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swiss world connects

# CONTACTS





CONTACTS



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# CONTACT TECHNOLOGY

## INTRODUCTION

PRECI-DIP, a world wide leading manufacturer of precision machined contacts and related interconnect components is continuously improving its ability to design innovative contacts. This catalog provides general technical information on PRECI-DIP contacts. It should help potential users make the best technical choice for a given application.

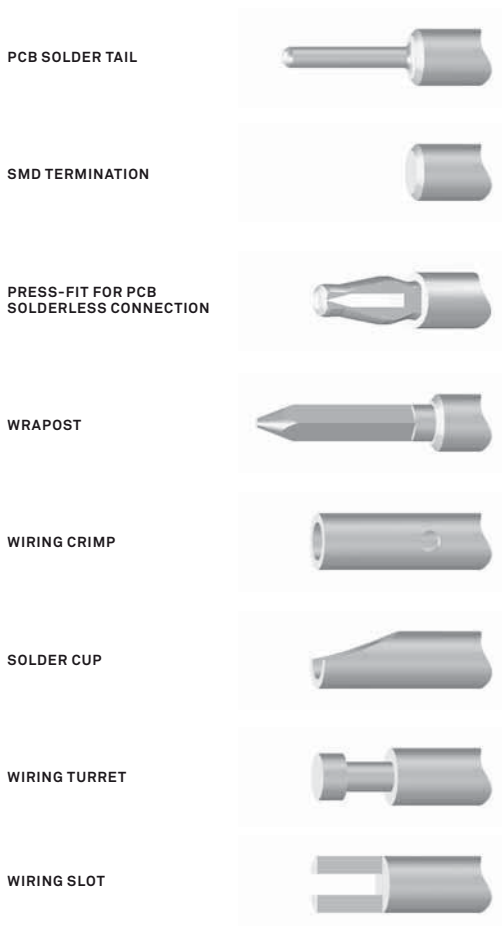
**TO FIND INDIVIDUAL SPECIFICATIONS OF STANDARD CONTACTS, PLEASE CONSULT OUR SEARCH ENGINE AT WWW.PRECIDIP.COM**

If no adequate solution can be found there, please contact us, only a selected choice of all existing contacts is displayed. Further, PRECI-DIP will be pleased to offer full support to design and manufacture customer specific contacts.

## THREE MAIN GROUPS OF CONTACT PRODUCTS ARE DESCRIBED AND OFFERED

- Spring-loaded contacts
- Socket contacts also called female contacts or pin receptacles
- Pin or male contacts and PCB terminals

All of these can be manufactured with different type of terminations:



## THIS CATALOG SECTION CONTAINS GENERAL TECHNICAL INFORMATION ON PRECI-DIP CONTACTS

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# CONTACT TECHNOLOGY

## SOCKET CONTACT SELECTOR

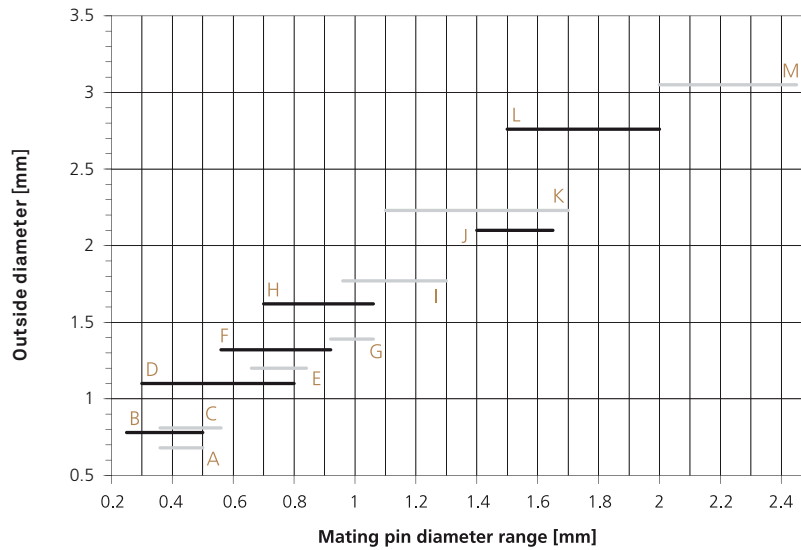
### CONTACT SELECTOR BY MATING PIN DIAMETER

The mating pin diameter range and insertion characteristics of socket contacts are identified with the clip code, given by the last 4 digits of the part number.

