

# Data Sheet

## Sand Filter for De-ironing/Demanganisation

**KARRASCH & ECKERT**  
Gesellschaft für Wassertechnologie mbH



Sand filter for de-ironing and de-manganisation of well water. Operating pressure 1...8 bar, operating temperature max. 40 °C. Filtration velocity max. 10 m/h. Backwashing with air and water, combined.

As single or duplex plant. Upright filter vessel made of steel (coated), with inlet funnel and nozzle floor. Frontal piping made of PVC. Valves for automated or manual backwashing.

Further accessories: Bleeding and venting valve. Sample taking unit with pressure gauges for differential pressure measurement. Rinsing air blower. Aeration unit with aeration compressor. Pure water tank with booster pumps.

### Sand Filter for De-ironing/Demanganisation

flow capacity, max.	2,8 m³/h	4,9 m³/h	6,2 m³/h	7,7 m³/h	11 m³/h	15 m³/h	20 m³/h	25 m³/h	31 m³/h	38 m³/h	45 m³/h	53 m³/h	61 m³/h	70 m³/h	80 m³/h	90 m³/h
backwash water capacity	9,6 m³/h	17,2 m³/h	21,8 m³/h	26,9 m³/h	39 m³/h	53 m³/h	69 m³/h	88 m³/h	109 m³/h	132 m³/h	157 m³/h	184 m³/h	214 m³/h	246 m³/h	280 m³/h	316 m³/h
backwash water per backw.	2,4 m³	4,3 m³	5,4 m³	6,7 m³	9,7 m³	13,3 m³	17,4 m³	22,0 m³	27,2 m³	33,0 m³	39,3 m³	46,1 m³	53,5 m³	61,4 m³	69,9 m³	79,0 m³
nom. diam. inlet / outlet	DN 25	DN 32	DN 32	DN 40	DN 50	DN 65	DN 65	DN 80	DN 80	DN 100	DN 100	DN 100	DN 125	DN 125	DN 125	DN 150
nom. diam. backwash water	DN 32	DN 50	DN 50	DN 65	DN 65	DN 80	DN 100	DN 100	DN 125	DN 125	DN 150	DN 150	DN 150	DN 150	DN 200	DN 200
nom. diam. rinsing air	DN 20	DN 25	DN 25	DN 32	DN 40	DN 40	DN 50	DN 50	DN 65	DN 80	DN 80	DN 80	DN 100	DN 100	DN 100	DN 100

### Filter Vessel

diameter	600 mm	800 mm	900 mm	1000 mm	1200 mm	1400 mm	1600 mm	1800 mm	2000 mm	2200 mm	2400 mm	2600 mm	2800 mm	3000 mm	3200 mm	3400 mm
cylindrical shell height	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm
total height	3146 mm	3190 mm	3209 mm	3229 mm	3268 mm	3307 mm	3350 mm	3389 mm	3428 mm	3466 mm	3506 mm	3544 mm	3582 mm	3621 mm	3661 mm	3700 mm
wall thickness shell	4 mm	4 mm	5 mm	5 mm	6 mm	6 mm	7 mm	8 mm	10 mm	10 mm	10 mm	10 mm	12 mm	12 mm	12 mm	14 mm
wall thickness bottoms	5 mm	5 mm	5 mm	5 mm	6 mm	8 mm	8 mm	9 mm	10 mm	12 mm	12 mm	12 mm	14 mm	14 mm	15 mm	15 mm
vessel volume	744 l	1355 l	1737 l	2168 l	3185 l	4418 l	5901 l	7599 l	9543 l	11730 l	14197 l	16944 l	19939 l	23259 l	26958 l	30915 l
empty weight vessel	223 kg	330 kg	464 kg	538 kg	798 kg	1136 kg	1499 kg	1962 kg	2621 kg	3192 kg	3661 kg	4160 kg	5286 kg	5906 kg	6723 kg	7844 kg
silica gravel, G. 2 - 3 mm	125 kg	225 kg	300 kg	375 kg	525 kg	725 kg	950 kg	1200 kg	1500 kg	1800 kg	2150 kg	2525 kg	2925 kg	3375 kg	3825 kg	4325 kg
silica gravel, G. 1 - 2 mm	750 kg	1350 kg	1700 kg	2075 kg	3025 kg	4125 kg	5400 kg	6825 kg	8450 kg	10225 kg	12200 kg	14325 kg	16625 kg	19075 kg	21725 kg	24550 kg
height of layers	1987 mm	2008 mm	2009 mm	1989 mm	1995 mm	1998 mm	1999 mm	1993 mm	1999 mm	1995 mm	1999 mm	1999 mm	1999 mm	1999 mm	1998 mm	1999 mm
freeboard	513 mm	492 mm	491 mm	511 mm	505 mm	502 mm	501 mm	507 mm	501 mm	505 mm	501 mm	501 mm	501 mm	502 mm	502 mm	501 mm

### Rinsing Air Blower

blower capacity	25 m³/h	40 m³/h	54 m³/h	66 m³/h	99 m³/h	129 m³/h	174 m³/h	174 m³/h	245 m³/h	350 m³/h	350 m³/h	363 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h
at counter-pressure	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	0,8 bar	0,8 bar	0,8 bar	0,9 bar	0,9 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar
motor power	1,10 kW	1,85 kW	2,4 kW	3,0 kW	5,5 kW	7,8 kW	5,5 kW	5,5 kW	7,5 kW	15,0 kW	15,0 kW	15,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW
sound level	65 dB (A)	67 dB (A)	72 dB (A)	74 dB (A)	76 dB (A)	82 dB (A)	80 dB (A)	80 dB (A)	80 dB (A)	83 dB (A)	83 dB (A)	80 dB (A)	90 dB (A)	82 dB (A)	82 dB (A)	82 dB (A)
weight	37 kg	46 kg	71 kg	82 kg	129 kg	140 kg	350 kg	350 kg	350 kg	370 kg	370 kg	510 kg	525 kg	525 kg	525 kg	525 kg

