Cabelcon

TrueHybrid Jumpers

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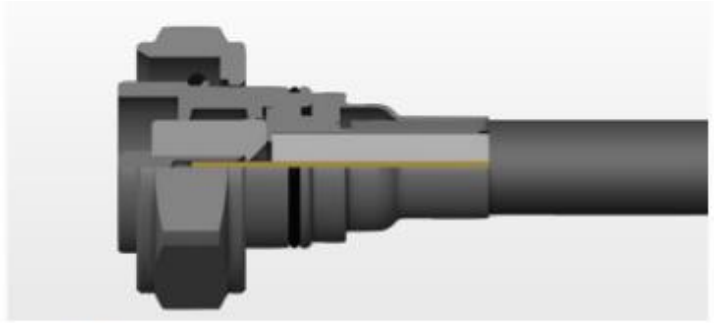
An Amphenol Company

Easier and Faster Installation

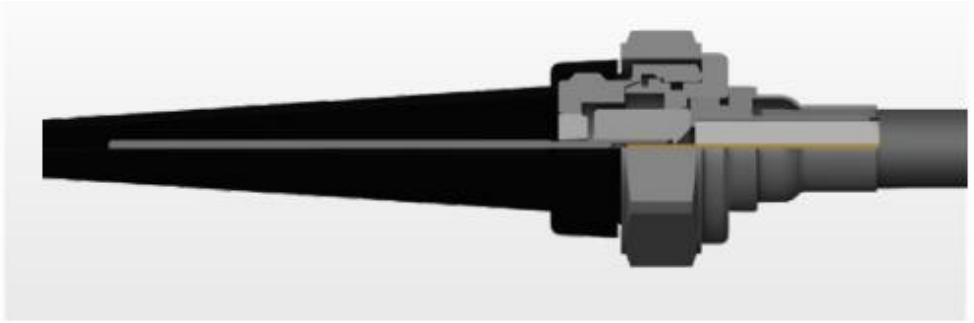
Superior Electrical Performance

Intelligent Design

TrueHybrid Jumpers



3.5/12 Male Cross Section



5/8 Male Cross Section

TrueHybrid Jumper

Features and Value Prop

- Future-ready, for enhanced DOCSIS 4.0+ full duplex applications
- 5 MHz to 3.0 GHz, enables future CapEx & OpEx savings
- Improved design and cable size
- Enhanced connection system on inner/outer conductor, reduces risk of noise/IMD in the network
- Maximum possible A++ shielding
- Amp. Rating @ 10 / 20 degree C increase (5/8 & 3.5/12 interface) 12/17A
- New body and improved crimp technology for minimal transfer impedance
- Unable to have water penetration even after years of installation
- One of the most flexible jumpers on the market
- Designed for installation in tight spaces
- Available for 0.3 m to 10 m

TrueHybrid Jumper Cable Attributes

Cable Types	Center Conductor	Insulation	1.Screen	2.Screen	3.Screen	Jacket	Transfer impedance	Sheilding	Photo
RG7Cu Black PVC	Solid Copper	Gas Injected	Bonded	Annealed Copper	Not Bonded	PVC Black	Class A++	Class A++	
	Diameter 1.21 mm	Foam PE	CuPet foil	Wire 69%	CuPet foil	Diameter 8.2 mm	Class A++	Class A++	

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Technical Data (average value)	3.5/12 Male	3.5/12 Female	5/8 Male swivel PG11 Male	5/8 Female	F Male	IEC Male
						
