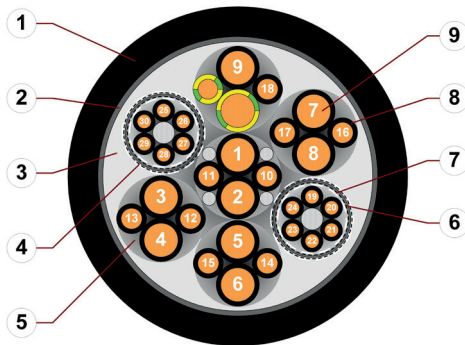


Data sheet

chainflex® CFSPECIAL.792



Cable for the 7th robot axis • PUR outer jacket • Shielded • Oil resistant and coolant-resistant
• Flame-retardant • PVC and halogen-free • Notch-resistant • Hydrolysis and microbe-resistant



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Bending-resistant braiding made of tinned copper wires.
3. Inner jacket: Pressure extruded, gusset-filling TPE mixture
4. Element banding: Plastic fleece over plastic foil
5. Bundles with optimised pitch length and pitch direction
6. Element shield: Bending-resistant braiding made of tinned copper wires
7. Element banding: Plastic foil over plastic fleece
8. Core insulation: Mechanically high-quality TPE mixture
9. Conductor: Fine-wire stranded conductor consisting of bare copper wires

Example image

For detailed overview please see design table

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	According to CFSPECIAL-specification. ► Design table
	Core identification	► Design table
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Element shield	Bending-resistant braiding made of tinned copper wires.
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 50%, optical approx. 80%
	Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Jet black (similar to RAL 9005) Printing: white

„00000 m“* igus chainflex CFSPECIAL.792.---① ---② 600/1000V E310776 cRUus

AWM Style -----③ VW-1 AWM I/II A/B 80°C 1000V FT1 CE

RoHS-II conform www.igus.de +++ chainflex cable works +++

* **Length printing:** Not calibrated. Only intended as an orientation aid.

① / ② Cable identification according to Part No. (see technical table).

③ Printing of the UL style (see related chapter).

Example: ... chainflex CFSPECIAL.792.012 (18G2.5)C 600/1000V ...



Data sheet

chainflex® CFSPECIAL.792



Cable for the 7th robot axis ● PUR outer jacket ● Shielded ● Oil resistant and coolant-resistant
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Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 10 x d minimum 8 x d minimum 5 x d
	Temperature	e-chain® linear flexible fixed	-25°C up to +80°C -40°C up to +80°C (following DIN EN 60811-504) -50°C up to +80°C (following DIN EN 50305)
	v max.	unsupported gliding	3m/s 2m/s
	a max.		20m/s ²
	Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

Electrical information

	Nominal voltage	600/1000V (following DIN VDE 0298-3) 1000V (following UL)
	Testing voltage	4000V (following DIN EN 50395)

Example image

igus® chainflex® CFSPECIAL.792



Data sheet

chainflex® CFSPECIAL.792



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Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2016
	Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following DIN EN 60754
	PTFE-free	The design of these products does not contain PTFE
	UL/CSA AWM	Style 10258 and 20234, 1000 V, 80 °C CFSPECIAL.792.012/CFSPECIAL.792.015: Style 10492 and 21223, 1000 V, 80 °C
	NFPA	Following NFPA 79-2018, chapter 12.9
	REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
	Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
	CE	Following 2014/35/EU



