

MOTOR COOLING SLEEVES

COOLING SLEEVE FOR SUBMERSIBLE MOTOR PUMPS 4"/6"/8"/10"/12"

The cooling jacket is the ideal solution for vertical and horizontal installations of submersible motor pumps in rainwater cisterns and deep wells to ensure the cooling flow along the motor

The heat loss generated by the submersible motor must be dissipated to the pumped medium by means of convection. If the minimum cooling speed along the submersible motor cannot be guaranteed, it is mandatory to install a cooling jacket in order to generate sufficient cooling.

To provide cooling, the pump-motor unit is supplemented by a cooling sleeve. This separate „sheet metal jacket“ is sealed above the pump inlet. The pumped medium is thus sucked in from below and directed past the motor in order to dissipate the generated motor heat loss (convection).

Appropriate brackets and inlet strainers are available for horizontal installation in an open body of water, e.g. a tank, a lake or a flowing body of water.

COMPONENTS COOLING SLEEVE KIT

1. Cooling sleeve tube (Stainless steel)
2. Pump sealing ring (EPDM) with drinking water approval
3. Motor spacer
4. Pipe clamps
5. Filter strainer (accessories)
6. Console (accessory for horizontal mounting)

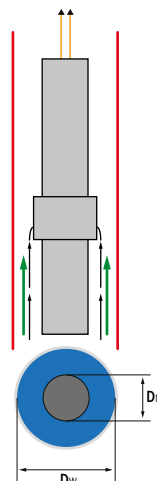


COOLING FLOW CALCULATION

$$\text{Cooling flow} = \frac{\text{Flow rate}}{\text{Ring Surface}}$$

$$D_{w[\text{mm}]} = \frac{Q[\text{m}^3/\text{h}] \times 353,68}{(D_w[\text{mm}]^2 - (D_m^2[\text{mm}])}$$

$$V_{[\text{m/s}]} = \frac{Q[\text{m}^3/\text{h}] \times 353,68}{(D_w[\text{mm}]^2 - (D_m^2[\text{mm}])}$$



MOTOR COOLING SLEEVES

model no. cooling sleeves 4"

FE Pump type	FE motors		dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	strainer		support brackets	
	type	P _N [kW]			model no.	dimensions [mm]	model no.	pieces per Set
VS 1 VS 2 VS 3 VS 4 VS 6 VS 7 VS 8 VS 10 VS 15	4" CT 4 kN	1- / 0,37 - 0,75	Ø 115 [130] x 400	309 005 101	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	3- / 0,37 - 0,1,5	Ø 115 [130] x 400	309 005 101	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT PM 4 kN	3- / 0,55 - 2,2	Ø 115 [130] x 400	309 005 101	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	1- / 1,1 - 1,5	Ø 115 [130] x 500	309 005 102	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	3- / 2,2 - 3,0	Ø 115 [130] x 500	309 005 102	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT PM 4 kN	3- / 2,2 - 3,0	Ø 115 [130] x 500	309 005 102	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	1- / 2,2	Ø 115 [130] x 800	309 005 103	309 005 161	Ø 115 x 117	309 005 602	2
	4" CT 6,5 kN	3- / 3,7 - 5,5	Ø 115 [130] x 800	309 005 103	309 005 161	Ø 115 x 117	309 005 602	2
	4" CT PM 6,5 kN	3- / 4,0 - 7,5	Ø 115 [130] x 800	309 005 103	309 005 161	Ø 115 x 117	309 005 602	2
	4" CT 6,5 kN	3- / 7,5 - 9,3	Ø 115 [130] x 1000	309 005 104	309 005 161	Ø 115 x 117	309 005 602	2

MOTOR COOLING SLEEVES

model no. cooling sleeves 6"