Transfer impedance (CoMet) 5-30 Mhz	A++	A++	A++	A++	A++	A++
Screening attenuation (CoMet) 30-3000 Mhz	A++	A++	A++	A++	A++	A++
Intermodulation 3rd order @ 2x 30 dBm	-150 dBc	-150 dBc	-150 dBc	-150 dBc	-130 dBc	-150 dBc
Amp. Rating @ 10 / 20 degree C increase	12A / 17A	12A / 17A	12A / 17A	12A / 17A	5A / 7A	8A / 11A
Sealing Test (IEC IP-code)	IP X8 30m / 8 hr	IP X8 30m / 8 hr	IP X8 30m / 8 hr	IP X8 30m / 8 hr	IP X8 30m / 8 hr	IP X8 30m / 8 hr
Return Loss 5-1.000 MHz (0.6m jumper)	-30 dB	-30 dB	-30 dB	-30 dB	-30 dB	-25 dB
Return Loss 1.000-2.000 MHz (0.6m jumper)	-25 dB	-25 dB	-25 dB	-25 dB	-25 dB	-20 dB
Return Loss 2.000-2.000 MHz (0.6m jumper)	-20 dB	-20 dB	-20 dB	-20 dB	-20 dB	-15 dB
Insertion Loss 5-1.000 MHz (0.6m jumper)	-0,25 dB	-0,25 dB	-0,25 dB	-0,25 dB	-0,25 dB	-0,25 dB
Insertion Loss 1.000-2.000 MHz (0.6m jumper)	-0,35 dB	-0,35 dB	-0,35 dB	-0,35 dB	-0,35 dB	-0,35 dB
Insertion Loss 2.000-3.000 MHz (0.6m jumper)	-0,45 dB	-0,45 dB	-0,45 dB	-0,45 dB	-0,45 dB	-0,45 dB
Maximum Tensile Strength	30 Kgf	30 Kgf	30 Kgf	30 Kgf	30 Kgf	30 Kgf

For more accurate data on a specific jumper, please check the data sheet for that application.

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HFX vs. TrueHybrid cable performance

Cable data			
	Current HFX jumper cable	New True Hybrid jumper cables	Comments
Cable min. bend radius without load	54mm	41mm	Improved bending radius vs. HFX
Cable min. bend radius with load	108mm	82mm	Improved bending radius vs. HFX
Amp Rating cable @ 10 degree C increase	11,9A Check	13,0A Check	Improved power handling vs. HFX
Amp Rating cable @ 20 degree C increase	17,0A check	18,0A Check	Improved power handling vs. HFX
Transfer Impedance (CoMeT) 5-30MHz	A++	A++	same transfer impedance class
Screening Attenuation(CoMeT) 30-3000MHz	A++	A++	same shielding class
Attenuation at 20 C° 1000MHz	22,4dB/100 meter	18,30dB/100 meter	Improved attenuation vs. HFX
Jacket material	FRNC-C	PVC	Change to PVC vs. FRNC-C
Jacket Diameter	10,80mm	8,20mm	Improved cable diameter vs. HFX

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TrueHybrid jumper 3.5/12M / 3.5/12F
Data sheet / shielding plot

Cabelcon An Amphenol Company — **Datasheet**

Item no.	84495108	Jumper type	3.5/12M-THJP-3.5/12F/0.8
Cable min. bend radius	41 mm	With cable	280063

Frequency Range	0.3 - 3000 MHz
Impedance (Nom.)	75 Ohm
(measured)	12 A @10°C increase
(calculated)	16.9 A @20°C increase

Product photo

Transfer Impedance (CoMeT)	Class A++
	<0.9 mΩ/m @ 5-30MHz
	<1.1 mΩ/item @ 5-30MHz
Screening Attenuation(CoMeT)	Class A++
	>105 dB @ 30-1000MHz
	>95 dB @ 1000-2000MHz
	>85 dB @ 2000-3000MHz

Return Loss (IEC 61169-1)	Better than	Typical
0.3 - 500 MHz	-31 dB	-33.4 dB
500 - 860 MHz	-29 dB	-32.3 dB
860 - 1000 MHz	-29 dB	-32.1 dB
1000 - 1750 MHz	-25 dB	-27.9 dB
1750 - 2150 MHz	-22 dB	-24.6 dB
2150 - 3000 MHz	-14 dB	-17.4 dB

Insertion Loss Max.	Better than	Typical
0.3 - 500 MHz	-0.21 dB	-0.16 dB
500 - 860 MHz	-0.21 dB	-0.16 dB
860 - 1000 MHz	-0.31 dB	-0.26 dB
1000 - 1750 MHz	-0.40 dB	-0.35 dB
1750 - 2150 MHz	-0.46 dB	-0.41 dB
2150 - 3000 MHz	-0.61 dB	-0.56 dB

Temperature	
Installing	-5° to +50° C
Operating	-40° to +70° C
Storing	-40° to +70° C

