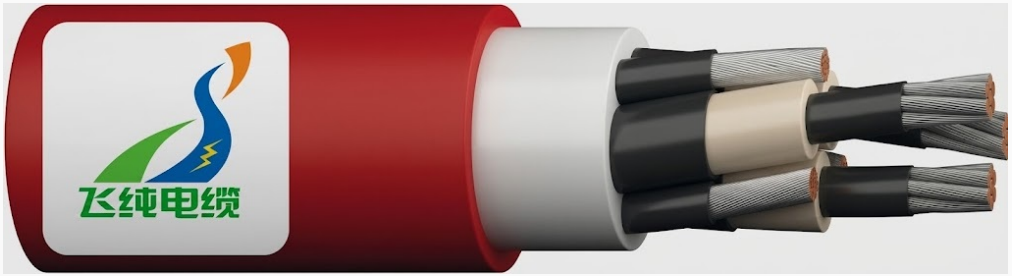
PROTOLON (ST) NTSCGEWOEU

Medium Voltage Flexible Cable for Use in Water | 1.8/3 - 18/30 kV

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Flexible Power Cable for Use in Water

PROTOLON (ST) NTSCGEWOEU is a power supply cable for use in water, e.g. for connection to dredgers, floating docks, pumps, etc., in applications where high mechanical stresses are to be expected. Also suitable for use in sewage, salt water and brackish water at water depths of up to 500 m.

Total Configurations: 73 — covering 7 voltage classes from 1.8/3 kV to 18/30 kV, with conductor sizes from 3×16 mm² up to 3×240 mm².

Key Advantages: Excellent sea water resistance • Rated for water depths up to 500 m • High torsional & tensile resistance • Oil, ozone & UV resistant • Flame retardant per GOST-R/-K/-B certification

Technical Summary & Specifications

ELECTRICAL

Voltage: 1.8/3 – 18/30 kV
Test Voltage: 6 – 43 kV
Conductor: Finely stranded tinned copper, class 5

THERMAL

Max conductor temp: 90°C
Short circuit temp: 250°C
Fixed install: -40 to +80°C
Flexible install: -25 to +60°C

MECHANICAL

Torsional stress: ±100°/m
Tensile strength: 15 N/mm² static
Bend radius: 6×D fixed / 10×D flexible

CHEMICAL

Flame Retardant: ✓ EN/IEC 60332-1-2
Oil / Ozone / UV: ✓ Resistant
Sea Water Resistance: Excellent
Max Water Depth: 500 m

Standards: DIN VDE 0250-813 • DIN VDE 0298-4 • MSHA P-189-4 • DIN EN 60811-404 / IEC 60811-404 • DIN EN 50525-2-21 • GOST-R/-K/-B Fire Certificate (Russian Federation) • DIN EN 60332-1-2 / IEC 60332-1-2

Cable Construction

Conductor & Insulation

1. Conductor — finely stranded copper, tinned, class 5; PE: split into 3 in the outer interstices
2. Semi-conductive EPR
3. EPR rubber core insulation (Special compound 3G13)

Core Arrangement

4. Three main conductor laid-up with protective-earth conductor split into 3 in the outer interstices
5. Semi-conductive EPR

Sheath

6. Special EPR compound, waterproof
7. Chlorinated polyethylene (CM/CPE), Special compound 5GM3, waterproof

Complete Specifications — 1.8/3 kV (9 Configurations)

PROTOLON (ST) NTSCGEWOEU 1.8/3kV — 9 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	36.1	39.1	2,370	1,125	330	0.33	0.795	131
3×35+3×25/3	7.6	37.8	40.8	2,600	1,575	380	0.31	0.565	162
3×50+3×25/3	9	42.1	45.1	3,320	2,250	430	0.30	0.393	202
3×70+3×35/3	10.9	47.4	50.4	4,350	3,150	500	0.28	0.277	250
3×95+3×50/3	12.6	53.2	57.2	5,850	4,275	520	0.27	0.21	301
3×120+3×70/3	14.1	56.4	60.4	6,700	5,400	560	0.27	0.164	352
3×150+3×70/3	16	60.4	64.4	8,060	6,750	630	0.26	0.132	404
3×185+3×95/3	17.8	66.9	70.9	9,450	8,325	690	0.25	0.108	461
3×240+3×120/3	20.4	72.4	76.4	11,000	10,800	770	0.25	0.0817	540

Complete Specifications — 3.6/6 kV (18 Configurations)