FE pump type		FE motors		dimensions *** [mm] Ø D [D1] x L	model no. cooling sleeve 304SS**	Accessories		
		type*	P _N [kW]			model no. strainer	model no. support brackets (for horizontal installation)	
6"	VS 14 VS 19	4" CT 4kN	3- / 0,75 - 3,0	Ø 160 [180] x 500	309 005 325	309 005 361 [Ø 160 mm x 158 mm]	309 005 611 (Set = 2 Stk.)	
		4" CT 6,5kN	3- / 2,2					
		4" CT PM 4kN	3- / 2,2 - 4,0	Ø 160 [180] x 625				309 005 301
		4" CT 6,5kN	3- / 3,0 - 3,7					
		4" CT PM 6,5kN	3- / 4,0 - 7,5	Ø 160 [180] x 800				309 005 302
		4" CT 6,5kN	3- / 5,5 - 7,5					
	VS 30	4" CT 4kN	3- / 0,75 - 1,5	Ø 160 [180] x 625	309 005 301	309 005 361 [Ø 160 mm x 158 mm]	309 005 611 (Set = 2 Stk.)	
		4" CT 6,5kN	3- / 3,0					
		4" CT PM 4kN	3- / 2,2 - 4,0	Ø 160 [180] x 800	309 005 302			
		4" CT 6,5kN	3- / 3,7 - 5,5					
		4" CT PM 6,5kN	3- / 7,5	Ø 160 [180] x 1000	309 005 303			
		4" CT 6,5kN	3- / 7,5 - 9,3					
	VS 14 VS 19 VS 30	6" CT	4,0 - 7,5	Ø 180 [200] x 800	309 005 305	309 005 461 [Ø 180 mm x 192 mm]	309 005 612 (Set = 2 Stk.)	
		6" CT PM	4,0 - 11					
		6" CT	9,3 - 15	Ø 180 [200] x 1000	309 005 307			
		6" CT HT	4,0 - 11					
		6" CT PM	13 - 22	Ø 180 [200] x 1250	309 005 309			
		6" REW	4,0 - 15					
		6" CT	18,5 - 30					
		6" CT HT	18,5					
		6" CT PM	26 - 45	Ø 180 [200] x 1700	309 005 313			
		6" REW	18,5 - 22					
		6" CT	37 - 45					
		6" CT HT	22 - 30					
		6" REW	26 - 37					
	VS 46 VS 65	4" CT 4kN	3- / 0,75 - 3,0	Ø 180 [200] x 625	309 005 326	309 005 461 [Ø 180 mm x 192 mm]	309 005 612 (Set = 2 Stk.)	
		4" CT 6,5kN	3- / 2,2 - 3,0					
		4" CT PM 4kN	3- / 3,0 - 4,0	Ø 180 [200] x 800	309 005 314			
		4" CT 6,5kN	3- / 3,7 - 5,5					
		4" CT PM 4kN	3- / 7,5	Ø 180 [200] x 1000	309 005 315			
		4" CT 6,5kN	3- / 7,5 - 9,3					
		6" CT	4,0 - 7,5	Ø 200(220) x 800	309 005 316	309 005 471 [Ø 200 mm x 192 mm]	309 005 622 (Set = 2 Stk.)	
		6" CT HT	4,0					
		6" CT PM	4,0 - 11					
		6" REW	4,0 - 7,5					
		6" CT	9,3 - 18,5	Ø 200(220) x 1000	309 005 318			
		6" CT HT	5,5 - 11					
		6" CT PM	13 - 22					
		6" REW	9,3 - 15					
		6" CT	22 - 30	Ø 200(220) x 1250	309 005 320			
		6" CT HT	15 - 18,5					
		6" CT PM	26 - 45					
		6" REW	18,5 - 26					
		6" CT	37 - 45	Ø 200(220) x 1700	309 005 322		309 005 623 (Set = 3 Stk.)	
		6" CT HT	22 - 30					
		6" REW	30 - 37					
		VS 30 VS 46 VS 65	8" CT	55	Ø 256(270) x 1500	309 005 324	309 005 481 [Ø 256 mm x 325 mm]	309 005 624 (Set = 2 Stk.)
			8" CT HT	45 - 55				
			8" REW	45 - 55	Ø 256(270) x 2000	309 005 327		
			8" REW PM	45 - 75				

