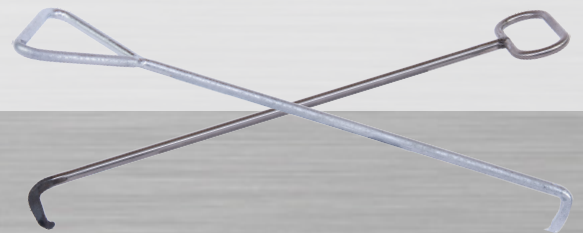
FOG SIMULATOR



COVER LIFTER



SHAFT HOOKS



ACCESSORIES



CANAL ACCESSORIES

Fog and Smoke Simulator

"Fog-Smoker 2F" is a compact and powerful fogger with integrated blower. It is suitable for professional use in the inspection of pipelines as well as from water or tank systems for leaks and incorrect connections. However, it is also helpful in the search for cavities, sub-excavation in dam and dike structures.

Another use of the device is fire simulation in case of emergency exercises and training sessions by the fire department, as well as the investigation of the smoke distribution in facilities and buildings.

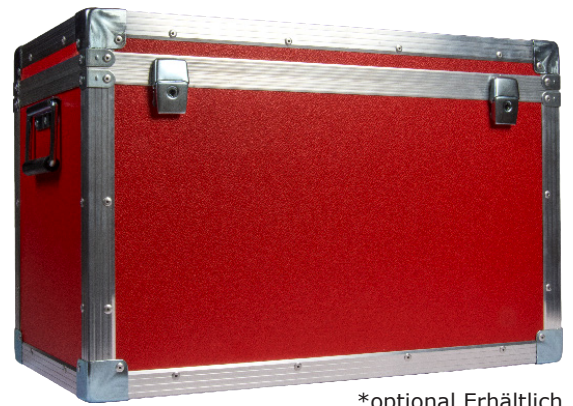
Blower adjustable in 10 steps; Adjustable fog amount

Main Equipment in the set include:

- A telescopic pole up to 6 m in length
- 7.5 m PVC pants DN50 with C-Coupling, flexible and spiral reinforced
- 5 liters of fog liquid



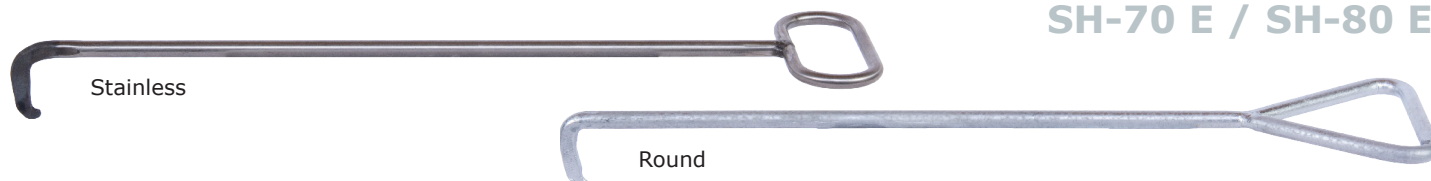
*optional Erhältlich



*optional Erhältlich

Title	Art.Nr.:
Set Fog Device (Fogger, 5l Fog fluid, 6m Telescopic rod, 7,5m DN50 Hose)	12015003
Portable Fog Device	12015003.1
Transport case for Fog Device	12015002
Fog fluid "Slow-Fog" (in 5 Liter container)	12015004
Telescopic rod 6 m length with clamp	12015008
7,5 m spiral reinforced PVC-Hose DN 50, complete with coupling	12015007
7,5 m Extension Hose with 2 C-Coupling	12015005
15,0 m Extension Hose with 2 C-Coupling	12015006
Cable Remote Control for "fog-smoker 2F" - 10 m long (for controlling the Air-Fog amount)	2004307

Canal-Shaft Hook SH-70 E / SH-80 E



Title	Length	Size round hook	Finish	Art.Nr.:
Shaft Hook-70 E	700 mm	14 mm	Hand forged, hardened stainless steel, hook angular execution	SH-70 VA
Shaft Hook-80 E	800 mm	14 mm	Hand forged, hardened stainless steel, hook angular execution	SH-80 VA
Shaft Hook-80 R	850 mm	14 mm	Hand forged, hardened round steel, hooks round execution	SH-80 R
Shaft Hook 80	800 mm	14 mm	Hand forged, hardened stainless steel, hook angular execution	SH-80

Titan-Alu Lifter

The helpful tool for anyone dealing with sewer manhole covers, oil separator gas, water or cable manhole covers. Easily hand-tightened for stuck, sanded, stuck, rusted or frozen covers simply by pushing, lifting, pulling and pushing.