### Aeration Unit with Compressor

diameter	48,3 mm	60,3 mm	60,3 mm	76,1 mm	88,9 mm	114,3 mm	114,3 mm	139,7 mm	139,7 mm	186,3 mm	186,3 mm	186,3 mm	219,1 mm	219,1 mm	219,1 mm	273,0 mm
installation length	300	300	300	300	300	300	300	300	300	400	400	400	500	500	500	600
weight	3,2 kg	4,6 kg	4,6 kg	5,3 kg	7,1 kg	9,1 kg	9,1 kg	11,4 kg	11,4 kg	17,3 kg	17,3 kg	17,3 kg	29,1 kg	29,1 kg	29,1 kg	40,4 kg
compressor capacity	19 l/min	19 l/min	19 l/min	19 l/min	19 l/min	19 l/min	19 l/min	19 l/min	19 l/min	36 l/min	36 l/min	36 l/min	36 l/min	50 l/min	50 l/min	50 l/min
at counter-pressure	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar	8,0 bar
motor power	0,20 kW	0,20 kW	0,20 kW	0,20 kW	0,20 kW	0,20 kW	0,20 kW	0,20 kW	0,20 kW	0,34 kW	0,34 kW	0,34 kW	0,34 kW	0,55 kW	0,55 kW	0,55 kW
sound level	31 dB (A)	31 dB (A)	31 dB (A)	31 dB (A)	31 dB (A)	31 dB (A)	31 dB (A)	31 dB (A)	31 dB (A)	33 dB (A)	33 dB (A)	33 dB (A)	33 dB (A)	87 dB (A)	87 dB (A)	87 dB (A)
weight	19 kg	19 kg	19 kg	19 kg	19 kg	19 kg	19 kg	19 kg	19 kg	22 kg	22 kg	22 kg	22 kg	14 kg	14 kg	14 kg

# Data Sheet

## Sand Filter for Partial Stream Filtration of Cooling Circuit Water

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Gesellschaft für Wassertechnologie mbH



Sand filter for partial stream filtration of cooling circuit water. Operating pressure 1...8 bar, operating temperature max. 40 °C. Filtration velocity max. 30 m/h. Backwashing with air and water, combined.

As single or duplex plant. Upright filter vessel made of steel (coated), with inlet funnel and nozzle floor. Frontal piping made of PVC, PP, steel (coated) or stainless steel. Valves for automated or manual backwashing.

Further accessories: Bleeding and venting valve. Sample taking unit with pressure gauges for differential pressure measurement. Rinsing air blower.

### Sand Filter for Partial Stream Filtration of Cooling Circuit Water

flow capacity, max.	3,7 m³/h	8,2 m³/h	14,7 m³/h	23,1 m³/h	33,4 m³/h	45,5 m³/h	59,6 m³/h	75,5 m³/h	93,3 m³/h	113 m³/h	135 m³/h	158 m³/h	183 m³/h	211 m³/h	240 m³/h	271 m³/h
backwash water capacity	3,7 m³/h	8,2 m³/h	14,7 m³/h	23,1 m³/h	33,4 m³/h	45,5 m³/h	59,6 m³/h	75,5 m³/h	93,3 m³/h	113 m³/h	135 m³/h	158 m³/h	183 m³/h	211 m³/h	240 m³/h	271 m³/h
backwash water per backw.	0,9 m³	2,1 m³	3,7 m³	5,8 m³	8,3 m³	11,4 m³	14,9 m³	18,9 m³	23,3 m³	28,3 m³	33,6 m³	39,5 m³	45,9 m³	52,7 m³	59,9 m³	67,7 m³
nom. diam. inlet / outlet	DN 25	DN 40	DN 65	DN 65	DN 80	DN 100	DN 125	DN 125	DN 150	DN 150	DN 150	DN 200	DN 200	DN 200	DN 250	DN 250
nom. diam. backwash water	DN 32	DN 50	DN 80	DN 80	DN 100	DN 125	DN 150	DN 150	DN 200	DN 200	DN 200	DN 250	DN 250	DN 250	DN 300	DN 300
nom. diam. rinsing air	DN 15	DN 20	DN 25	DN 32	DN 40	DN 40	DN 50	DN 50	DN 65	DN 80	DN 80	DN 80	DN 100	DN 100	DN 100	DN 100

### Filter Vessel

diameter	400 mm	600 mm	800 mm	1000 mm	1200 mm	1400 mm	1600 mm	1800 mm	2000 mm	2200 mm	2400 mm	2600 mm	2800 mm	3000 mm	3200 mm	3400 mm
cylindrical shell height	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm	1500 mm
total height	2102 mm	2146 mm	2190 mm	2229 mm	2268 mm	2307 mm	2350 mm	2389 mm	2428 mm	2466 mm	2506 mm	2544 mm	2582 mm	2621 mm	2661 mm	2700 mm
wall thickness shell	3 mm	4 mm	5 mm	5 mm	6 mm	6 mm	7 mm	8 mm	10 mm	10 mm	10 mm	10 mm	12 mm	12 mm	12 mm	14 mm
wall thickness bottoms	4 mm	5 mm	5 mm	5 mm	6 mm	8 mm	8 mm	9 mm	10 mm	12 mm	12 mm	12 mm	14 mm	14 mm	15 mm	15 mm
vessel volume	200 l	466 l	865 l	1399 l	2073 l	2900 l	3915 l	5083 l	6432 l	7963 l	9711 l	11675 l	13826 l	16238 l	18966 l	21889 l
empty weight vessel	75 kg	164 kg	296 kg	415 kg	621 kg	930 kg	1224 kg	1608 kg	2130 kg	2652 kg	3072 kg	3521 kg	4461 kg	5021 kg	5779 kg	6675 kg
silica gravel, G. 2 - 3 mm	50 kg	125 kg	225 kg	375 kg	525 kg	725 kg	950 kg	1200 kg	1500 kg	1800 kg	2150 kg	2525 kg	2925 kg	3375 kg	3825 kg	4325 kg
silica gravel, G. 1 - 2 mm	150 kg	325 kg	550 kg	850 kg	1225 kg	1675 kg	2200 kg	2800 kg	3475 kg	4200 kg	5000 kg	5900 kg	6825 kg	7850 kg	8950 kg	10100 kg
height of layers	1025 mm	1029 mm	988 mm	995 mm	983 mm	988 mm	992 mm	993 mm	1000 mm	996 mm	996 mm	999 mm	997 mm	999 mm	999 mm	999 mm
freeboard	475 mm	471 mm	512 mm	505 mm	517 mm	512 mm	508 mm	507 mm	500 mm	504 mm	504 mm	501 mm	503 mm	501 mm	501 mm	501 mm