PROTOLON (ST) NTSCGEWOEU 3.6/6kV — 18 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+3×16/3E	5.7	37.5	40.5	2,250	720	240	0.35	1.24	99
3×25+3×25/3	6.4	40.1	43.1	2,620	1,125	260	0.35	0.795	131
3×25+3×25/3E	6.4	42.4	45.4	2,800	1,125	260	0.35	0.795	131
3×35+3×25/3	7.6	42.6	45.6	3,200	1,575	290	0.33	0.565	162
3×35+3×16/3E	7.6	43.9	46.9	3,310	1,575	290	0.33	0.565	162
3×50+3×25/3	9	45.6	48.6	3,690	2,250	330	0.32	0.393	202
3×35+3×25/3E	7.6	44.3	47.3	3,420	1,575	290	0.33	0.565	162
3×70+3×35/3	10.9	52.2	56.2	5,180	3,150	380	0.30	0.277	250
3×50+3×25/3E	9	48.1	51.1	4,160	2,250	330	0.32	0.393	202
3×95+3×50/3	12.6	58.4	62.4	6,600	4,275	430	0.29	0.21	301
3×120+3×70/3	14.2	59.1	63.1	7,320	5,400	470	0.28	0.164	352
3×70+3×35/3E	10.9	54.3	58.3	5,440	3,150	380	0.30	0.277	250
3×150+3×70/3	16	65.6	69.6	8,470	6,750	520	0.27	0.132	404
3×95+3×50/3E	12.6	63.8	67.8	6,610	4,275	430	0.29	0.21	301
3×185+3×95/3	17.8	69.4	73.4	9,850	8,325	560	0.26	0.108	461
3×120+3×70/3E	14.1	64	68	8,240	5,400	470	0.28	0.164	352
3×150+3×70/3E	16	69.9	73.9	9,520	6,750	520	0.27	0.132	404
3×240+3×120/3	20.4	76.7	80.7	11,500	10,800	630	0.25	0.0817	540

Note: this voltage class includes both standard ("/3") and 3-core-earth ("/3E") construction variants for several conductor sizes; all are reproduced here as listed in the source data.

Complete Specifications — 6/10 kV & 8.7/15 kV (19 Configurations)

PROTOLON (ST) NTSCGEWOEU 6/10kV — 9 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	41.7	44.7	2,910	1,125	240	0.36	0.795	138
3×35+3×25/3	7.6	44.3	47.3	3,380	1,575	270	0.34	0.565	171
3×50+3×25/3	9	48.9	52.9	4,310	2,250	300	0.32	0.393	214
3×70+3×35/3	10.9	53.8	57.8	5,380	3,150	340	0.31	0.277	265
3×95+3×50/3	12.6	57.4	61.4	6,420	4,275	380	0.29	0.21	321
3×120+3×70/3	14.1	60.6	64.6	7,270	5,400	420	0.29	0.164	372
3×150+3×70/3	16	66.4	70.4	9,000	6,750	460	0.28	0.132	428
3×185+3×95/3	17.8	71.1	75.1	10,100	8,325	500	0.27	0.108	488
3×240+3×120/3	20.4	77.9	82.9	12,000	10,800	560	0.26	0.0817	575

PROTOLON (ST) NTSCGEWOEU 8.7/15kV — 10 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	46.4	49.4	3,440	1,125	200	0.39	0.795	138
3×35+3×25/3	7.6	48.4	52.4	3,730	1,575	220	0.37	0.565	171
3×50+3×25/3	9	53.3	57.3	4,880	2,250	240	0.35	0.393	215
3×70+3×35/3	10.9	57.3	61.3	5,780	3,150	280	0.33	0.277	265
3×95+3×50/3	12.6	63.9	67.9	7,100	4,275	310	0.31	0.21	319
3×120+3×70/3	14.1	67.1	71.1	8,250	5,400	330	0.30	0.164	371
3×150+3×70/3	16	72	76	9,450	6,750	370	0.29	0.132	428
3×150+2×70/2+1×(24E9LWL)	16	74.5	78.5	10,100	6,750	370	0.29	0.132	428
3×185+3×95/3	17.8	76.6	80.6	11,690	8,325	400	0.28	0.108	488
3×240+3×120/3	20.4	82.6	87.6	12,700	10,800	440	0.27	0.0817	574

Complete Specifications — 12/20 kV & 14/25 kV (18 Configurations)