MOTOR COOLING SLEEVES

model no. cooling sleeves 8" VS

FE pump type		FE motors		dimensions *** [mm] Ø D [D1] x L	model no. cooling sleeve 304SS**	Accessories		
		type*	P _N [kW]			model no. strainer	model no. support brackets (for horizontal installation)	
8"	VS 78	6" CT	4,0 - 7,5	Ø 225 [245] x 800	309 005 528	309 005 491 [Ø 225 mm x 240 mm]	309 005 631 (Set = 2 Stk.)	
		6" CT PM	4,0 - 11					
		6" CT	9,3 - 15					
		6" CT HT	7,5 - 11	Ø 225 [245] x 1000	309 005 501			
		6" CT PM	13 - 22					
		6" REW	7,5 - 18,5					
		6" CT	22 - 30	Ø 225 [245] x 1250	309 005 503			
		6" CT HT	15 - 18,5					
		6" CT PM	26 - 45					
		6" REW	22 - 26	Ø 225 [245] x 1700	309 005 505			
		6" CT	37 - 45					
		6" CT HT	22 - 30					
		6" REW	30 - 37					
		8" CT	45	Ø 254 [275] x 1250	309 005 507	309 005 633 (Set = 2 Stk.)		
		8" REW	30 - 37					
		8" CT	55	Ø 254 [275] x 1500	309 005 509			
		8" CT HT	52 - 55					
		8" REW PM	45 - 75 & 75 - 100	Ø 254 [275] x 1700	309 005 510			
		8" CT	75					
		8" CT HT	45	Ø 254 [275] x 2000	309 005 511			
		8" REW	60 - 75					
		8" CT	93	Ø 254 [275] x 2250	309 005 529			
		8" CT HT	55					
		8" CT HT	75 - 93					
	VS 97	6" CT	4,0 - 7,5	Ø 254 [275] x 800	309 005 530	309 005 481 [Ø 256 mm x 325 mm]	309 005 633 (Set = 2 Stk.)	
		6" CT PM	4,0 - 11					
		6" CT	9,3 - 15					
		6" CT HT	4 - 11	Ø 254 [275] x 1000	309 005 512			
		6" CT PM	13 - 22					
		6" REW	9,3 - 15					
		6" CT	30	Ø 254 [275] x 1250	309 005 514			
		6" CT HT	18,5					
		6" CT PM	26 - 45					
		6" REW	18,5 - 26	Ø 254 [275] x 1700	309 005 516			
		6" CT	9,3 - 15					
		6" CT HT	4 - 11					
		6" REW	18,5 - 26	Ø 285 [305] x 1250	309 005 518			
		8" CT	30 - 45					
		8" CT HT	30					
		8" REW	30 - 37	Ø 285 [305] x 1500	309 005 520			
		8" CT	45 - 55					
		8" CT HT	37					
		8" REW	45 - 55	Ø 285 [305] x 1700	309 005 521			
		8" CT	75					
		8" CT HT	45					
		8" REW	60 - 75	Ø 285 [305] x 2000	309 005 522			
8" CT	93							
8" CT HT	55							
8" REW	83 - 93	Ø 285 [305] x 2250	309 005 531					
8" CT	110							
8" CT HT	75							
8" CT HT	93 - 110	Ø 285 [305] x 2500	309 005 532	309 005 638 (Set = 3 Stk.)				