Title	Art.Nr.:
Titan-Alu Lifter / in Blue Green or Red	599101

Canal Cover Lifter

An ergonomic device as an ideal work safety for anyone who needs to lift heavy channel covers more often. Ideal for maintenance, road construction and sewer cleaning. Suitable for all types of road shafts, thanks to an extensive range of hooks for different manhole covers. Extremely easy operation of the manhole cover lifter: move to the manhole cover, insert lifting bolts and lift the manhole cover without great effort. By increasing the leverage through the telescopic guide rod, the effort is reduced. Manhole covers up to 700 kg can be raised

Delivery Contents: Manhole cover lifter and standard hook with bolts for attachment.



Title	Frame Material	Wheel Material	Weight	Lifter Size	Art.Nr.:
Canal cover Lifter	Metal, powder-coated	Gummy Heavy-duty wheels	9 kg	98 - 148 cm	2100000

Title Accessories	Art.Nr.:
Extension	21001000
Heavy duty hook 15 x 15 mm	21002000
Heavy duty hook 12 x 8 mm	21003000
Hook for Petrol separator lid	21004000

Title Accessories	Art.Nr.:
Heavy duty hook, round	21006000
Heavy duty hook, round, 90° angled	21007000
Standard Hook	21008000
Cam hook for lifting rain gutters	21009000

Universal Wrench

Lift-and-operate key for opening and closing manhole covers.
Ideal for easy and safe inspection and maintenance



Title

Equipment

Art.Nr.:

Universal Wrench

Hook, Hexagon 17 mm, internal square 17 mm, internal square 22 mm

03027

Standpipes



Title	Material	Ø	Art.Nr.:
Standpipe C-52 KA Lug 066 württ. Execution	Alu	DN 50	02518 A
Standpipe C-52 KA Lug	Alu	DN 80	02507 A

Overground hydrant key



Title	Material	Weight	Art.Nr.:
Overground hydrant key Form A, Type A by DIN 3223	Malleable cast iron	1,25 kg	03304 T
Overground hydrant key Form B, Type B by DIN 3223	Malleable cast iron	2,15 kg	03305 T

Underground hydrant key

Standpipe key for underwater hydrants are available in different lengths. Form C (1.10 m), Württemberger type (1.90 m) and the special version (1.40 m). Made of solid steel. 32 mm square key.



Title	Weight	Length	Art.Nr.:
Underground hydrant key Type C, DIN 3233	6,00 kg	1,10 m	03306 S
Underground hydrant key similar to Type C, for lengthy fresh water standpipes	6,00 kg	1,40 m	03306 L
Underground hydrant key Württemberger shaft hydrants	8,25 kg	1,90 m	03307 S
Underground hydrant key similar to Type C, Telescopic execution	6,00 kg	0,65-1,10 m	03306 T

KANALZUBEHÖR

HOSES / SYSTEM SEPERATORS

Hoses

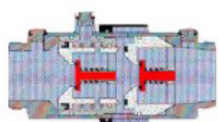
Mercury: White uncoated fire hose, very flexible and light. Operational areas: Canal, Fire Department, Industrial and Shipbuilding. Standard Length: 15, 20 and 30 m

Spartacus: Red fire hose inside and outside gum. Very abrasion resistant, and durable. Excellent adhesion between gummy and tissue, no cleaning and drying required. Operation area: sewer, refineries, works and professional fire departments. Standard Length: 15 and 20 m

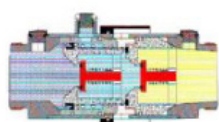


Title	Ø-Inner	Wall Thickness	Op. Pressure	Burst Pressure
M 913	52 mm / 2"	1,5 mm	16 Bar	50 Bar
M 913	75 mm / 3"	1,7 mm	16 Bar	50 Bar
M 914	52 mm / 2"	2,0 mm	16 Bar	50 Bar
M 914	75 mm / 3"	2,1 mm	16 Bar	50 Bar
S 905	52 mm / 2"	2,2 mm	16 Bar	50 Bar
S 905	75 mm / 3"	2,6 mm	16 Bar	50 Bar

