DE: Info@allectra.com
UK: uk@allectra.com
F: fr@allectra.com
IT: it@allectra.com

allectra

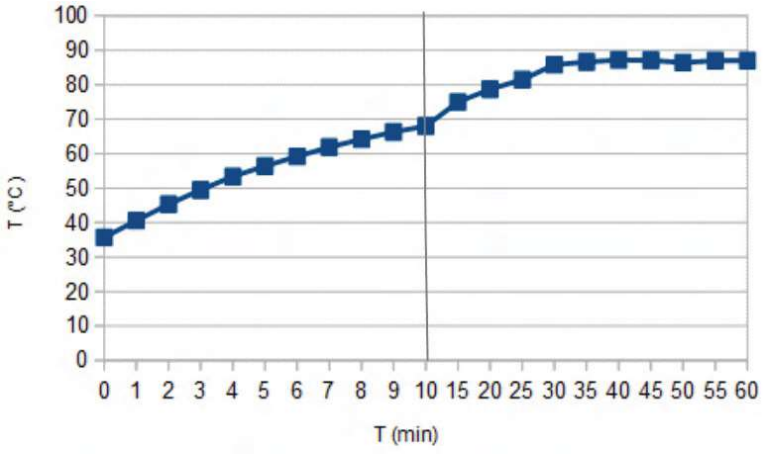
High Current Sub-D feedthroughs on CF and KF /ISO Flanges

The typical use of Sub-D feedthroughs are signal connections and low current applications.
With the HIGH CURRENT versions, Sub-D feedthroughs can replace power feedthroughs with minimal space requirements.

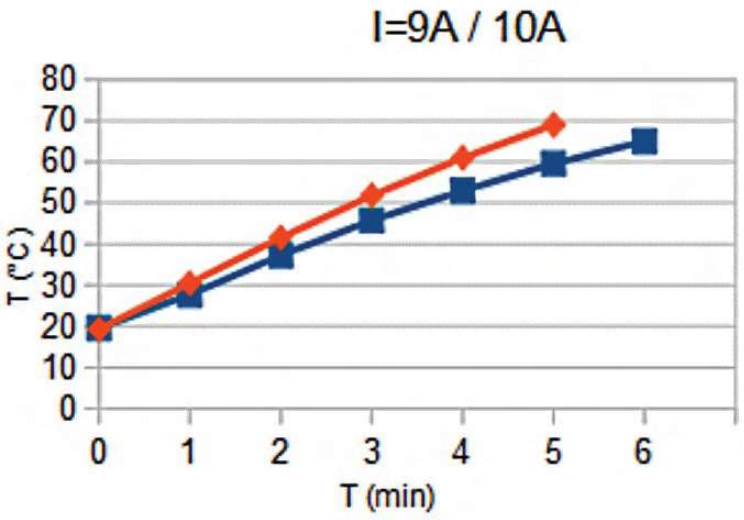
HC Sub-D feedthroughs allow:
- Continuous use with 6A, all pins loaded
- Short time use with 10A, all pins loaded

All dimensions are identical to Standard Sub-D types!
Allectra offers the full range (9 to 50 pins).

Pleases note, that also the cables and connectors must be chosen, who can handle the high current. Allectra offers all required components:
- Crimp pins for thicker wires
- UHV compatible wire
- Air side connectors with high current rating



*Temperature measured on a 25-pin Sub-D HC f/t at **7A** versus time (=1A more than specified, all pins loaded, so 175A in total).*
The max. reached temperature stays below 90°C.



Temperature versus time with 9 A (blue) and 10A (red) current per pin, all pins loaded. (225 / 250A in total)
All tests were done at room temperature of ~20°C

High Current Sub-D feedthroughs on CF and KF /ISO Flanges

The versions with one HIGH CURRENT (HC) feedthrough per flange are offered here.
Please ask for a quote, if you require more feedthroughs on one flange or if combinations with other types of feedthroughs are desired.

General Specifications High Current Sub-D

Compliance	DIN 41652, MIL-C-24308
Pin-ø	1.0 mm
Pin material	Gold plated proprietary metal
Seal	Glass Ceramic
Flange	Stainless Steel
Test Voltage	500V DC
Maximum Current	10A per pin for 5 min.
Cont. Current	6A per pin, all pins loaded
Temperature	-200°C to 250°C (UHV) -40°C to 200°C (HV)
Leak rate	$<5x10^{-10}$ mbar-l/s He (UHV) $<1x10^{-9}$ mbar-l/s He (HV)

Sub-D Feedthroughs on CF Flanges 500V, up to 10 Amps per Pin

SIZE	NO. OF PINS	PART NUMBER
40CF	9	210-D09-C40-HC
40CF	15	210-D15-C40-HC
63CF	15	210-D15-C63-HC
63CF	25	210-D25-C63-HC
63CF	50	210-D50-C63-HC
100CF	37	210-D37-C100-HC
100CF	50	210-D50-C100-HC

Not listed in the catalogue are flanges with multiple High Current Sub-D feedthroughs.
Please ask for a quote, we can do all kind of assemblies with High Current versions as well.