* CT: encapsulated motors Standard, CT HT: encapsulated motors High Temp., CT PM: encapsulated motors Permanent Magnet

* REW: rewindable motors Standard, REW PM: rewindable motors Permanent Magnet

** 316SS version: "N" added to model no.; 904L version: "R" added to model no.

*** Ø D= Diameter cooling sleeve; [D1]= Diameter cooling sleeve with pipe clamps; L= Length Cooling sleeve

Support Bracket Dimension see page: 205

MOTOR COOLING SLEEVES

model no. cooling sleeves 8" VSI

FE pump type		FE motors		dimensions *** [mm] Ø D [D1] x L	model no. cooling sleeve 304SS**	Accessories		
		type*	P _N [kW]			model no. strainer	model no. support brackets (for horizontal installation)	
8"	VSI 74 VSI 104 VSI 134	6" CT	4 - 5,5	Ø 254 [275] x 800	309 008 002	309 005 481 [Ø 256 mm x 325 mm]	309 005 640 (Set = 2 Stk.)	
		6" CT PM	4 - 11					
		6" CT	9,3 - 15					
		6" CT HT	11	Ø 254 [275] x 1000	309 008 001			
		6" CT PM	13 - 22					
		6" REW	9,3 - 13					
		6" CT	22 - 30	Ø 254 [275] x 1250	309 008 003			
		6" CT HT	15 - 18,5					
		6" CT PM	26 - 45					
		6" REW	15 - 22	Ø 254 [275] x 1800	309 008 004			
		6" CT	37 - 45					
		6" CT HT	22 - 30					
		6" REW	26 - 37	Ø 285 [305] x 1250	309 008 032	309 005 526 [Ø 285 mm x 325 mm]	309 005 642 (Set = 3 Stk.)	
		8" CT	45					
		8" REW	37					
		8" CT	55	Ø 285 [305] x 1500	309 008 009			
		8" REW	45					
		8" REW PM	75 - 100					
		8" CT	75	Ø 285 [305] x 1700	309 008 010			
		8" REW	55 - 67					
		8" REW PM	75 - 130					
		8" CT	93	Ø 285 [305] x 2000	309 008 012			
		8" CT HT	55					
		8" REW PM	75 - 93					
		8" CT	110	Ø 285 [305] x 2200	309 008 013			
		8" CT HT	75					
		8" CT	130	Ø 285 [305] x 2400	309 008 014			
		8" CT HT	93					
		8" CT	150	Ø 285 [305] x 2600	309 008 015			
		8" CT HT	110					
		10" REW	85 - 110	Ø 330 [350] x 1750	309 008 016	309 005 523 [Ø 330 mm x 385 mm]	309 005 643 (Set = 3 Stk.)	
		10" REW	130 - 150					
		10" REW PM	150 - 200					

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Support Bracket Dimension see page: 205

MOTOR COOLING SLEEVES

model no. cooling sleeves 10" VSI

FE pump type		FE motors		dimensions *** [mm] Ø D [D1] x L	model no. cooling sleeve 304SS**	Accessories	
		type*	P _n [kW]			model no. strainer	model no. support brackets (for horizontal installation)
10"	VSI 184 VSI 254	6" CT	9,3 - 11	Ø 330 [350] x 1000	309 008 033	309 005 523 [Ø 330 mm x 385 mm]	309 005 644 (Set = 2 Stk.)
		6" CT	15 - 18,5	Ø 330 [350] x 1250	309 008 035		
		6" CT HT	15				
		6" CT PM	13 - 22				
		6" REW	13 - 18,5				Ø 330 [350] x 1400
		6" CT HT	18,5				
		6" CT PM	26 - 45				
		6" REW	22 - 26				
		6" REW	30 - 37	Ø 330 [350] x 1600	309 008 041		
		6" CT	37	Ø 330 [350] x 1800	309 008 037		
		6" CT HT	22				
		6" REW	37				
		6" CT	45				
		6" CT HT	30	Ø 330 [350] x 2000	309 008 038		
		8" CT	37	Ø 330 [350] x 1250	309 008 018		309 005 644 (Set = 2 Stk.)
		8" CT	45	Ø 330 [350] x 1500	309 008 019		
		8" CT HT	30				
		8" REW	37 - 45				
		8" REW PM	45 - 75				
		8" CT	55 - 75	Ø 330 [350] x 1750	309 008 020		
		8" CT HT	45				
		8" REW	55 - 67				
		8" REW PM	75 - 100				
		8" CT HT	55	Ø 330 [350] x 2000	309 008 022		
		8" REW	75 - 93				
		8" REW PM	75 - 130				
		8" CT HT	75	Ø 330 [350] x 2250	309 008 023		
		8" CT	130	Ø 330 [350] x 2500	309 008 024		
		8" CT HT	93				
		8" CT	150	Ø 330 [350] x 2700	309 008 039		
		8" CT HT	110				
		10" REW	85 - 110	Ø 380 [400] x 1750	309 008 026		309 005 524 [Ø 380 mm x 385 mm]
10" REW	130	Ø 380 [400] x 2000	309 008 027				
10" REW PM	150 - 200						
10" REW	185	Ø 380 [400] x 2250	309 008 040				
10" REW PM	200 - 250	Ø 380 [400] x 2250	309 008 028				
12 REW	220 - 250						
12 REW	300	Ø 380 [400] x 2500	309 008 029	309 005 649 (Set = 3 Stk.)			
12 REW	220 - 250	Ø 420 [445] x 2250	309 008 030				
12 REW	300 - 400	Ø 420 [445] x 2500	309 008 031		309 005 647 (Set = 3 Stk.)		

