

## HYDROFIRM TGSJ



### Application

HYDROFIRM rubber-sheathed cables TGSJ are intended for connection of electrical equipment in hot water and for medium mechanical stresses. These cables are also suitable for use in industrial water, cooling water, surface water, rainwater, groundwater and seawater (salt water) up to 2000 m water depth. When corrosive water is involved, or water of some other special compositions must be investigated in each individual case. These cables can be used indoors, outdoors, in industrial and agricultural plant, but not in explosion-hazard areas. For protected, fixed installation within equipment, pipes or wells, as well as for rotor connections, these cables may be operated with an AC voltage to 1000 V or a DC voltage to 750 V with respect to earth. The permissible AC voltage for motor tests is 3 kV for a maximum duration of 3 minutes. In other respects the specifications of DIN EN50565-2 apply.

### Global data

Brand	HYDROFIRM
Type designation	TGSJ
Standard	Based on EN 50525-2-21

### Notes on installation

Maximum Submersing Depth	2000 Meter
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### Design features

Conductor	Copper, tinned, finely stranded, class 5 according to DIN EN 60228 / IEC 60228
Insulation	Ozone, weather, heat and water resistant insulation compound, base SIR
Color code	up to 5 cores: colored in accordance with DIN VDE 0293-308 more than 5 cores: DIN EN 50525-1 Annex D
Outer sheath	Special compound, base HEPR
Outer Sheath Colour	Black

### Electrical parameters

Rated voltage	450/750V
Max. permissible operating voltage AC	0.476/0.825 kV
Max. permissible operating voltage DC	0.619/1.238 kV
AC test voltage	2.5 kV
Duration of AC test voltage	15 min.

### Chemical parameters

Water resistance	DIN EN 50525-2-21
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### Thermal parameters

Max. short circuit temperature of the conductor	350 °C (max. 5 s)
Max. permissible water temperature	110 °C (At higher water temperatures, a shortened cable service life is to be expected)
Ambient temperature for fix installation min.	-50 °C
Ambient temp. in fully flex. operation min.	-50 °C

Number of cores x cross section	Art. Des. O/J	Part number	MLFB Number	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Bending radius free moving min. mm	Weight (approx.) kg/km	Permissible tensile force max. N	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
1 x 1.5	-O		5DH1	5.7	6.4	19	19	50	22.5	14	0.23
1 x 6	-O		5DH1	8.2	8.9	36	27	116	90	32	0.93
1 x 10	-O		5DH1	9.8	11	44	33	173	150	45	1.55
1 x 16	-O		5DH1	11.5	12.7	64	51	265	240	60	2.48
1 x 25	-O	20182903	5DH1	13.2	14.4	72	58	375	375	79	3.88
1 x 35	-O		5DH1	14.9	16.4	82	66	485	525	98	5.43
1 x 50	-O		5DH1	17	18.5	93	74	670	750	122	7.75
1 x 70	-O	20203102	5DH1	18.6	20.1	101	80	859	1050	151	10.85
3 x 1.5	-O		5DH1	9.4	10.4	42	31	130	67.5	13	0.23
3 x 2.5	-O	20163258	5DH1	10.9	12.5	63	50	187	112.5	17	0.39
3 x 4	-O		5DH1	12.5	14.1	71	56	252	180	24	0.62
3 x 6	-O		5DH1	14	15.6	78	62	334	270	31	0.93
3 x 10	-O		5DH1	19.8	21.8	109	87	665	450	43	1.55
3 x 16	-O		5DH1	23.6	25.6	128	102	968	720	57	2.48
3 x 25	-O		5DH1	27	30	150	120	1352	1125	76	3.88
3 x 35	-O		5DH1	30.5	33.5	168	134	1707	1575	94	5.43
3 x 50	-O		5DH1	35.6	38.6	193	154	2421	2250	117	7.75
3 x 70	-O		5DH1	39.7	42.7	214	171	3289	3150	145	10.85
3 x 1.5	-J		5DH1	9.4	10.4	42	31	137	67.5	13	0.23
3 x 2.5	-J		5DH1	10.9	12.5	63	50	197	112.5	17	0.39
3 x 4	-J		5DH1	12.5	14.1	71	56	269	180	24	0.62
4 x 1.5	-J		5DH1	10.1	11.7	47	35	157	90	13	0.23
4 x 2.5	-J	20180136	5DH1	12	13.6	68	54	235	150	17	0.39
4 x 4	-J		5DH1	14.2	15.8	79	63	335	240	24	0.62
4 x 6	-J		5DH1	15.5	17.5	88	70	428	360	31	0.93
4 x 10	-J	20180135	5DH1	20.9	22.9	115	92	746	600	43	1.55
4 x 16	-J	20160190	5DH1	24.5	27.5	138	110	1124	960	57	2.48
4 x 25	-J	20162061	5DH1	29.9	32.9	165	132	1668	1500	76	3.88
4 x 35	-J		5DH1	33.6	36.6	183	146	2184	2100	94	5.43
4 x 50	-J		5DH1	39.5	42.5	213	170	3034	3000	117	7.75
4 x 70	-J		5DH1	43.5	46.5	233	186	3975	4200	145	10.85

The values are valid for a multicore cable or three singlecore cables in trefoil in permanent operation with DC or AC with 50 up to 60 Hz at 110 °C ambient temperature, touching a surface, three cores loaded  
-O = without green/yellow core, -J = with green/yellow core