### Rinsing Air Blower

blower capacity	10 m³/h	25 m³/h	40 m³/h	66 m³/h	99 m³/h	129 m³/h	174 m³/h	174 m³/h	245 m³/h	350 m³/h	350 m³/h	363 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h
at counter-pressure	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	0,8 bar	0,8 bar	0,8 bar	0,9 bar	0,9 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar
Geschwindigkeit	0,37 kW	1,10 kW	1,9 kW	3,0 kW	5,5 kW	7,8 kW	5,5 kW	5,5 kW	7,5 kW	15,0 kW	15,0 kW	15,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW
motor power	60 dB (A)	65 dB (A)	67 dB (A)	74 dB (A)	76 dB (A)	82 dB (A)	80 dB (A)	80 dB (A)	80 dB (A)	83 dB (A)	83 dB (A)	80 dB (A)	90 dB (A)	82 dB (A)	82 dB (A)	82 dB (A)
sound level	16 kg	37 kg	46 kg	82 kg	129 kg	140 kg	350 kg	350 kg	350 kg	370 kg	370 kg	510 kg	525 kg	525 kg	525 kg	525 kg

# Data Sheet

## Sand and Activated Carbon Filter

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Sand and activated carbon filter for filtration and dechlorination of water. Operating pressure 1...8 bar, operating temperature max. 40 °C. Filtration velocity max. 15 m/h. Backwashing with air and water, separate. As single or duplex plant. Upright filter vessel made of steel (coated), with inlet funnel and nozzle floor. Frontal piping made of PVC, PP, steel (coated) or stainless steel. Valves for automated or manual backwashing. Further accessories: Bleeding and venting valve. Sample taking unit with pressure gauges for differential pressure measurement. Rinsing air blower. Pure water tank with booster pumps.

### Sand and Activated Carbon Filter

flow capacity, max.	1,8 m³/h	4,1 m³/h	7,4 m³/h	11,5 m³/h	16,7 m³/h	22,8 m³/h	30 m³/h	38 m³/h	47 m³/h	57 m³/h	67 m³/h	79 m³/h	92 m³/h	105 m³/h	120 m³/h	135 m³/h
backwash water capacity	4,2 m³/h	9,6 m³/h	17,2 m³/h	26,9 m³/h	38,9 m³/h	53,1 m³/h	69,5 m³/h	88,1 m³/h	108,9 m³/h	131,8 m³/h	157,0 m³/h	184,4 m³/h	214,0 m³/h	245,8 m³/h	279,7 m³/h	315,9 m³/h
backwash water per backw.	1,1 m³	2,4 m³	4,3 m³	6,7 m³	9,7 m³	13,3 m³	17 m³	22 m³	27 m³	33 m³	39 m³	46 m³	53 m³	61 m³	70 m³	79 m³
nom. diam. inlet / outlet	DN 20	DN 32	DN 40	DN 50	DN 65	DN 65	DN 80	DN 100	DN 100	DN 100	DN 125	DN 125	DN 150	DN 150	DN 150	DN 150
nom. diam. backwash water	DN 25	DN 32	DN 50	DN 65	DN 65	DN 80	DN 100	DN 100	DN 125	DN 125	DN 150	DN 150	DN 150	DN 150	DN 200	DN 200
nom. diam. rinsing air	DN 15	DN 20	DN 25	DN 32	DN 40	DN 40	DN 50	DN 65	DN 65	DN 80	DN 80	DN 100	DN 100	DN 100	DN 100	DN 100