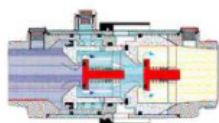
System seperator



in vacuum
Discharge valve fully open,
both non-return valves closed



under Op. Pressure with zero flow
Drain valve and both non-return valves
Closed



in Flowing conditions
Drain valve closed,
both non-return valves open



Title	Ø	Weight
System divider BA VO with 2x Storz C (Ms), entrance cleat lockable	52 mm / 2"	4,6 kg
System separator BA Type F1, VO with 2x Storz B (Ms), input cleat lockable	75 mm / 3"	5,0 kg

VakuPump 50

The VakuPump 50 with its 50 liter container volume is ideal for hard, professional use. The integrated pump with a delivery power of up to 14,000 liters per hour can be plugged directly into the socket of the suction unit.

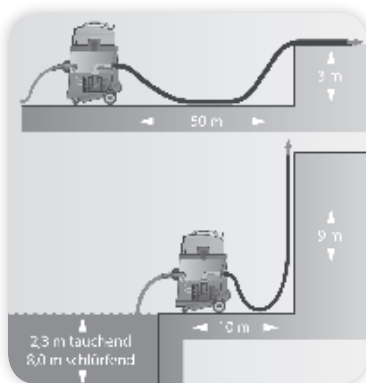
A filter net keeps leaves, wood and smaller items in the container and prevents the pump from clogging. The filter net can be conveniently emptied using a sturdy zipper. The wastewater is continuously led out of the equipment container via the supplied 10 m waste water hose. The C-tube connection of the sewage hose has standard dimension and also fits for fire department and THW-Hoses. The VakuPump 50 can also be used in pure extraction operation and achieves an excellent suction power with 230 mbar.



C-Pipe Connection



Integrated waste water pump



FI-Protection Switch



360 mm Wet floor nozzle

Features:

- Particularly robust container made of impact-resistant plastic
- Powerful pump with up to 14,000 liters / h delivery power
- Separate filter net for coarse particles
- 10 m wastewater hose with C-tube connection
- Also suitable for clean suction operation

Principle of operation:

Water is sucked in through the hose of the sucker. The integrated dirty water pump pushes the collected water immediately through the back of the device through the attached C-tube connection.

Title	Pump power	Flow	max. head	Container volume	Weight	Art.Nr.:
VakuPump 50	900 W	70 L/Sec	9 m	50 Liter	15 kg	

KANALZUBEHÖR

HANDLAMPS

ADALIT® L-3000

The ADALIT® L-3000 is a professional explosion proof safety light with high intensity LEDs, exclusive special optics, digital display and elegant design.

- 2 LEDs with 135 lm each with light beams for room and distance light.
- LED operation technology with illumination the way to use.
- Focused Power Beam = Booster / Amplifier Function for Long Distances.
- 2 ergonomic push button switches for easy operation.
- 3 different light intensities for 4, 6 or 8 h light duration.
- Remaining battery capacity in hours / min. readable on the digital display.
- Swivel head for 3 positions 0 ° / 45 ° / 90 °.
- Housing made of durable, antistatic thermoplastic. Particularly resistant to mechanical stress, extreme temperatures and chemicals.
- Li-ion battery and LED unit user replaceable.
- Low battery warning -> Warning flashing 15 min. before switching off.
- Automatic charging and discharging mode for maintaining the battery.
- Suitable for all ADALIT® chargers from year 2004. Safety certificate for use in potentially explosive atmospheres Zone 0, 1 and 2 for Gas; Zone 20, 21 and 22 for dust.
- Safety hand lamp according to DIN 14649.

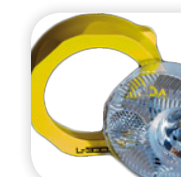


Title	Protection Grade	Illuminating Distance	Voltage	Charging Time	Art.Nr.:
L-3000	IP67	200m	3,7 V - 4 Ah	ca 8 h	220230

ADALIT® L-3000 & L-3000 Power

The new ADALIT® L-3000 Power is the strongest, partially protected, bend-head light available in the fire department market. This new hand lamp works with 3 high-intensity LEDs and newly developed power optics. It meets all the requirements for a professional safety flashlight for firefighters, military, industrial and security companies.