Sub-D Feedthroughs on KF/ISO-K Flanges 500V, up to 10 Amps per Pin

SIZE	NO. OF PINS	PART NUMBER
40KF	9	210-D09-K40-HC
40KF	15	210-D15-K40-HC
63ISO-K	15	210-D15-ISO63-HC
63ISO-K	25	210-D25-ISO63-HC
63ISO-K	50	210-D50-ISO63-HC
100ISO-K	37	210-D37-ISO100-HC
100ISO-K	50	210-D50-ISO100-HC

Please note:

To use the feedthrough with high current, also the **connectors, pins and cables** must be adjusted for the use with high current.
For the vacuum side the housings are identical to the standard versions, but we recommend the use of a cable with 1.3mm diameter and the fitting crimp pins (see next page)
For the air side, fitting high current connectors are offered as well on next page.

DE: Info@allectra.com
UK: uk@allectra.com
F: fr@allectra.com
IT: it@allectra.com

allectra

Accessories for HC Sub-D feedthroughs

All components used with HC feedthroughs must be chosen for high current use. Here the fitting components are listed.

Please note, that the vacuum side connectors and housings are identical with the Standard Sub-D versions, only the pins have to be changed. These connectors and housings are listed on page 1.14 to 1.16

HC air side connectors have gold plated contacts. They come including a plastic housing with thumb screws

Specification HIGH CURRENT CRIMP PINS

Vacuum	High Vacuum and UHV
Material	Gold plated copper alloy
Pin diameter	1mm ø
Wire size	0.7 to 1.3mm ø max
Crimp tool	214-CTOOL-SUB-D
	214-CTOOL
	214-CTOOL-HQ

High Current Crimp Pins for Sub-D
Cable ø 1.3mm max, fits HV and UHV Sockets

TYPE/WIRE Ø	No. PER PKT.	PART NUMBER
female, 1.3mm ø	10	212-PINF-10-HC
female, 1.3mm ø	15	212-PINF-15-HC
female, 1.3mm ø	25	212-PINF-25-HC
male, 1.3mm ø	10	212-PINM-10-HC
male, 1.3mm ø	15	212-PINM-15-HC
male, 1.3mm ø	25	212-PINM-25-HC

Specification HIGH CURRENT AIR SIDE CONNECTORS

Pin diameter	1mm ø
Surface	fully Gold plated
Pins	Solder cup
Wire diameter	1.0mm ø max
Rated current	7.5A continuous

Air side connectors, solder pins
for up to 7.5A continuous current

TYPE	PINS	PART NUMBER
AIR, 7.5A	9	211-FS09-AIR-HC
AIR, 7.5A	15	211-FS15-AIR-HC
AIR, 7.5A	25	211-FS25-AIR-HC
AIR, 7.5A	37	211-FS37-AIR-HC
AIR, 7.5A	50	211-FS50-AIR-HC

Standard connectors are rated to 5A max. These special connectors can be used at up to 7.5A per pin continuously. Please note, that the typical ready made air side cables are only useable for approx. 1A

Air side connectors have gold plated solder cup pins for 1mm ø wires.
If you want to use thicker wires up to 1.3mm ø, use above listed crimp pins plus the Crimp pin housings 211-FSxx-ATC, see page 1.20

Accessories for HC Sub-D feedthroughs

All components used with HC feedthroughs must be chosen for high current use. Here the fitting components are listed.

Please note, that the vacuum side connectors and housings are identical with the Standard Sub-D versions, only the pins have to be changed. Connectors are listed on page 1.14-1.15
Housings are listed on page 1.14 and 1.16

Specification HIGH CURRENT WIRE

Vacuum	UHV, $<10^{-10}$ mbar
Construction	High flexible 1.3mm ø (19x0.25mm)
Material	Silver plated copper
Insulation	Kapton
Overall diameter	1.4mm
Temp. range	4K .... 300°C
Radiation	up to 10^9 rad

The HC pins allow the use of cable up to 1.3mm diameter with the Sub-D system. The pins fit to all standard connectors.
The cable 311-KAPM-130-RAD can be used for more than 10A and is so the ideal wire for the High Current Sub-D system (top left cable on the photo).

Pins and cables can be used with the standard feedthroughs as well.

For a full range of cables, see Sec. 6

UHV compatible Wire, Kapton insulated 1.3mm ø, radiation resistant

LENGTH	PART NUMBER
5m	311-KAPM-130-RAD-5M
10m	311-KAPM-130-RAD-10M
50m	311-KAPM-130-RAD-50M

Male pins for the different cable sizes. On the right, the High Current pins are shown, which accept cables up to 1.3mm diameter

The "HC" Logo on the feedthrough clearly marks the types for high current applications. Of course they can be used with standard pins as well.