PROTOLON (ST) NTSCGEWOEU 12/20kV — 9 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	52	56	4,190	1,125	170	0.41	0.795	139
3×35+3×25/3	7.6	54.5	58.5	4,720	1,575	190	0.39	0.565	172
3×50+3×25/3	9	57.4	61.4	5,460	2,250	210	0.37	0.393	215
3×70+3×35/3	10.9	64.5	68.5	6,660	3,150	240	0.35	0.277	265
3×95+3×50/3	12.6	68.2	72.2	7,760	4,275	260	0.33	0.21	319
3×120+3×70/3	14.1	71.3	75.3	8,930	5,400	280	0.32	0.164	371
3×150+3×70/3	16	77.5	82.5	10,500	6,750	310	0.31	0.132	428
3×185+3×95/3	17.8	81.3	86.3	12,000	8,325	340	0.30	0.108	488
3×240+3×120/3	20.4	88.6	93.6	13,800	10,800	380	0.29	0.0817	574

PROTOLON (ST) NTSCGEWOEU 14/25kV — 9 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	57.4	61.4	4,670	1,125	150	0.44	0.795	139
3×35+3×25/3	7.6	60	64	5,500	1,575	160	0.41	0.565	172
3×50+3×25/3	9	64.8	68.8	6,220	2,250	180	0.39	0.393	215
3×70+3×35/3	10.9	68.8	72.8	7,500	3,150	200	0.37	0.277	265
3×95+3×50/3	12.6	75.5	79.5	9,000	4,275	220	0.35	0.21	319
3×120+3×70/3	14.1	78.1	83.1	12,250	5,400	240	0.34	0.164	371
3×150+3×70/3	16	83	88	11,600	6,750	270	0.32	0.132	428
3×185+3×95/3	17.8	88.6	93.6	13,500	8,325	290	0.31	0.108	488
3×240+3×120/3	20.4	94.1	99.1	15,500	10,800	320	0.30	0.0817	574

Complete Specifications — 18/30 kV (9 Configurations) & Summary

PROTOLON (ST) NTSCGEWOEU 18/30kV — 9 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	64.3	68.3	5,650	1,125	140	0.46	0.795	139
3×35+3×25/3	7.6	66.9	70.9	6,230	1,575	150	0.43	0.565	172
3×50+3×25/3	9	69.8	73.8	7,000	2,250	160	0.41	0.393	215
3×70+3×35/3	10.9	76.8	80.8	8,710	3,150	180	0.38	0.277	265
3×95+3×50/3	12.6	79.5	84.5	9,910	4,275	200	0.37	0.21	319
3×120+3×70/3	14.1	83.2	88.2	11,280	5,400	220	0.35	0.164	371
3×150+3×70/3	16	89	94	12,910	6,750	230	0.34	0.132	428
3×185+3×95/3	17.8	93.7	98.7	14,500	8,325	250	0.33	0.108	488
3×240+3×120/3	20.4	101	106	16,500	10,800	280	0.32	0.0817	574

Configuration Summary — All 73 Specifications

Voltage Class	Test Voltage	Configurations	Conductor Range	Cable Ø Range	Current Range (A)
1.8/3 (3.6) kV	6 kV	9	3×25 – 3×240 mm²	36.1 – 76.4 mm	131 – 540
3.6/6 (7.2) kV	11 kV	18	3×16 – 3×240 mm²	37.5 – 80.7 mm	99 – 540
6/10 (12) kV	17 kV	9	3×25 – 3×240 mm²	41.7 – 82.9 mm	138 – 575
8.7/15 (17.5) kV	24 kV	10	3×25 – 3×240 mm²	46.4 – 87.6 mm	138 – 574
12/20 (24) kV	29 kV	9	3×25 – 3×240 mm²	52.0 – 93.6 mm	139 – 574
14/25 (29) kV	36 kV	9	3×25 – 3×240 mm²	57.4 – 99.1 mm	139 – 574
18/30 (36) kV	43 kV	9	3×25 – 3×240 mm²	64.3 – 106.0 mm	139 – 574
TOTAL: 73 Complete Specifications Across 7 Voltage Classes					

Applications & Ordering Information

Used for connection to dredgers, floating docks, pumps, and similar mobile equipment operating in or near water — including sewage, salt water, and brackish water environments at depths up to 500 m. For custom lengths, drum packaging, or technical consultation, please contact us directly via WhatsApp or visit our websites below. All 73 standard configurations are available ex-works with standard lead times.

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