

# REHABILITATION PACKERS

Rehabilitation packers **P**, **FP**, **DP** and **HP** are used for repairing locally-damaged sewerages or other pipelines or for their successive maintenance. The packers can be applied to fissures, leaky joints, misalignments, root downgrowth and corroded sections. Sewerages made of all kinds of materials in the diameter ranging from 50 mm to 1200 mm can be maintained or repaired in this way.

These packers can be divided into several groups: short packers, flexible packers, lateral packers and long packers. They are made of a special rubber guaranteeing the necessary flexibility, strength and resistance. All their metal parts are made of corrosion-resistant materials.

The maintenance work consist of placing the packer and its insertion piece (a fabric of glass fibres impregnated with a special artificial resin) into the piping on the damaged point. This procedure can be monitored by using a closed-loop television while the packer is not under pressure. Then the packer is inflated to the working pressure and the glass-fibre-fabric insertion piece is pressed against the wall of the pipe. As the overflowing resin penetrates the fissures and cavities, the damaged spot and the glass-fibre-fabric insertion piece become firmly connected. After the resin gets hardened, its static load capacity is supported with a short tube with gradual reductions. Then the packer is deflated and pulled out of the piping.

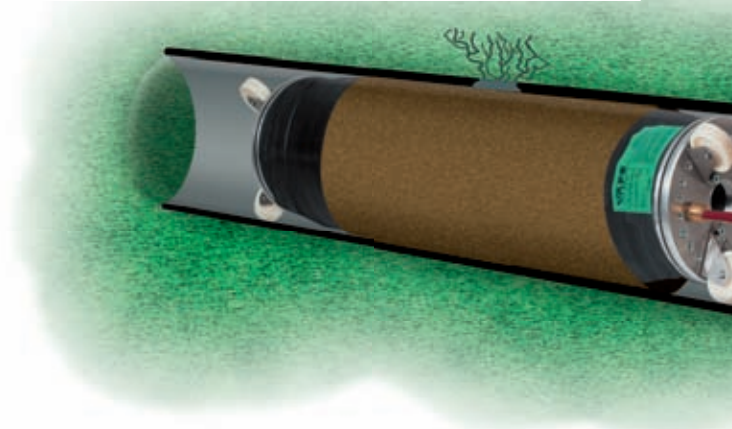
## SHORT PACKERS



Short packers are provided with an exchangeable two-layer rubberized-fabric sleeve mounted on a metal central part. Moreover, the packers are provided with wheels at both its ends at an angle of 120°. The wheels ensure the stability of the packer in the pipeline. Its design allows water to flow freely during the repair. The length of the effective surface is 600 mm which is sufficient for repairing a joint or a short damaged spot.

### Short Packers P

Type	Part - No.	Pipe diameter mm	Rubber body diameter mm	Rubber body length mm	Total length mm	Weight kg	Operating pressure bar
P 15/20	7101	150–200	100	800	980	7,0	2,0
P 25/30	7102	250–300	190	800	1030	17,0	2,0
P 30/35	7107	300–350	235	800	1030	21,0	1,5
P 35/40	7103	350–400	290	800	1030	25,0	1,5
P 45/50	7104	450–500	380	900	1130	38,0	1,5
P 60/70	7105	600–700	480	1000	1230	52,0	1,0

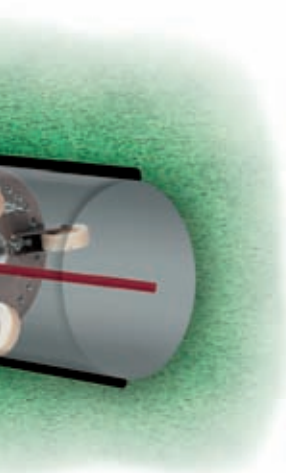




## Flexible Packers FP

Flexible packers are provided with a single-layer rubberized-fabric sleeve with metal faces with wheels at both its ends at an angle of 120°. The wheels ensure the stability of the packer in the pipeline. Its design allows water to flow freely during the repair. The effective surface ranges from 600 to 3500 mm. Their flexibility allows easy installation in the pipeline.