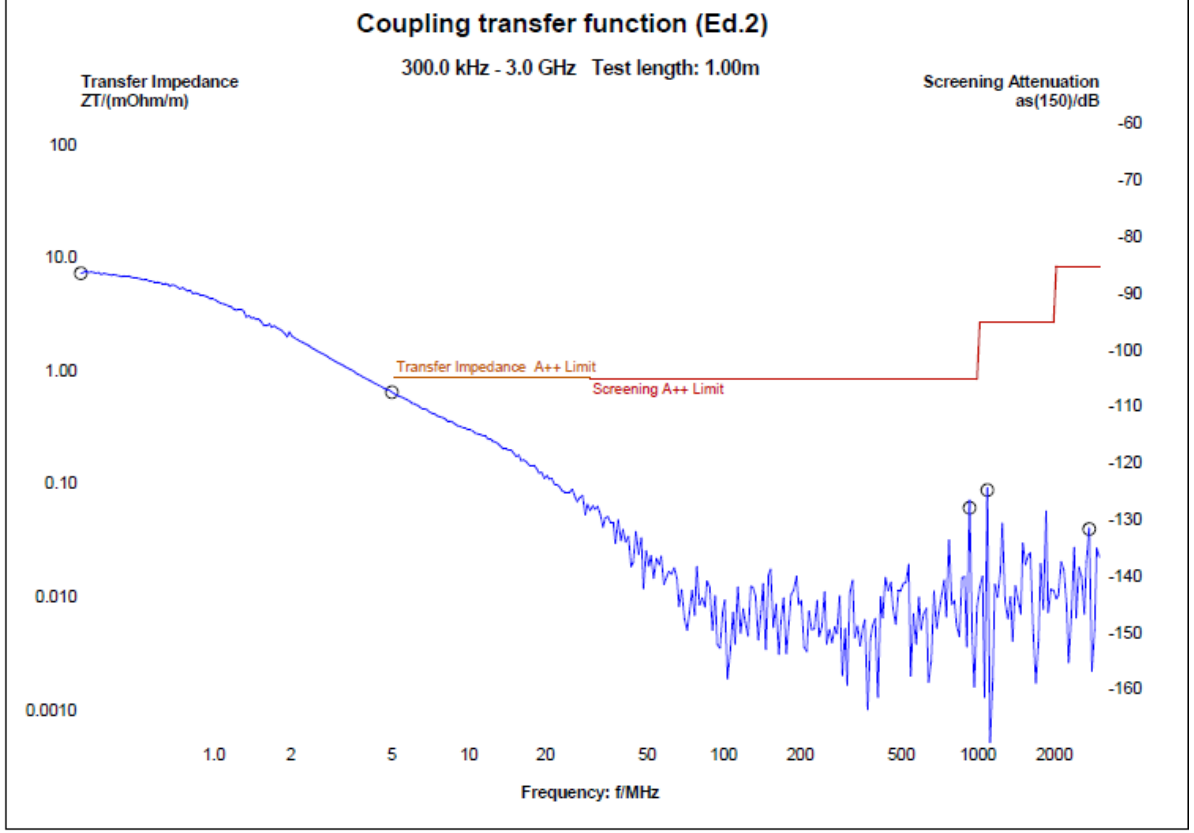
Intermodulation	IM3	
3rd Order (@2x+37dBm)	-152 dBc	
Inner Conductor Resistance (@ 1 A DC)	< 13 mΩ	
Insulation Resistance (@ 500 VDC)	> 200 GΩ	
Dielectric Strength DC Test Voltage	> 3.0 KV	
Max. Tensile Strength Overall	> 55 Kgf	
	> 540 N	
Torsional Strength (Connector / Cable)	* NATM	

Sealing Test (IEC IP-code)	IP X8 1 meter / 24 hours
O-rings	EPDM
Base Material	
Body Parts	Brass
Inner Conductor	Brass / Tin Bronze BZ4
Plating	
Body Parts	Nitin / White Bronze
Inner Conductor	Nitin
Insulators	PP with Glass
Test performed by	Anders Balcer
Approved by	Susanne Lindharth
Date of release	August 2, 2022

Markerdata

f/MHz	ZT/(mOhm/m), as(150)/dB
0.30	7.49
5.00	0.662
926.00	-128
1089.00	-125
2735.00	-132

Test diagram



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TrueHybrid jumper 5/8MU / 5/8F
Data sheet / shielding plot

Cabelcon An Amphenol Company — **Datasheet**

Item no.	84575905	Jumper type	5/8MU-THJP-5/8F/0.5
Cable min. bend radius	41 mm	With cable	280063