### Filter Vessel

diameter	400 mm	600 mm	800 mm	1000 mm	1200 mm	1400 mm	1600 mm	1800 mm	2000 mm	2200 mm	2400 mm	2600 mm	2800 mm	3000 mm	3200 mm	3400 mm
cylindrical shell height	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm
total height	2602 mm	2646 mm	2690 mm	2729 mm	2768 mm	2807 mm	2850 mm	2889 mm	2928 mm	2966 mm	3006 mm	3044 mm	3082 mm	3121 mm	3161 mm	3200 mm
wall thickness shell	4 mm	4 mm	5 mm	5 mm	6 mm	6 mm	7 mm	8 mm	10 mm	10 mm	10 mm	10 mm	12 mm	12 mm	12 mm	14 mm
wall thickness bottoms	5 mm	5 mm	5 mm	5 mm	6 mm	8 mm	8 mm	9 mm	10 mm	12 mm	12 mm	12 mm	14 mm	14 mm	15 mm	15 mm
vessel volume	259 l	603 l	1110 l	1784 l	2629 l	3659 l	4908 l	6341 l	7988 l	9846 l	11954 l	14309 l	16883 l	19749 l	22962 l	26402 l
empty weight vessel	112 kg	193 kg	345 kg	477 kg	710 kg	1033 kg	1361 kg	1785 kg	2375 kg	2922 kg	3366 kg	3841 kg	4873 kg	5463 kg	6251 kg	7259 kg
silica gravel, G. 2 - 3 mm	50 kg	125 kg	225 kg	375 kg	525 kg	725 kg	950 kg	1200 kg	1500 kg	1800 kg	2150 kg	2525 kg	2925 kg	3375 kg	3825 kg	4325 kg
silica gravel, G. 1 - 2 mm	75 kg	300 kg	425 kg	725 kg	1050 kg	1425 kg	1925 kg	2400 kg	2975 kg	3650 kg	4300 kg	5075 kg	5825 kg	6750 kg	7700 kg	8625 kg
activated carbon	20 kg	20 kg	60 kg	80 kg	120 kg	160 kg	200 kg	260 kg	320 kg	380 kg	460 kg	540 kg	640 kg	720 kg	820 kg	940 kg
height of layers	1128 mm	1184 mm	1184 mm	1194 mm	1198 mm	1191 mm	1197 mm	1194 mm	1197 mm	1197 mm	1196 mm	1199 mm	1198 mm	1198 mm	1199 mm	1199 mm
freeboard	872 mm	816 mm	816 mm	806 mm	802 mm	809 mm	803 mm	806 mm	803 mm	803 mm	804 mm	801 mm	802 mm	802 mm	801 mm	801 mm

### Rinsing Air Blower

blower capacity	10 m³/h	25 m³/h	40 m³/h	66 m³/h	99 m³/h	129 m³/h	174 m³/h	245 m³/h	245 m³/h	350 m³/h	350 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h
at counter-pressure	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	0,8 bar	0,8 bar	0,8 bar	0,9 bar	0,9 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar
motor power	0,37 kW	1,10 kW	1,9 kW	3,0 kW	5,5 kW	7,8 kW	5,5 kW	7,5 kW	7,5 kW	15,0 kW	15,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW
sound level	60 dB (A)	65 dB (A)	67 dB (A)	74 dB (A)	76 dB (A)	82 dB (A)	80 dB (A)	80 dB (A)	80 dB (A)	83 dB (A)	83 dB (A)	90 dB (A)	90 dB (A)	82 dB (A)	82 dB (A)	82 dB (A)
weight	16 kg	37 kg	46 kg	82 kg	129 kg	140 kg	350 kg	350 kg	350 kg	370 kg	370 kg	525 kg	525 kg	525 kg	525 kg	525 kg

# Data Sheet

## Multi-layer Filter

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Multi-layer filter for filtration of water. Operating pressure 1...8 bar, operating temperature max. 40 °C. Filtration velocity max. 15 m/h. Backwashing with air and water, separate.

As single or duplex plant. Upright filter vessel made of steel (coated), with inlet funnel and nozzle floor. Frontal piping made of PVC, PP, steel (coated) or stainless steel. Valves for automated or manual backwashing.

Further accessories: Bleeding and venting valve. Sample taking unit with pressure gauges for differential pressure measurement. Rinsing air blower. Pure water tank with booster pumps.

### Multi-layer Filter

flow capacity, max.	2,9 m³/h	4,1 m³/h	7,4 m³/h	11,5 m³/h	16,7 m³/h	22,8 m³/h	30 m³/h	38 m³/h	47 m³/h	57 m³/h	67 m³/h	79 m³/h	92 m³/h	105 m³/h	120 m³/h	135 m³/h
backwash water capacity	7,6 m³/h	10,9 m³/h	19,6 m³/h	30,8 m³/h	44,5 m³/h	60,7 m³/h	79 m³/h	101 m³/h	124 m³/h	151 m³/h	179 m³/h	211 m³/h	245 m³/h	281 m³/h	320 m³/h	361 m³/h
backwash water per backw.	1,9 m³	2,7 m³	4,9 m³	7,7 m³	11,1 m³	15,2 m³	20 m³	25 m³	31 m³	38 m³	45 m³	53 m³	61 m³	70 m³	80 m³	90 m³
nom. diam. inlet / outlet	DN 25	DN 32	DN 40	DN 50	DN 65	DN 65	DN 80	DN 100	DN 100	DN 100	DN 125	DN 125	DN 150	DN 150	DN 150	DN 150
nom. diam. backwash water	DN 32	DN 32	DN 50	DN 65	DN 80	DN 100	DN 100	DN 125	DN 125	DN 150	DN 150	DN 150	DN 150	DN 200	DN 200	DN 200
nom. diam. rinsing air	DN 15	DN 20	DN 25	DN 32	DN 40	DN 40	DN 50	DN 65	DN 65	DN 80	DN 80	DN 100	DN 100	DN 100	DN 100	DN 100