Type	Part - No.	Pipe diameter	Rubber body diameter	Rubber body length	Total length	Weight	Operating pressure	Bypass
		mm	mm	mm	mm	kg	bar	
FP 10/15-1	7209	100-150	65	1000	1120	1,9	2,5	-
FP 10/15-1,5	7211	100-150	65	1500	1620	2,3	2,5	-
FP 10/15-2	7210	100-150	65	2000	2120	2,6	2,5	-
FP 10/15-2,5	7212	100-150	65	2500	2620	2,9	2,5	-
FP 10/15-3	7213	100-150	65	3000	3120	3,3	2,5	-
FP 10/15-3,5	7214	100-150	65	3500	3620	3,7	2,5	-
FP 10/15-4	7215	100-150	65	4000	4120	4,0	2,5	-
FP 15/25-1	7201	150-250	105	1000	1180	5,0	2,0	2"
FP 15/25-1,5	7216	150-250	105	1500	1680	6,3	2,0	2"
FP 15/25-2	7202	150-250	105	2000	2180	7,5	2,0	2"
FP 15/25-2,5	7217	150-250	105	2500	2680	8,8	2,0	2"
FP 15/25-3	7218	150-250	105	3000	3180	10,0	2,0	2"
FP 15/25-3,5	7219	150-250	105	3500	3680	11,3	2,0	2"
FP 15/25-4	7220	150-250	105	4000	4180	12,5	2,0	2"
FP 20/30-1	7236	200-300	144	1100	1340	10,0	1,5	2"
FP 20/30-1,5	7237	200-300	144	1600	1840	11,1	1,5	2"
FP 20/30-2	7238	200-300	144	2000	2240	12,2	1,5	2"
FP 20/30-2,5	7239	200-300	144	2600	2840	13,3	1,5	2"
FP 20/30-3	7240	200-300	144	3000	3240	14,4	1,5	2"
FP 20/30-3,5	7241	200-300	144	3600	3840	15,5	1,5	2"
FP 20/30-4	7242	200-300	144	4000	4240	16,6	1,5	2"
FP 30/40-1	7203	300-400	235	1100	1340	19	1,5	2"
FP 30/40-1,5	7221	300-400	235	1600	1840	21	1,5	2"
FP 30/40-2	7204	300-400	235	2000	2240	23	1,5	2"
FP 30/40-2,5	7222	300-400	235	2600	2840	26	1,5	2"
FP 30/40-3	7223	300-400	235	3000	3240	28	1,5	2"
FP 30/40-3,5	7224	300-400	235	3600	3840	31	1,5	2"
FP 30/40-4	7225	300-400	235	4000	4240	33	1,5	2"
FP 45/60-1	7205	450-600	365	1200	1440	36	1,0	4"
FP 45/60-1,5	7226	450-600	365	1700	1940	40	1,0	4"
FP 45/60-2	7206	450-600	365	2000	2240	42	1,0	4"
FP 45/60-2,5	7227	450-600	365	2700	2940	46	1,0	4"
FP 45/60-3	7228	450-600	365	3000	3240	49	1,0	4"
FP 60/80-1	7207	600-800	365	1400	1640	37,5	1,0	4"
FP 60/80-1,5	7229	600-800	365	1700	1940	41,5	1,0	4"
FP 60/80-2	7208	600-800	365	2000	2240	43,5	1,0	4"
FP 60/80-2,5	7230	600-800	365	2700	2940	47,5	1,0	4"
FP 60/80-3	7231	600-800	365	3000	3240	50,5	1,0	4"
FP 80/100-1,5	7235	800-1000	550	1800	2040	82	1,0	4"
FP 100/120-2	7534	1000-1200	550	2200	2440	88	1,0	4"





# LONG PACKERS

## Long Packers DP



Long packers consist of a rubberized-fabric tube ended with aluminium faces at both its ends. The faces are provided with quick-couplers to facilitate inflation of the bag and with handling eyes. These packers are not provided with wheels and do not allow the medium to flow during the repair. The effective surface ranges from 1100 to 3600 mm.