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** 316SS version: "N" added to model no.; 904L version: "R" added to model no.

*** Ø D= Diameter cooling sleeve; [D1]= Diameter cooling sleeve with pipe clamps; L= Length Cooling sleeve
Support Bracket Dimension see page: 205

MOTOR COOLING SLEEVES

model no. cooling sleeves 12" VSI

FE pump type		FE motors		dimensions *** [mm] Ø D [D1] x L	model no. cooling sleeve 304SS**	Accessories	
		type*	P _N [kW]			model no. strainer	model no. support brackets (for horizontal installation)
12"	VSI 344	8" CT	30	Ø 380 [400] x 1250	309 008 109	309 005 524 [Ø 380 mm x 385 mm]	309 005 650 (Set = 2 Stk.)
		8" CT	37 - 45	Ø 380 [400] x 1500	309 008 101		309 005 651 (Set = 3 Stk.)
		8" REW	30 - 37				
		8" REW PM	45 - 75				
		8" CT	55	Ø 380 [400] x 1700	309 008 102		
		8" REW	55				
		8" REW PM	75 - 100				
		8" CT	75	Ø 380 [400] x 2000	309 008 110		
		8" CT HT	45				
		8" REW	75				
		8" REW PM	75 - 130				
		8" CT	110	Ø 380 [400] x 2250	309 008 103		
		8" CT HT	75				
		8" CT	130	Ø 380 [400] x 2500	309 008 111		
		8" CT HT	93				
		8" CT	150	Ø 380 [400] x 2700	309 008 104		
		8" CT HT	110				
		10" REW	110	Ø 420 [445] x 1850	309 008 105	309 005 525 [Ø 420 mm x 400 mm]	309 005 652 (Set = 3 Stk.)
		10" REW PM	110 - 150				
		10" REW	110 - 185				
	10" REW PM	200 - 250	Ø 420 [445] x 2250	309 008 106			
	12" REW	220 - 250	Ø 450 [475] x 2250	309 008 107	309 005 527 [Ø 450 mm x 450 mm]	309 005 653 (Set = 3 Stk.)	
	12" REW	300 - 350	Ø 450 [475] x 2500	309 008 108			
	VSI 454	8" CT	45	Ø 420 [445] x 1500	309 008 118	309 005 525 [Ø 420 mm x 400 mm]	309 005 652 (Set = 3 Stk.)
		8" REW	37				
		8" REW PM	45 - 75				
		8" CT	75	Ø 420 [445] x 1750	309 008 119		
		8" CT HT	45				
		8" REW	60 - 67				
		8" REW PM	75 - 100 & 75 - 130	Ø 420 [445] x 2000	309 008 120		
		8" REW	75				
		8" CT	93	Ø 420 [445] x 2250	309 008 121		
		8" CT HT	55				
		8" CT	110 - 130	Ø 420 [445] x 2500	309 008 112		
		8" CT HT	75 - 93				
8" CT		150	Ø 420 [445] x 2700	309 008 113			
8" CT HT		110					
10" REW		85 - 110	Ø 450 [475] x 1850	309 008 114	309 005 527 [Ø 450 mm x 450 mm]	309 005 654 (Set = 3 Stk.)	
10" REW PM		110 - 150					
10" REW		130	Ø 450 [475] x 2000	309 008 122			
10" REW PM		150 - 200					
10" REW		150 - 185	Ø 450 [475] x 2250	309 008 115			
10" REW PM		200 - 250					
12" REW	185 - 250	Ø 480 [505] x 2250	309 008 116	309 005 533 [Ø 480 mm x 480 mm]	309 005 655 (Set = 3 Stk.)		
12" REW	300 - 400	Ø 480 [505] x 2500	309 008 117				