### Filter Vessel

diameter	500 mm	600 mm	800 mm	1000 mm	1200 mm	1400 mm	1600 mm	1800 mm	2000 mm	2200 mm	2400 mm	2600 mm	2800 mm	3000 mm	3200 mm	3400 mm
cylindrical shell height	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm	2500 mm
total height	3127 mm	3146 mm	3190 mm	3229 mm	3268 mm	3307 mm	3350 mm	3389 mm	3428 mm	3466 mm	3506 mm	3544 mm	3582 mm	3621 mm	3661 mm	3700 mm
wall thickness shell	4 mm	4 mm	5 mm	5 mm	6 mm	6 mm	7 mm	8 mm	10 mm	10 mm	10 mm	10 mm	12 mm	12 mm	12 mm	14 mm
wall thickness bottoms	5 mm	5 mm	5 mm	5 mm	6 mm	8 mm	8 mm	9 mm	10 mm	12 mm	12 mm	12 mm	14 mm	14 mm	15 mm	15 mm
vessel volume	509 l	739 l	1355 l	2168 l	3185 l	4418 l	5901 l	7599 l	9543 l	11730 l	14197 l	16944 l	19939 l	23259 l	26958 l	30915 l
empty weight vessel	175 kg	222 kg	394 kg	538 kg	798 kg	1136 kg	1499 kg	1962 kg	2621 kg	3192 kg	3661 kg	4160 kg	5286 kg	5906 kg	6723 kg	7844 kg
silica gravel, G. 2 - 3 mm	100 kg	125 kg	225 kg	375 kg	525 kg	725 kg	950 kg	1200 kg	1500 kg	1800 kg	2150 kg	2525 kg	2925 kg	3375 kg	3825 kg	4325 kg
silica gravel, G. 0.7 - 1.3 mm	300 kg	450 kg	700 kg	1100 kg	1600 kg	2175 kg	2900 kg	3650 kg	4475 kg	5475 kg	6475 kg	7625 kg	8800 kg	10100 kg	11525 kg	13025 kg
hard coal, G. 1.4 - 2.5 mm	50 kg	75 kg	175 kg	275 kg	400 kg	550 kg	700 kg	900 kg	1125 kg	1350 kg	1625 kg	1900 kg	2225 kg	2550 kg	2900 kg	3275 kg
height of layers	1675 mm	1690 mm	1669 mm	1687 mm	1687 mm	1691 mm	1695 mm	1694 mm	1696 mm	1698 mm	1698 mm	1698 mm	1697 mm	1697 mm	1697 mm	1698 mm
freeboard	825 mm	810 mm	831 mm	813 mm	813 mm	809 mm	805 mm	806 mm	804 mm	802 mm	802 mm	802 mm	803 mm	803 mm	803 mm	802 mm

### Rinsing Air Blower

blower capacity	16 m³/h	25 m³/h	40 m³/h	66 m³/h	99 m³/h	129 m³/h	174 m³/h	245 m³/h	245 m³/h	350 m³/h	350 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h
at counter-pressure	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	0,8 bar	0,8 bar	0,8 bar	0,9 bar	0,9 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar
motor power	0,55 kW	1,10 kW	1,9 kW	3,0 kW	5,5 kW	7,8 kW	5,5 kW	7,5 kW	7,5 kW	15,0 kW	15,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW
sound level	62 dB (A)	65 dB (A)	67 dB (A)	74 dB (A)	76 dB (A)	82 dB (A)	80 dB (A)	80 dB (A)	80 dB (A)	83 dB (A)	83 dB (A)	90 dB (A)	90 dB (A)	82 dB (A)	82 dB (A)	82 dB (A)
weight	24 kg	37 kg	46 kg	82 kg	129 kg	140 kg	350 kg	350 kg	350 kg	370 kg	370 kg	525 kg	525 kg	525 kg	525 kg	525 kg

# Data Sheet

## Hard Coal Filter for Filtration of Condensate

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Hard coal filter for filtration of condensate. Operating pressure 1...8 bar, operating temperature max. 95 °C. Filtration velocity max. 30 m/h. Backwashing with air and water, combined.

As single or duplex plant. Upright filter vessel made of steel (coated), with inlet funnel and nozzle floor. Frontal piping made of steel or stainless steel. Valves for automated or manual backwashing.

Further accessories: Bleeding and venting valve. Sample taking unit with pressure gauges for differential pressure measurement. Backwash air blower.

### Hard Coal Filter

flow capacity, max.	5,7 m³/h	8,2 m³/h	14,7 m³/h	23,1 m³/h	33,4 m³/h	45,5 m³/h	59,6 m³/h	75,5 m³/h	93 m³/h	113 m³/h	135 m³/h	158 m³/h	183 m³/h	211 m³/h	240 m³/h	271 m³/h
backwash water capacity	5,7 m³/h	8,2 m³/h	14,7 m³/h	23,1 m³/h	33,4 m³/h	45,5 m³/h	59,6 m³/h	75,5 m³/h	93 m³/h	113 m³/h	135 m³/h	158 m³/h	183 m³/h	211 m³/h	240 m³/h	271 m³/h
backwash water per backw.	1,4 m³	2,1 m³	3,7 m³	5,8 m³	8,3 m³	11,4 m³	14,9 m³	18,9 m³	23 m³	28 m³	34 m³	40 m³	46 m³	53 m³	60 m³	68 m³
nom. diam. inlet / outlet	DN 32	DN 40	DN 65	DN 65	DN 80	DN 100	DN 125	DN 125	DN 150	DN 150	DN 150	DN 200	DN 200	DN 200	DN 250	DN 250
nom. diam. backwash water	DN 40	DN 50	DN 80	DN 80	DN 100	DN 125	DN 150	DN 150	DN 200	DN 200	DN 200	DN 250	DN 250	DN 250	DN 300	DN 300
nom. diam. backwash air	DN 15	DN 20	DN 25	DN 32	DN 40	DN 40	DN 50	DN 65	DN 65	DN 80	DN 80	DN 100	DN 100	DN 100	DN 100	DN 100