Example image

igus® chainflex® CFSPECIAL.792

Data sheet

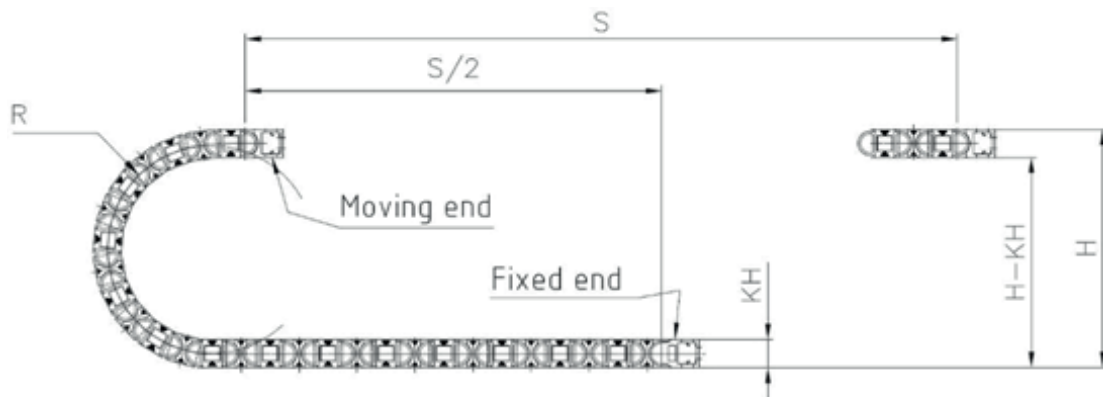
chainflex® CFSPECIAL.792



Cable for the 7th robot axis ● PUR outer jacket ● Shielded ● Oil resistant and coolant-resistant
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Typical lab test setup for this cable series

Test bend radius R	approx. 38 - 200 mm
Test travel S	approx. 1 - 15 m
Test duration	minimum 2 - 4 million double strokes
Test speed	approx. 0.5 - 2 m / s
Test acceleration	approx. 0.5 - 1.5 m / s ²



Typical application areas

- Reliable e-chain® cable for the seventh robot axis
- Electrical properties in line with Kuka (.011/.013/.014), ABB (.012) and Fanuc (.015/.016)

Example image

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Data sheet

chainflex® CFSPECIAL.792



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Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
ABB				
CFSPECIAL.792.012	(18G2.5)C	25.5	545	882
Fanuc				
CFSPECIAL.792.015	(7x(6x2.0))C	36.5	999	1747
CFSPECIAL.792.016	(5x(4x0.25)+10x(3x0.75))C	26.5	422	877
Kuka				
CFSPECIAL.792.011	(5x(2x6.0+2x2.5)+2x(6x1.0))C	35.5	1250	2033
CFSPECIAL.792.013	((6x1.5)C+3x(3x4)+1G6)C	28.0	679	1220
CFSPECIAL.792.014	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5	1340	2122

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

G = with green-yellow earth core x = without earth core

Electrical information

Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Maximum current rating at 30 °C (following DIN VDE 0298-4) [A]
0.25	79.0	5
0.75	26.0	14
1.0	19.5	17
1.5	13.3	21
2.0	10.0	26
2.5	8.0	30
4.0	4.95	41
6.0	3.3	53
10	1.91	74

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.

Example image

igus® chainflex® CFSPECIAL.792



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Part No.	Core group	Colour code	Core design
CFSPECIAL.792.011	10x6.0	Black cores with white numbers 1-9, one green-yellow core	
	10x2.5	Black cores with white numbers 10-18, one green-yellow core	
	2x(6x1.0)C	Black cores with white numbers 19-30	
CFSPECIAL.792.012	(18G2.5)C	Black cores with white numbers 1-17, one green-yellow core	
CFSPECIAL.792.013	(6x1.5)C	Black cores with white numbers 10-15	
	3x(3x4)	Black cores with white numbers 1-9	
	1G6	Green-yellow core	
CFSPECIAL.792.014	2x(3x1.5)C	Black cores with white numbers 10-15	
	3x(3x10)	Black cores with white numbers 1-9	
	1G10	Green-yellow core	
CFSPECIAL.792.015	7x(6x2.0)	Black cores with white numbers 1-29 Blue cores with white numbers 1-4 Yellow cores with black numbers 1-9	
CFSPECIAL.792.016	5x(4x0.25)	(blue/violet/brown/green),(grey/violet/yellow/ brown),(grey/blue/brown/green),(grey/blue/ green/yellow),(green/violet/brown/yellow)	
	10x(3x0.75)	Brown cores with white numbers 1, 7, 24 & 30 Black cores with white numbers 16-21 Blue cores with white numbers 2, 8 & 25 Green cores with black numbers 3, 9 & 26 Yellow cores with black numbers 5, 22 & 28 Red cores with white numbers 11-15 Violet cores with white numbers 4, 10 & 27 Yellow cores with black numbers 6, 23 & 29	

Example image

igus® chainflex® CFSPECIAL.792