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* REW: rewindable motors Standard, REW PM: rewindable motors Permanent Magnet

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*** Ø D= Diameter cooling sleeve; [D1]= Diameter cooling sleeve with pipe clamps; L= Length Cooling sleeve

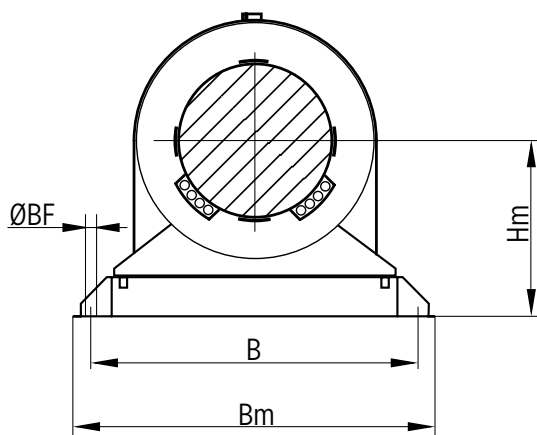
Support Bracket Dimension see page: 205

MOTOR COOLING SLEEVES

support brackets cooling sleeves

Pump Size	Support brackets model no.	Support pump				Support flow sleeve / motor		
		Hm [mm]	B [mm]	Bm [mm]	Ø BF [mm]	B [mm]	Bm [mm]	Ø BF [mm]
4"	309 005 601	100	185	220	11	185	220	11
	309 005 602	100	235	275	11	235	275	11
6"	309 005 611	125	280	330	11	280	330	11
	309 005 612	140	260	310	11	300	350	11
	309 005 613	140	260	310	11	300	350	11
	309 005 622	150	320	370	11	320	370	11
	309 005 623	150	320	370	11	320	370	11
	309 005 624	200	280	330	15	380	430	15
	309 005 631	200	320	370	15	360	410	15
8"	309 005 632	200	320	370	15	360	410	15
	309 005 633	200	320	370	15	380	430	15
	309 005 634	200	320	370	15	380	430	15
	309 005 637	225	320	370	15	410	460	15
	309 005 638	225	320	370	15	410	460	15
	309 005 640	200	320	370	15	380	430	15
	309 005 641	200	320	370	15	380	430	15
	309 005 642	225	320	370	15	410	460	15
	309 005 643	250	320	370	15	450	500	15
	309 005 648	225	320	370	15	410	460	15
	309005644	250	380	430	15	450	500	15
10"	309005645	250	380	430	15	450	500	15
	309005646	270	390	440	15	500	550	15
	309005647	300	380	430	15	550	600	15
	309005649	270	380	430	15	500	550	15
	309005650	270	420	470	15	500	550	15
12"	309005651	270	420	470	15	500	550	15
	309005652	300	420	470	15	550	600	15
	309005653	315	420	470	15	575	625	15
	309005654	315	420	470	15	575	625	15
	309005655	330	420	470	15	600	650	15

support pump



support flow sleeve / motor