#### 1 TO SEARCH A SUITABLE SOCKET CONTACT TO MATE WITH A KNOWN PIN:

With the graph on the right, find the group code corresponding to the mating pin diameter. In the table below right, search the clip codes corresponding to the group and the page number of the corresponding data sheet.

All clip codes from the same group are interchangeable within a given contact body. This allows for contacts with a larger range of insertion characteristics to fulfill the requirements of special applications



#### 2 TO SEARCH THE CHARACTERISTICS OF A KNOWN CLIP CODE:

Find the corresponding page number for each clip code data sheet in the table on the right side

GROUP	CLIP CODE	TYP. INSERTION FORCE [N]	TEST PIN DIAM. [mm]	SEE PAGE
A	0110	0.25	0.38	185
B	5410	0.20	0.30	185
C	1110	1.0	0.43	185
	2110	0.8	0.46	186
	0510	0.5	0.52	186
D	3020	0.45	0.30	186
	1210	3.0	0.43	187
	3010	2.0	0.43	187
	2210	0.6	0.46	187
	3110	0.7	0.46	188
	3130	0.4	0.46	188
	3160	0.2	0.46	188
	5210	0.56	0.76	189
	E	1410	1.5	0.78
F	1610	3.5	0.76	189
	0610	1.5	0.76	190
	4710	0.4	0.76	190
G	1810	2.0	1.04	190
H	3410	4.0	1.04	191
I	0210	5.0	1.15	191
	2710	2.2	1.15	191
J	4910	3.0	1.61	192
K	1310	1.3	1.27	192
	2310	3.0	1.30	192
	3920	2.5	1.61	193
L	0710	4.0	1.88	193
M	4010	10.0	2.41	193



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# CONTACT TECHNOLOGY

GENERAL SPECIFICATIONS

## GENERAL TECHNICAL SPECIFICATIONS

The contacts are manufactured by high speed turning process with, if necessary, additional secondary machining operation for example for flats, slots or solder cups. The preferred diameter range lies between 1 and 6 mm and contact length up to 40 mm are standard.

## MATERIALS

### CONTACT BODIES

- Brass CuZn36Pb3, C36000
- Brass CuZn35Pb2, C34500 for contacts with crimp terminations
- Bronze CuSn4Pb4Zn4, C54400 for contacts with compliant press-fit terminations

### CLIPS

- Beryllium copper alloy C17200

### SPRINGS

- Stainless steel X12CrNi177 mat. Nr 1.4310, DIN 17224
- Music wire mat. Nr 1.1211, DIN 17223

### HOODS

- Stainless steel AISI 305

All these materials are compliant with RoHS requirements. Lead content of copper alloys is less than 4% in accordance with Exception 6 of the RoHS directive 2002/95/CE.

## PLATING

Contact plating is made up of basis underplating acting as diffusion barrier and of finishing layer.

### UNDERPLATING

- Nickel (Ni) electro-deposited, acc. to SAE-AMS-QQ-N-290
- Electroless nickel phosphorus alloy for max. corrosion and wear resistance and for lowest magnetic permeability (plating suffix N)

### FINISH

- Gold (Au) acc. to ASTM B488, type II C, plating codes 1 (0.25 µm), 3 (0.75 µm), 4 (1.27 µm) and 7 (gold flash)
- Tin (pure tin Sn), plating code 8, standard tin plating with excellent solderability, RoHS compliant
- Tin-Lead (SnPb90/10) acc. to ASTM B545, plating code 9. This plating is **not RoHS compliant**.
- Silver (Ag) acc. to ASTM B700, plating code 6

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

See individual data pages

## ENVIRONMENTAL CHARACTERISTICS

The contacts withstands following environmental tests without mechanical and electrical defects:

- Dry heat steady state IEC 60512-11-9.11i / 60068-2-2.Bb: 125 °C, 16 h
- Damp heat cyclic IEC 60512-11-12.11m / 60068-2-30.Db: 25/55 °C, 90 – 100 %rH, 1 cycle of 24 h
- Cold steady state IEC 60512-11-10.11j / 60068-2-1.A: -55 °C, 2 h
- Thermal shock IEC 60512-11-4.11d / 60068-2-14.Na: -55/125 °C, 5 cycles 30 min
- Sinusoidal vibrations IEC 60512-6-4.6d / 60068-2-6.Fc: 10 to 500 Hz, 10 g, 1 octave/min, 10 cycles for each axis
- Shock IEC 60512-6-3.6c / 60068-2-27.Ea: 50 g, 11 ms, 3 shocks in three axis

During the above two tests no contact interruption >50 ns does appear.