Type	Part - No.	Pipe diameter	Rubber body diameter	Rubber body length	Total length	Weight	Operating pressure
		mm	mm	mm	mm	kg	bar
DP 20/30-1,5	7403	200-300	150	1500	1600	4,8	1,5
DP 20/30-2	7404	200-300	150	2000	2100	5,9	1,5
DP 20/30-2,5	7402	200-300	150	2500	2600	7,0	1,5
DP 20/30-3	7405	200-300	150	3000	3100	8,1	1,5
DP 20/30-3,5	7417	200-300	150	3500	3600	9,1	1,5
DP 20/30-4	7406	200-300	150	4000	4100	10,2	1,5
DP 30/40-1,5	7418	300-400	240	1500	1600	8,5	1,5
DP 30/40-2	7407	300-400	240	2000	2100	10,6	1,5
DP 30/40-2,5	7419	300-400	240	2500	2600	12,7	1,5
DP 30/40-3	7408	300-400	240	3000	3100	14,7	1,5
DP 30/40-3,5	7401	300-400	240	3500	3600	16,7	1,5
DP 30/40-4	7409	300-400	240	4000	4100	18,8	1,5
DP 40/50-1,5	7420	400-500	340	1500	1600	16,0	1,0
DP 40/50-2	7410	400-500	340	2000	2100	21,0	1,0
DP 40/50-2,5	7421	400-500	340	2500	2600	24,0	1,0
DP 40/50-3	7411	400-500	340	3000	3100	26,5	1,0
DP 40/50-3,5	7422	400-500	340	3500	3600	29,0	1,0
DP 40/50-4	7412	400-500	340	4000	4100	32,0	1,0
DP 50/60-1,5	7423	500-600	430	1500	1600	21,0	1,0
DP 50/60-2	7413	500-600	430	2000	2100	28,3	1,0
DP 50/60-2,5	7424	500-600	430	2500	2600	31,8	1,0
DP 50/60-3	7414	500-600	430	3000	3100	35,4	1,0
DP 50/60-3,5	7425	500-600	430	3500	3600	39,0	1,0
DP 50/60-4	7415	500-600	430	4000	4100	42,5	1,0
DP 60/80-1,5	7434	600-800	510	1500	1600	45,0	0,6
DP 60/80-2	7436	600-800	510	2000	2100	49,0	0,6
DP 60/80-2,5	7430	600-800	510	2500	2600	52,5	0,6
DP 60/80-3	7437	600-800	510	3000	3100	56,0	0,6
DP 60/80-3,5	7438	600-800	510	3500	3600	59,5	0,6
DP 60/80-4	7439	600-800	510	4000	4100	63,0	0,6

# BEND PACKERS

Bend packers thanks to their construction are suitable for repairing in bend parts of pipelines at an angle from 45° to 90°. This construction and excellent rubber material of packers ensure, that the repaired part is plain and without bumps.



## Bend Packers OP

Type	Part - No.	Pipe diameter	Rubber body diameter	Rubber body length	Total length	Weight	Operating pressure
		mm	mm	mm	mm	kg	bar
OP 5/7 - 0,4	7515	50-70	35	400	510	0,5	2,0
OP 5/7 - 0,6	7512	50-70	35	600	710	0,55	2,0
OP 5/7 - 1	7516	50-70	35	1000	1110	0,65	2,0
OP 7/9 - 0,6	7501	70-90	45	600	720	0,7	2,0
OP 7/9 - 1	7502	70-90	45	1000	1120	0,8	2,0
OP 7/9 - 1,5	7503	70-90	45	1500	1620	0,9	2,0
OP 8/11 - 1	7513	80-110	56	1000	1120	1,1	2,0
OP 8/11 - 1,5	7514	80-110	56	1500	1620	1,2	2,0
OP 10/13 - 1	7506	100-130	65	1000	1120	1,4	2,0
OP 10/13 - 1,5	7507	100-130	65	1500	1620	1,7	2,0
OP 14/17 - 1	7508	140-170	86	1000	1130	3,3	2,0
OP 14/17 - 1,5	7509	140-170	86	1500	1630	4	2,0
OP 18/21 - 1	7504	180-210	107	1000	1130	5	2,0
OP 18/21 - 1,5	7505	180-210	107	1500	1630	6	2,0

## Sliding and filling rods for rehabilitation packers

Part-No.	Description	
2129	Sliding and filling rod	0,5 m - 20 G
2130	Sliding and filling rod	1 m - 20 G
2127	Sliding and filling rod	1,5 m - 20 G
2120	Sliding and filling rod	2 m - 20 G
2131	Sliding and filling rod	2,5 m - 20 G
2132	Sliding and filling rod	3 m - 20 G



Part-No.	Description	
2037	Sliding and filling rod	0,5 m - 20 KR
2040	Sliding and filling rod	1 m - 20 KR
2041	Sliding and filling rod	1,5 m - 20 KR
2038	Sliding and filling rod	2 m - 20 KR