Frequency Range	0.3 - 3000 MHz
Impedance (Nom.)	75 Ohm
(measured)	12 A @10°C increase
(calculated)	16.9 A @20°C increase

Product photo

Transfer Impedance (CoMeT)	Class A++
	<0.9 mΩ/m @ 5-30MHz
	<1.8 mΩ/item @ 5-30MHz
Screening Attenuation(CoMeT)	Class A++
	>105 dB @ 30-1000MHz
	>95 dB @ 1000-2000MHz
	>85 dB @ 2000-3000MHz

Return Loss (IEC 61169-1)	Better than	Typical
0.3 - 500 MHz	-31 dB	-33.7 dB
500 - 860 MHz	-31 dB	-33.7 dB
860 - 1000 MHz	-31 dB	-33.4 dB
1000 - 1750 MHz	-24 dB	-26.6 dB
1750 - 2150 MHz	-23 dB	-26.1 dB
2150 - 3000 MHz	-17 dB	-20.3 dB

Insertion Loss Max.	Better than	Typical
0.3 - 500 MHz	-0.17 dB	-0.12 dB
500 - 860 MHz	-0.17 dB	-0.12 dB
860 - 1000 MHz	-0.24 dB	-0.19 dB
1000 - 1750 MHz	-0.31 dB	-0.26 dB
1750 - 2150 MHz	-0.36 dB	-0.31 dB
2150 - 3000 MHz	-0.52 dB	-0.47 dB

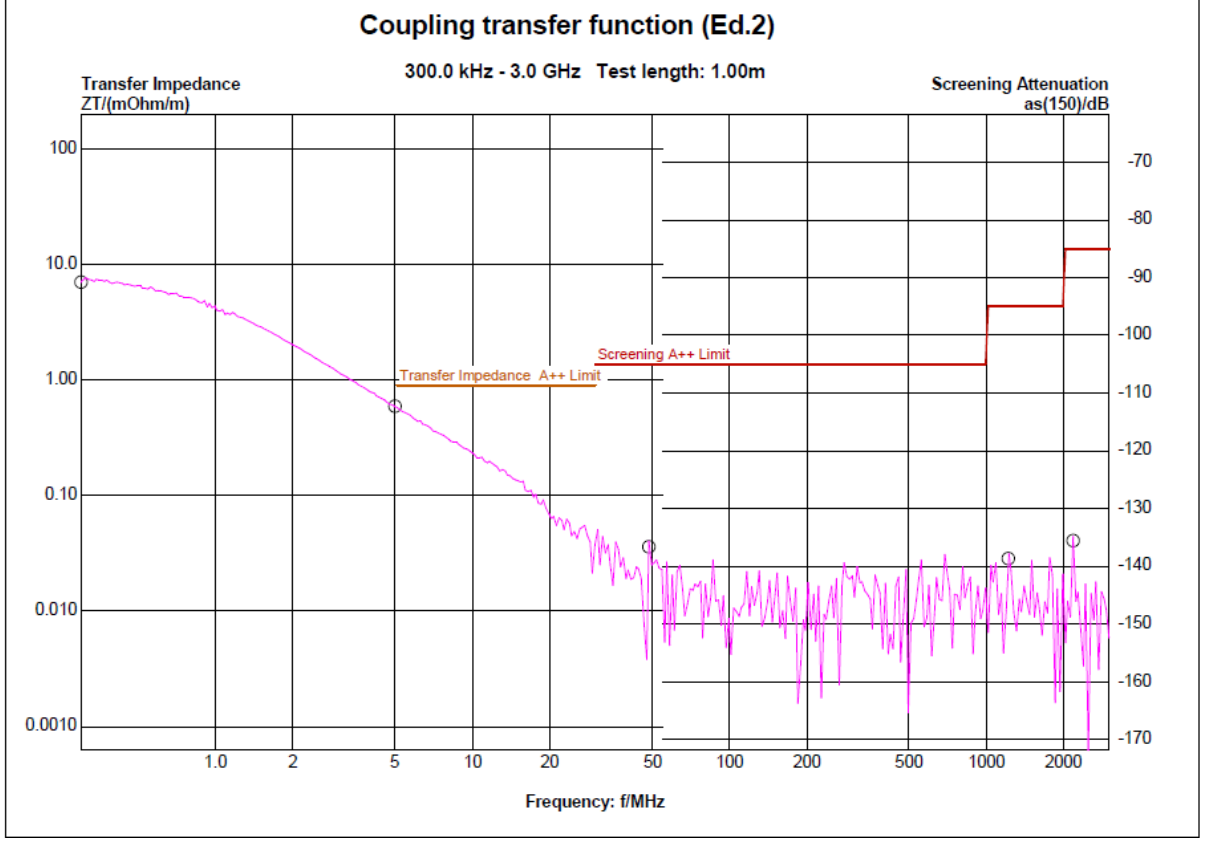
Temperature	
Installing	-5° to +50° C
Operating	-40° to +70° C
Storing	-40° to +70° C
Sealing Test (IEC IP-code)	IP X8 1 meter / 24 hours
O-rings	EPDM
Base Material	
Body Parts	Brass
Inner Conductor	Tin Bronze BZ4 / Brass
Plating	
Body Parts	Nitin / White Bronze
Inner Conductor	Nitin
Insulators	PP with Glass PE HD / PE