### Filter Vessel

diameter	500 mm	600 mm	800 mm	1000 mm	1200 mm	1400 mm	1600 mm	1800 mm	2000 mm	2200 mm	2400 mm	2600 mm	2800 mm	3000 mm	3200 mm	3400 mm
cylindrical shell height	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm	2000 mm
total height	2627 mm	2646 mm	2690 mm	2729 mm	2768 mm	2807 mm	2850 mm	2889 mm	2928 mm	2966 mm	3006 mm	3044 mm	3082 mm	3121 mm	3161 mm	3200 mm
wall thickness shell	4 mm	4 mm	5 mm	5 mm	6 mm	6 mm	7 mm	8 mm	10 mm	10 mm	10 mm	10 mm	12 mm	12 mm	12 mm	14 mm
wall thickness bottoms	5 mm	5 mm	5 mm	5 mm	6 mm	8 mm	8 mm	9 mm	10 mm	12 mm	12 mm	12 mm	14 mm	14 mm	15 mm	15 mm
vessel volume	414 l	603 l	1110 l	1784 l	2629 l	3659 l	4908 l	6341 l	7988 l	9846 l	11954 l	14309 l	16883 l	19749 l	22962 l	26402 l
empty weight vessel	151 kg	193 kg	345 kg	477 kg	710 kg	1033 kg	1361 kg	1785 kg	2375 kg	2922 kg	3366 kg	3841 kg	4873 kg	5463 kg	6251 kg	7259 kg
hard coal, G. 2.0 - 4.0 mm	50 kg	50 kg	100 kg	175 kg	250 kg	325 kg	425 kg	550 kg	675 kg	825 kg	975 kg	1150 kg	1350 kg	1550 kg	1750 kg	1975 kg
hard coal, G. 1.4 - 2.5 mm	150 kg	250 kg	450 kg	675 kg	975 kg	1325 kg	1750 kg	2200 kg	2725 kg	3300 kg	3925 kg	4625 kg	5350 kg	6125 kg	7000 kg	7900 kg
height of layers	1441 mm	1503 mm	1537 mm	1513 mm	1509 mm	1490 mm	1501 mm	1497 mm	1497 mm	1500 mm	1496 mm	1502 mm	1501 mm	1497 mm	1500 mm	1499 mm
freeboard	559 mm	497 mm	463 mm	487 mm	491 mm	510 mm	499 mm	503 mm	503 mm	500 mm	504 mm	498 mm	499 mm	503 mm	500 mm	501 mm

### Backwash Air Blower

blower capacity	16 m³/h	25 m³/h	40 m³/h	66 m³/h	99 m³/h	129 m³/h	174 m³/h	245 m³/h	245 m³/h	350 m³/h	350 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h	500 m³/h
at counter-pressure	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	0,8 bar	0,8 bar	0,8 bar	0,9 bar	0,9 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar
motor power	0,55 kW	1,10 kW	1,9 kW	3,0 kW	5,5 kW	7,8 kW	5,5 kW	7,5 kW	7,5 kW	15,0 kW	15,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW	22,0 kW
sound level	62 dB (A)	65 dB (A)	67 dB (A)	74 dB (A)	76 dB (A)	82 dB (A)	80 dB (A)	80 dB (A)	80 dB (A)	83 dB (A)	83 dB (A)	90 dB (A)	90 dB (A)	82 dB (A)	82 dB (A)	82 dB (A)
weight	24 kg	37 kg	46 kg	82 kg	129 kg	140 kg	350 kg	350 kg	350 kg	370 kg	370 kg	525 kg	525 kg	525 kg	525 kg	525 kg

# Data Sheet

## Filtration Plants with GRP Vessels

**KARRASCH & ECKERT**  
Gesellschaft für Wassertechnologie mbH



Sand filter for filtration of water. Operating pressure 1...8 bar, operating temperature max. 40 °C. Backwashing with air and water, combined.

As single or duplex plant. Upright filter vessel made of grp (glass-reinforced plastic), with inner nozzle arrangement for inlet and outlet.

Frontal piping made of PVC or PP. Valves for automated or manual backwashing. Bleeding and venting valves. Pressure gauges for differential pressure measurement. Rinsing air blower.

### Sand filter, filtration velocity max. 15 m/h

flow capacity, max.	1,5 m <sup>3</sup> /h	1,8 m <sup>3</sup> /h	2,5 m <sup>3</sup> /h	3,5 m <sup>3</sup> /h	4,2 m <sup>3</sup> /h	6,8 m <sup>3</sup> /h	10 m <sup>3</sup> /h	13 m <sup>3</sup> /h	17 m <sup>3</sup> /h	24 m <sup>3</sup> /h	30 m <sup>3</sup> /h	46 m <sup>3</sup> /h
backwash water capacity	3,5 m <sup>3</sup> /h	4,3 m <sup>3</sup> /h	5,8 m <sup>3</sup> /h	8,1 m <sup>3</sup> /h	9,9 m <sup>3</sup> /h	16 m <sup>3</sup> /h	23 m <sup>3</sup> /h	31 m <sup>3</sup> /h	40 m <sup>3</sup> /h	55 m <sup>3</sup> /h	71 m <sup>3</sup> /h	108 m <sup>3</sup> /h
backwash water per backw.	0,9 m <sup>3</sup>	1,1 m <sup>3</sup>	1,4 m <sup>3</sup>	2,0 m <sup>3</sup>	2,5 m <sup>3</sup>	4,0 m <sup>3</sup>	5,8 m <sup>3</sup>	7,8 m <sup>3</sup>	10,1 m <sup>3</sup>	14 m <sup>3</sup>	18 m <sup>3</sup>	27 m <sup>3</sup>
nom. diam. inlet / outlet	DN 20	DN 20	DN 25	DN 25	DN 32	DN 32	DN 50	DN 50	DN 65	DN 65	DN 80	DN 100
nom. diam. backwash water	DN 25	DN 25	DN 32	DN 32	DN 40	DN 40	DN 65	DN 65	DN 80	DN 80	DN 100	DN 125
nom. diam. rinsing air	DN 15	DN 15	DN 15	DN 15	DN 20	DN 25	DN 32	DN 32	DN 40	DN 40	DN 50	DN 65