## Lateral Packers HP

Type	Part - No.	Pipe diameter	Rubber body diameter	Rubber body length	Total length	Weight	Operating pressure
		mm	mm	mm	mm	kg	bar
HP 5/7-0,6	7331	50-70	35	600	710	0,55	3,0
HP 5/7-1	7332	50-70	35	1000	1110	0,65	3,0
HP 5/7-1,5	7336	50-70	35	1500	1610	0,75	3,0
HP 5/7-2	7333	50-70	35	2000	2110	0,9	3,0
HP 5/7-2,5	7335	50-70	35	2500	2610	1,05	3,0
HP 5/7-3	7337	50-70	35	3000	3110	1,2	3,0
HP 7/10-0,6	7313	70-100	45	600	720	0,65	3,0
HP 7/10-1	7314	70-100	45	1000	1120	0,75	3,0
HP 7/10-1,5	7315	70-100	45	1500	1620	0,85	3,0
HP 7/10-2	7316	70-100	45	2000	2120	0,95	3,0
HP 7/10-2,5	7319	70-100	45	2500	2620	1,2	3,0
HP 7/10-3	7317	70-100	45	3000	3120	1,5	3,0
HP 7/10-3,5	7320	70-100	45	3500	3620	1,65	3,0
HP 7/10-4	7318	70-100	45	4000	4120	1,8	3,0
HP 10/15-0,6	7301	100-150	65	600	720	1,1	2,5
HP 10/15-1	7302	100-150	65	1000	1120	1,4	2,5
HP 10/15-1,5	7303	100-150	65	1500	1620	1,8	2,5
HP 10/15-2	7304	100-150	65	2000	2120	2,1	2,5
HP 10/15-2,5	7321	100-150	65	2500	2620	2,5	2,5
HP 10/15-3	7309	100-150	65	3000	3120	2,9	2,5
HP 10/15-3,5	7322	100-150	65	3500	3620	3,3	2,5
HP 10/15-4	7311	100-150	65	4000	4120	3,7	2,5
HP 10/20-0,6	7348	100-200	68	600	720	1,55	2,5
HP 10/20-1	7349	100-200	68	1000	1120	2,05	2,5
HP 10/20-1,5	7350	100-200	68	1500	1620	2,65	2,5
HP 10/20-2	7351	100-200	68	2000	2120	3,25	2,5
HP 10/20-2,5	7352	100-200	68	2500	2620	3,85	2,5
HP 10/20-3	7353	100-200	68	3000	3120	4,45	2,5
HP 10/20-3,5	7354	100-200	68	3500	3620	5,05	2,5
HP 10/20-4	7355	100-200	68	4000	4120	5,65	2,5
HP 15/25-0,6	7305	150-250	105	600	730	2,5	2,0
HP 15/25-1	7306	150-250	105	1000	1130	3,2	2,0
HP 15/25-1,5	7307	150-250	105	1500	1630	4,0	2,0
HP 15/25-2	7308	150-250	105	2000	2130	4,8	2,0
HP 15/25-2,5	7323	150-250	105	2500	2630	5,6	2,0
HP 15/25-3	7310	150-250	105	3000	3130	6,4	2,0
HP 15/25-3,5	7324	150-250	105	3500	3630	7,2	2,0
HP 15/25-4	7312	150-250	105	4000	4130	8,0	2,0



Lateral packers are suitable for maintaining and repairing small-diameter pipes especially with house piping. They consist of a rubberized-fabric tube rounded at both its ends to facilitate manipulation in pipe bends. The effective surface ranges from 500 to 3700 mm.

## SMALL LATERAL PACKERS

Small lateral packers are used for repairing of the smallest diameter of house pipeline. For easy manipulation in pipe bends the rigid ends of packer are made as short as possible. The effective surface ranges from 300 mm to 1300 mm.

### Small Lateral Packers

Type	Part - No.	Pipe diameter	Rubber body diameter	Rubber body length	Total length	Weight	Operating pressure
		mm	mm	mm	mm	kg	bar
HP 3/4 - 0,4	7330	30-40	25	400	450	0,30	3,0
HP 3/4 - 0,6	7341	30-40	25	600	650	0,40	3,0
HP 3/4 - 1	7342	30-40	25	1000	1050	0,60	3,0
HP 3/4 - 1,5	7343	30-40	25	1500	1550	0,90	3,0
HP 3,5/5 - 0,4	7339	35-50	30	400	450	0,35	3,0
HP 3,5/5 - 0,6	7340	35-50	30	600	650	0,45	3,0
HP 3,5/5 - 1	7344	35-50	30	1000	1050	0,65	3,0
HP 3,5/5 - 1,5	7345	35-50	30	1500	1550	0,95	3,0