- Solderability J-STD-002C, Test A1, 245 °C, 5 s, solder alloy SnAg3.8Cu0.7
- Resistance to soldering heat J-STD-020C, 260 °C, 20 s
- Resistance to corrosion:
  - 1) Salt spray test IEC 60068-2-11.Ka: 48 h
  - 2) Sulfur dioxide (SO<sub>2</sub>) test IEC 60068-2-42.Kc: 96 h at 25 ppm SO<sub>2</sub>, 25 °C, 75 %rH
  - 3) Hydrogen sulfide (H<sub>2</sub>S) test IEC 60068-2-43.Kd: 96 h at 12 ppm H<sub>2</sub>S, 25 °C, 75 %rH



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# CONTACT TECHNOLOGY

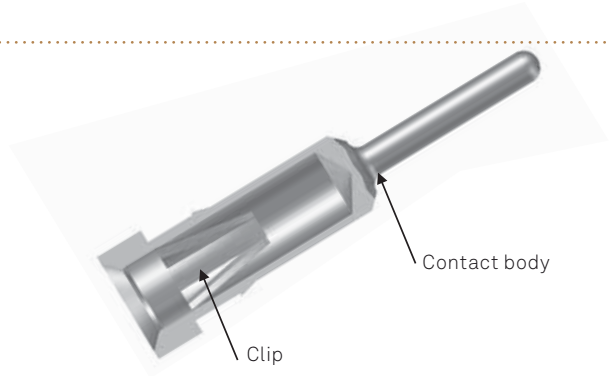
## SOCKET AND PIN CONTACTS

### SOCKET CONTACTS

The PRECI-DIP technology for socket contacts is based on a two-parts design:

- Contact body
- Multi-finger contact spring called clip

These socket contacts with clip are compatible with all existing machined and stamped mating pin contacts of same size



### CONTACT BODIES AND CLIPS ARE MANUFACTURED AND PLATED SEPARATELY

The contact bodies are manufactured by high speed turning process with additional secondary machining operation if required.

The clip are stamped and formed from sheet material. Depending on size and characteristics, the clips are designed with 3 to 8 contact finger. The choice of heat treated beryllium copper alloy gives the best possible combination of mechanical and electrical properties for use in electrical contacts. More than 40 clips are pre-tooled, covering a mating pin diameter range from 0.25 to 2.5 mm. They can accept square or rectangular pin.

The clip is assembled into the contact body by press-fit on automatic equipment including on-line inspections.

### MAIN ADVANTAGES OF THE TECHNOLOGY

- The combination of existing standard clip with specific contact body gives a flexibility unknown with traditional contact design
- Production of machined specific contact bodies is cost effective starting at medium sized quantities
- PRECI-DIP automatic high speed contact assembly lines are optimized for large production runs but also for smaller series

### PIN CONTACTS

Precision screw-machined pin contacts are the best choice for many applications:

- High quality, low dimensional tolerances
- Best surface of the mating end for applications requiring high mating cycle count
- Wide range of dimensions and geometry
  - Length from 3 to 50 mm
  - Diameter from 0.25 to 6 mm
- Low initial (tooling) costs and attractive prices for medium and high volume production due to manufacturing on high speed automatic lathes

With its own plating unit, PRECI-DIP offers single source services for finished contacts

### MECHANICAL CHARACTERISTICS

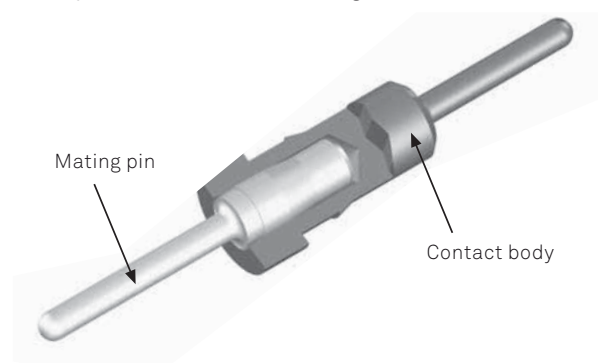
- Insertion characteristics  
Insertion and withdrawal force for standard clips are displayed on the corresponding data sheets. The values are measured with polished steel gauges with spherical tip and are typical average measurements. These data are for general information and selection of best suited clip for a given application.
- Compliancy  
Each clip is able to accept a broad range of mating pins. This ability is called «compliancy». The compliancy factor  $\Delta$  specifies the resulting operating range after insertion of the largest permissible mating pin.
- Clip retention  
This is the force needed to pull-out the press-fitted clip from its contact body. Clip retention is greater than 40 N.
- Mechanical life  
The mechanical life expectancy is dependent on the surface smoothness and diameter of the mating pin and on the plating. For some applications, more than 1000 mating cycles are possible.