### Sand filter, filtration velocity max. 30 m/h

flow capacity, max.	3,0 m <sup>3</sup> /h	3,7 m <sup>3</sup> /h	5,0 m <sup>3</sup> /h	6,9 m <sup>3</sup> /h	8,5 m <sup>3</sup> /h	14 m <sup>3</sup> /h	20 m <sup>3</sup> /h	27 m <sup>3</sup> /h	34 m <sup>3</sup> /h	47 m <sup>3</sup> /h	61 m <sup>3</sup> /h	92 m <sup>3</sup> /h
backwash water capacity	3,5 m <sup>3</sup> /h	4,3 m <sup>3</sup> /h	5,8 m <sup>3</sup> /h	8,1 m <sup>3</sup> /h	9,9 m <sup>3</sup> /h	16 m <sup>3</sup> /h	23 m <sup>3</sup> /h	31 m <sup>3</sup> /h	40 m <sup>3</sup> /h	55 m <sup>3</sup> /h	71 m <sup>3</sup> /h	108 m <sup>3</sup> /h
backwash water per backw.	0,9 m <sup>3</sup>	1,1 m <sup>3</sup>	1,4 m <sup>3</sup>	2,0 m <sup>3</sup>	2,5 m <sup>3</sup>	4,0 m <sup>3</sup>	5,8 m <sup>3</sup>	7,8 m <sup>3</sup>	10,1 m <sup>3</sup>	14 m <sup>3</sup>	18 m <sup>3</sup>	27 m <sup>3</sup>
nom. diam. inlet / outlet	DN 25	DN 25	DN 32	DN 40	DN 40	DN 50	DN 65	DN 80	DN 100	DN 100	DN 125	DN 150
nom. diam. backwash water	DN 32	DN 32	DN 40	DN 50	DN 50	DN 65	DN 80	DN 100	DN 125	DN 125	DN 150	DN 200
nom. diam. rinsing air	DN 15	DN 15	DN 15	DN 15	DN 20	DN 25	DN 32	DN 32	DN 40	DN 40	DN 50	DN 65

### Filter vessel

diameter	369 mm	406 mm	469 mm	552 mm	610 mm	770 mm	927 mm	1074 mm	1226 mm	1429 mm	1623 mm	2000 mm
cylindrical shell height	1355 mm	1336 mm	1344 mm	1159 mm	1320 mm	1282 mm	1235 mm	1200 mm	1075 mm	1500 mm	1750 mm	1750 mm
vessel height with socket	1713 mm	1724 mm	1792 mm	1683 mm	1918 mm	2073 mm	2149 mm	2038 mm	2133 mm	3088 mm	3515 mm	4021 mm
total height with valves	1873 mm	1884 mm	1967 mm	1858 mm	2114 mm	2269 mm	2399 mm	2288 mm	2428 mm	3383 mm	3855 mm	4421 mm
vessel volume	140 l	172 l	250 l	310 l	450 l	710 l	1020 l	1360 l	1840 l	3219 l	4765 l	7675 l
empty weight vessel	22 kg	25 kg	34 kg	35 kg	42 kg	81 kg	104 kg	169 kg	194 kg	335 kg	397 kg	890 kg
silica gravel, G. 2 - 3 mm	25 kg	50 kg	50 kg	75 kg	100 kg	150 kg	200 kg	275 kg	375 kg	500 kg	650 kg	975 kg
silica gravel, G. 1 - 2 mm	100 kg	125 kg	200 kg	200 kg	350 kg	550 kg	775 kg	1050 kg	1475 kg	3150 kg	5025 kg	8350 kg

### Rinsing air blower

blower capacity	8 m <sup>3</sup> /h	10 m <sup>3</sup> /h	10 m <sup>3</sup> /h	16 m <sup>3</sup> /h	25 m <sup>3</sup> /h	40 m <sup>3</sup> /h	66 m <sup>3</sup> /h	66 m <sup>3</sup> /h	99 m <sup>3</sup> /h	129 m <sup>3</sup> /h	174 m <sup>3</sup> /h	245 m <sup>3</sup> /h
at counter-pressure	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	1,0 bar	0,8 bar	0,8 bar
motor power	0,37 kW	0,37 kW	0,37 kW	0,55 kW	1,10 kW	1,9 kW	3,0 kW	3,0 kW	5,5 kW	7,8 kW	5,5 kW	7,5 kW
sound level	58 dB (A)	60 dB (A)	60 dB (A)	65 dB (A)	65 dB (A)	67 dB (A)	74 dB (A)	74 dB (A)	76 dB (A)	82 dB (A)	80 dB (A)	80 dB (A)
weight	12 kg	16 kg	16 kg	24 kg	37 kg	46 kg	82 kg	82 kg	129 kg	140 kg	350 kg	350 kg

Activated carbon filters for removal of chlorine, oil etc from water. Operating pressure 1...8 bar, operating temperature max. 40 °C. Backwashing with water

### Activated carbon filter, filtration velocity max. 10 m/h

flow capacity, max.	1,0 m <sup>3</sup> /h	1,2 m <sup>3</sup> /h	1,7 m <sup>3</sup> /h	2,3 m <sup>3</sup> /h	2,8 m <sup>3</sup> /h	4,5 m <sup>3</sup> /h	6,6 m <sup>3</sup> /h	8,9 m <sup>3</sup> /h	11,5 m <sup>3</sup> /h	15,7 m <sup>3</sup> /h	20,3 m <sup>3</sup> /h	30,8 m <sup>3</sup> /h
backwash water capacity	5,1 m <sup>3</sup> /h	6,2 m <sup>3</sup> /h	8,3 m <sup>3</sup> /h	11,5 m <sup>3</sup> /h	14,1 m <sup>3</sup> /h	22,7 m <sup>3</sup> /h	33,0 m <sup>3</sup> /h	44,5 m <sup>3</sup> /h	57,5 m <sup>3</sup> /h	78,4 m <sup>3</sup> /h	101,4 m <sup>3</sup> /h	154,0 m <sup>3</sup> /h
backwash water per backw.	1,3 m <sup>3</sup>	1,5 m <sup>3</sup>	2,1 m <sup>3</sup>	2,9 m <sup>3</sup>	3,5 m <sup>3</sup>	5,7 m <sup>3</sup>	8,3 m <sup>3</sup>	11,1 m <sup>3</sup>	14,4 m <sup>3</sup>	20 m <sup>3</sup>	25 m <sup>3</sup>	38 m <sup>3</sup>
nom. diam. inlet / outlet	DN 15	DN 15	DN 20	DN 20	DN 25	DN 32	DN 32	DN 40	DN 50	DN 65	DN 65	DN 80
nom. idam backwash water	DN 32	DN 32	DN 40	DN 50	DN 50	DN 65	DN 80	DN 100	DN 125	DN 125	DN 150	DN 150