- 3 high-intensity LEDs with 135 lm each, maximum light intensity: 300 lm.
- Power optic for extreme illumination of the place of use.
- Light beam focused for extreme distances - searchlight and exploration light.
- 2 ergonomic push button switches for easy operation.
- 3 different light intensities for 4, 6 or 8 h light duration.
- Remaining battery capacity in hours / min. readable on the digital display.
- Swivel head for 3 positions: 0 ° / 45 ° / 90 °.
- Housing made of durable, antistatic thermoplastic; particularly resistant to mechanical stress, extreme temperatures and chemicals
- Li-ion battery and LED unit user replaceable.
- Low battery warning -> Warning flashing 15 min. before switching off.
- Automatic charging and discharging mode for maintaining the battery.
- Suitable for all ADALIT® chargers from year 2004 on the market.
- Safety Certificate for Use in Hazardous Areas Zones 0, 1 and 2 for Gas; Zone 20, 21 and 22 for dust.
- Safety hand lamp according to DIN 14649.



Title	Protection Grade	Illuminating Distance	Voltage	Charging Time	Art.Nr.:
L-3000 Power	IP67	250m	3,7 V - 4 Ah	ca 8 h	220231

Sluice Cleaners

It is certainly not very nice to clean sluices, drainage shafts, grease traps, wells or other manholes. But it's only half as bad with effective tools.

Thanks to Sluice cleaner, a helping hand!
Time is money. So do not take home-made tools when doing this work.
With the Sluice cleaner it is easier and cleaner.

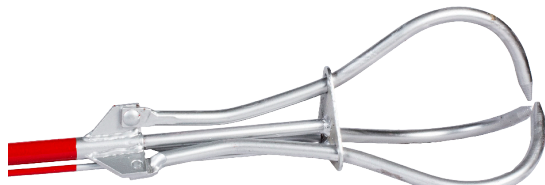
The Sluice cleaner removes dirt, stones, mud, sand, grease, twigs and everything else quickly and effectively!



SR20 Round



SR20 Square



SR-Z Stone Claw



SR15 Square



SR20 Square



SR13 Round



SR-Z



Title	Toolsgröße	Length	Art.Nr.:
SR9 Round	9 cm	1,5 m	SR 9/1,5
SR13 Round	13 cm	2 m	SR 13/2 R
SR20 Round	20 cm	2 m	SR 20/2 R
SR15 Square	15 x 15 cm	2 m	SR 15/2 V
SR20 Square	20 x 20 cm	2 m	SR 20/2 V
SR-Z Stone Claw	-	2 m	SR-Z-2

SUCHEN & FINDEN

SCHNELLREGISTER

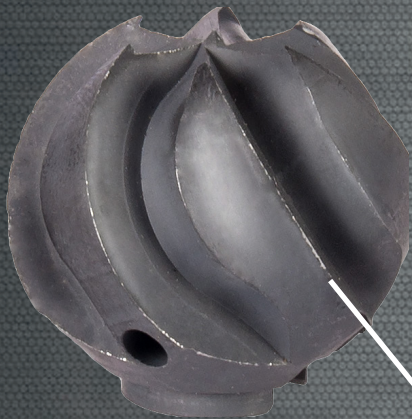
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HAAS MILLER

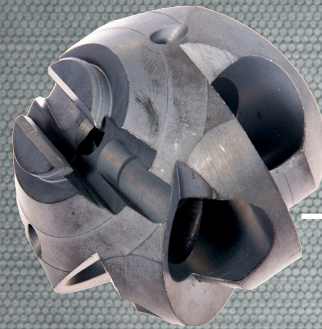
Side 77



Very bow-shaped through
integrated coupling



No smearing through its
spiral shape



Specially
hardened

„MULTITASK CLEANING“ DIE REVOLUTION IN DER MECHANISCHEN ROHRREINIGUNG.

WITH THIS MILLER, SPECIALLY DEVELOPED BY THE COMPANY HAAS, MILLERS CAN ALSO BE EASILY REMOVED FROM ALL SIDE DEPOSITS BY TIGHT ARCHES. EVEN WHEN MILLING A FEED AFTER REFURBISHING THE MAIN PIPE, THE HFR MILLERS DOES NOT STOP. THROUGH A SPECIAL

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HAAS Abwassertechnik Inh. Erwin Vogl e.K.

Industriestr. 9
86551 Aichach
Deutschland

Tel: 0049 8251 1495 Fax: 0049 8251 7628
<http://www.haas-abwassertechnik.de>

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