Intermodulation	IM3
3rd Order (@2x+37dBm)	-152 dBc
Inner Conductor Resistance (@ 1 A DC)	< 10 mΩ
Insulation Resistance (@ 500 VDC)	> 200 GΩ
Dielectric Strength DC Test Voltage	> 3.0 KV
Max. Tensile Strength Overall	> 55 Kgf
	> 540 N
Torsional Strength (Connector / Cable)	* NATM
Test performed by	Anders Balcer
Approved by	Susanne Lindharth
Date of release	August 2, 2022

Markerdata

f/MHz	ZT/(mOhm/m), as(150)/dB
0.30	7.10
5.00	0.595
48.60	-137
1220.00	-139
2171.00	-136

Test diagram



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Part no. X reference list; HFX jumper vs. TrueDrop Jumpers

HFX jumper		TrueHybrid jumper	
Item no.	Name	Item no.	Name
93000331-03	JPTL202-CXJHFX2-IEC14M/0.8	84000331	JPTL202-THJP-IEC14M/0.8
93000351-04	JPTL212-CXJHFX2-3.5/12M/0.35	84000351	JPTL212-THJP-3.5/12M/0.35
93000352-04	JPTL419TI-CXJHFX2-3.5/12M/0.55	84000352	JPTL419TI-THJP-3.5/12M/0.55
93000354-04	JPTL212-CXJHFX2-3.5/12M/0.55	84000354	JPTL212-THJP-3.5/12M/0.55
93000356-04	JPTL319TI-CXJHFX2-3.5/12M/0.55	84000356	JPTL319TI-THJP-3.5/12M/0.55
93000357-04	JPTL212-CXJHFX2-3.5/12M/1.7	84000357	JPTL212-THJP-3.5/12M/1.7
93000378-03	JPTL212-CXJHFX2-3.5/12M/1.3	84000378	JPTL212-THJP-3.5/12M/1.3
93001703-04	JPTL363-CXJHFX2-3.5/12M/0.35	84001703	JPTL363-THJP-3.5/12M/0.35
93001705-04	JPTL363-CXJHFX2-3.5/12M/0.55	84001705	JPTL363-THJP-3.5/12M/0.55
93001710-04	JPTL363-CXJHFX2-3.5/12M/1.0	84001710	JPTL363-THJP-3.5/12M/1.0
93001713-03	JPTL363-CXJHFX2-3.5/12M/1.3	84001713	JPTL363-THJP-3.5/12M/1.3
93001993-04	JPTL636-CXJHFX2-3.5/12M/0.35	84001993	JPTL636-THJP-3.5/12M/0.35
93002005-04	JPTL636-CXJHFX2-3.5/12M/0.55	84002005	JPTL636-THJP-3.5/12M/0.55
93002013-04	JPTL619TI-CXJHFX2-3.5/12M/0.55	84002013	JPTL619TI-THJP-3.5/12M/0.55
93002017-04	JPTL636-CXJHFX2-3.5/12M/1.7	84002017	JPTL636-THJP-3.5/12M/1.7
93002102-03	JPTL655-CXJHFX2-IEC14M/0.7	84002102	JPTL655-THJP-IEC14M/0.7
93002106-03	JPTL655-CXJHFX2-IEC14M/0.8	84002106	JPTL655-THJP-IEC14M/0.8
93002115-03	JPTL611STI-CXJHFX2-5/8MU/0.8	84002115	JPTL611STI-THJP-5/8MU/0.8
93002305-04	JPTL616-CXJHFX2-3.5/12M/0.55	84002305	JPTL616-THJP-3.5/12M/0.55
93002310-04	JPTL616-CXJHFX2-3.5/12M/1.0	84002310	JPTL616-THJP-3.5/12M/1.0
93454507-03	IEC14M-CXJHFX2-IEC14M/0.7	84454507	IEC14M-THJP-IEC14M/0.7
93494507-04	3.5/12M-CXJHFX2-IEC14M/0.7	84494507	3.5/12M-THJP-IEC14M/0.7
93494903-04	3.5/12M-CXJHFX2-3.5/12M/0.35	84494903	3.5/12M-THJP-3.5/12M/0.3