### Activated carbon filter, filtration velocity max. 20 m/h

flow capacity, max.	2,0 m <sup>3</sup> /h	2,5 m <sup>3</sup> /h	3,3 m <sup>3</sup> /h	4,6 m <sup>3</sup> /h	5,7 m <sup>3</sup> /h	9,1 m <sup>3</sup> /h	13,2 m <sup>3</sup> /h	17,8 m <sup>3</sup> /h	23,0 m <sup>3</sup> /h	31,4 m <sup>3</sup> /h	40,6 m <sup>3</sup> /h	61,6 m <sup>3</sup> /h
backwash water capacity	5,1 m <sup>3</sup> /h	6,2 m <sup>3</sup> /h	8,3 m <sup>3</sup> /h	11,5 m <sup>3</sup> /h	14,1 m <sup>3</sup> /h	22,7 m <sup>3</sup> /h	33,0 m <sup>3</sup> /h	44,5 m <sup>3</sup> /h	57,5 m <sup>3</sup> /h	78,4 m <sup>3</sup> /h	101,4 m <sup>3</sup> /h	154,0 m <sup>3</sup> /h
backwash water per backw.	1,3 m <sup>3</sup>	1,5 m <sup>3</sup>	2,1 m <sup>3</sup>	2,9 m <sup>3</sup>	3,5 m <sup>3</sup>	5,7 m <sup>3</sup>	8,3 m <sup>3</sup>	11,1 m <sup>3</sup>	14,4 m <sup>3</sup>	20 m <sup>3</sup>	25 m <sup>3</sup>	38 m <sup>3</sup>
nom. diam. inlet / outlet	DN 20	DN 25	DN 25	DN 32	DN 32	DN 40	DN 50	DN 65	DN 65	DN 80	DN 100	DN 125
nom. idam backwash water	DN 32	DN 32	DN 40	DN 50	DN 50	DN 65	DN 80	DN 100	DN 125	DN 125	DN 150	DN 150

### Activated carbon filter, filtration velocity max. 30 m/h

flow capacity, max.	3,0 m <sup>3</sup> /h	3,7 m <sup>3</sup> /h	5,0 m <sup>3</sup> /h	6,9 m <sup>3</sup> /h	8,5 m <sup>3</sup> /h	13,6 m <sup>3</sup> /h	19,8 m <sup>3</sup> /h	26,7 m <sup>3</sup> /h	34,5 m <sup>3</sup> /h	47,0 m <sup>3</sup> /h	60,8 m <sup>3</sup> /h	92,4 m <sup>3</sup> /h
backwash water capacity	5,1 m <sup>3</sup> /h	6,2 m <sup>3</sup> /h	8,3 m <sup>3</sup> /h	11,5 m <sup>3</sup> /h	14,1 m <sup>3</sup> /h	22,7 m <sup>3</sup> /h	33,0 m <sup>3</sup> /h	44,5 m <sup>3</sup> /h	57,5 m <sup>3</sup> /h	78,4 m <sup>3</sup> /h	101,4 m <sup>3</sup> /h	154,0 m <sup>3</sup> /h
backwash water per backw.	1,3 m <sup>3</sup>	1,5 m <sup>3</sup>	2,1 m <sup>3</sup>	2,9 m <sup>3</sup>	3,5 m <sup>3</sup>	5,7 m <sup>3</sup>	8,3 m <sup>3</sup>	11,1 m <sup>3</sup>	14,4 m <sup>3</sup>	20 m <sup>3</sup>	25 m <sup>3</sup>	38 m <sup>3</sup>
nom. diam. inlet / outlet	DN 25	DN 25	DN 32	DN 40	DN 40	DN 50	DN 65	DN 80	DN 100	DN 100	DN 125	DN 150
nom. idam backwash water	DN 32	DN 32	DN 40	DN 50	DN 50	DN 65	DN 80	DN 100	DN 125	DN 125	DN 150	DN 150

### Filter vessel

diameter	369 mm	406 mm	469 mm	552 mm	610 mm	770 mm	927 mm	1074 mm	1226 mm	1429 mm	1623 mm	2000 mm
cylindrical shell height	1355 mm	1336 mm	1344 mm	1159 mm	1320 mm	1282 mm	1235 mm	1200 mm	1075 mm	1500 mm	1750 mm	1750 mm
vessel height with socket	1713 mm	1724 mm	1792 mm	1683 mm	1918 mm	2073 mm	2149 mm	2038 mm	2133 mm	3088 mm	3515 mm	4021 mm
total height with valves	1813 mm	1824 mm	1892 mm	1783 mm	2021 mm	2179 mm	2258 mm	2147 mm	2245 mm	3200 mm	3630 mm	4139 mm
vessel volume	140 l	172 l	250 l	310 l	450 l	710 l	1020 l	1360 l	1840 l	3219 l	4765 l	7675 l
empty weight vessel	22 kg	25 kg	34 kg	35 kg	42 kg	81 kg	104 kg	169 kg	194 kg	335 kg	397 kg	890 kg
silica gravel, G. 2 - 3 mm	25 kg	50 kg	50 kg	75 kg	100 kg	150 kg	200 kg	275 kg	375 kg	500 kg	650 kg	975 kg
activated carbon	20 kg	40 kg	40 kg	60 kg	80 kg	120 kg	180 kg	240 kg	320 kg	580 kg	960 kg	1600 kg