HFX jumper		TrueHybrid jumper	
Item no.	Name	Item no.	Name
93494905-04	3.5/12M-CXJHFX2-3.5/12M/0.5	84494905	3.5/12M-THJP-3.5/12M/0.5
93494906-04	3.5/12M-CXJHFX2-3.5/12M/0.6	84494906	3.5/12M-THJP-3.5/12M/0.6
93494907-04	3.5/12M-CXJHFX2-3.5/12M/0.7	84494907	3.5/12M-THJP-3.5/12M/0.7
93494908-04	3.5/12M-CXJHFX2-3.5/12M/0.8	84494908	3.5/12M-THJP-3.5/12M/0.8
93494910-04	3.5/12M-CXJHFX2-3.5/12M/1.0	84494910	3.5/12M-THJP-3.5/12M/1.0
93494912-04	3.5/12M-CXJHFX2-3.5/12M/1.2	84494912	3.5/12M-THJP-3.5/12M/1.2
93494915-04	3.5/12M-CXJHFX2-3.5/12M/1.5	84494915	3.5/12M-THJP-3.5/12M/1.5
93494920-04	3.5/12M-CXJHFX2-3.5/12M/2.0	84494920	3.5/12M-THJP-3.5/12M/2.0
93495105-04	3.5/12M-CXJHFX2-3.5/12F/0.5	84495105	3.5/12M-THJP-3.5/12F/0.5
93495107-04	3.5/12M-CXJHFX2-3.5/12F/0.7	84495107	3.5/12M-THJP-3.5/12F/0.7
93495108-04	3.5/12M-CXJHFX2-3.5/12F/0.8	84495108	3.5/12M-THJP-3.5/12F/0.8
93495110-04	3.5/12M-CXJHFX2-3.5/12F/1.0	84495110	3.5/12M-THJP-3.5/12F/1.0
93495115-04	3.5/12M-CXJHFX2-3.5/12F/1.5	84495115	3.5/12M-THJP-3.5/12F/1.5
93495307-04	3.5/12M-CXJHFX2-FM/0.7	84495307	3.5/12M-THJP-FM/0.7
93535908-03	FM-CXJHFX2-5/8F/0.8	84535908	FM-THJP-5/8F/0.8
93574915-04	5/8MU-CXJHFX2-3.5/12M/1.5	84574915	5/8MU-THJP-3.5/12M/1.5
93575705-03	5/8MU-CXJHFX2-5/8MU/0.5	84575705	5/8MU-THJP-5/8MU/0.5
93575710-03	5/8MU-CXJHFX2-5/8MU/1.0	84575710	5/8MU-THJP-5/8MU/1.0
93575715-03	5/8MU-CXJHFX2-5/8MU/1.5	84575715	5/8MU-THJP-5/8MU/1.5
93575720-03	5/8MU-CXJHFX2-5/8MU/2.0	84575720	5/8MU-THJP-5/8MU/2.0
93575905-03	5/8MU-CXJHFX2-5/8F/0.5	84575905	5/8MU-THJP-5/8F/0.5
93575910-03	5/8MU-CXJHFX2-5/8F/1.0	84575910	5/8MU-THJP-5/8F/1.0
93575915-03	5/8MU-CXJHFX2-5/8F/1.5	84575915	5/8MU-THJP-5/8F/1.5
93575920-03	5/8MU-CXJHFX2-5/8F/2.0	84575920	5/8MU-THJP-5/8F/2.0

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