### ELECTRICAL CHARACTERISTICS

- Current rating  
The given currents are for one mated combination of socket and pin contact, in free air and for 10°C temperature rise.

### BI-BLOC PIN CONTACTS

PRECI-DIP offers «selective plated» bi-bloc pin contact with the high quality of machined contact and the advantages of selective plating. These contacts are made from 2 parts: the contact body with termination and the connecting or mating pin manufactured separately and assembled after plating.





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# CONTACT TECHNOLOGY

## SPRING-LOADED CONTACTS

### SPRING-LOADED CONTACTS

Spring-loaded contacts were initially designed since 1995 for mobile phones. The application requires miniature, reliable, contacts with very high mating cycles count at low cost. The basic design of spring-loaded contact with hollow piston consists of a contact body or barrel, a contact member or piston and an helical compression spring. The piston is retained in the barrel by a crimp. The electrical contact is established by pressure between the piston and a fixed, flat, conducting area of the opposite part.

Based on this initial model, new contacts with improved characteristics were designed:

- Low resistance spring-loaded contacts with shaped piston
- High-reliable contacts with clip. This contact design is protected by international patents

### Main advantages

- Very long life time
- Many types of terminations available (see page Introduction)
- Small dimensions for use in applications with limited space (min. contact height 3 mm, min. contact diameter 1 mm)
- Very good resistance to shocks and vibrations
- Best adapted where conventional connection solutions cannot satisfy the application requirements:

In case of important positioning tolerances of the connectors parts

For compensation of errors of parallelism and flatness

To make connection with pivoting, rotating or non parallel mating movement

For connections with sliding mating action (push and lock)

### CHARACTERISTICS

STANDARD CONTACTS  
HOLLOW PISTON  
DESIGN



IMPROVED-DESIGN CONTACTS  
SLANT PISTON DESIGN      POLYGONAL PISTON DESIGN



«HIGH RELIABILITY» CONTACTS  
CLIP COAXIAL DESIGN      CLIP IN-LINE DESIGN



patented

patented

### ENVIRONMENTAL

Operating temp. range

- 55°C to + 85°C (music wire) / + 125°C (stainless steel)

### MATERIALS (RoHS-compliant)

Piston		Gold plated machined brass		
Barrel		Gold plated machined brass		
Spring		Gold plated music wire / Stainless steel		Gold plated BeCu C17200
Clip	-	-		

### MECHANICAL

Min. diameter	1.1 mm	1.5 mm	1.8 mm	0.8 mm
Min. initial height	2.5 mm	5 mm	4.5 mm	9 mm
Travel / height ratio	Max. 0.3	Max. 0.2	Max. 0.2	Max. 0.15
Max. travel (stroke)	2 mm	2 mm		1.5 mm
Min. initial spring force	0.2 N	0.2 N		0.2 N
Mechanical life*	100'000 cycles	50'000 cycles		40'000 cycles

### ELECTRICAL

Contact resistance**	Max. 15 mΩ	Max. 10 mΩ		Max. 20 mΩ
Max. operating current***	1 A cont. / 2 A peak	3.5 A cont. / 7 A peak		2 A cont. / 4 A peak

\* Tested at nominal stroke with perpendicular pad connector area    \*\* Static measurement in halfway position of piston travel

\*\*\* Above max. current values are for single contacts in free air and for 10°C temperature rise. Values are indicative and may be affected by contact force, static or dynamic applications, shocks or vibrations





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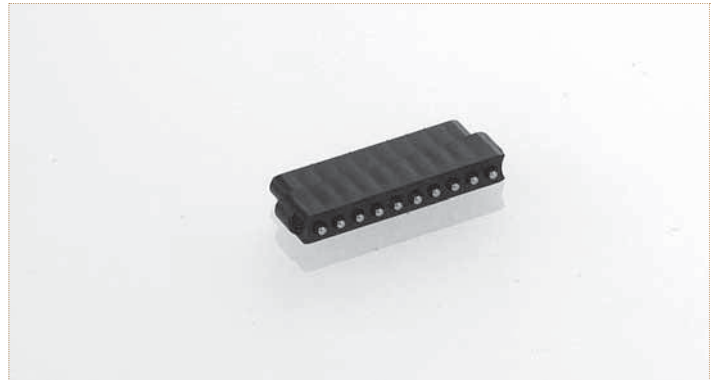
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# CONTACT TECHNOLOGY

SPRING-LOADED CONTACTS

## DOUBLE-SIDED SPRING-LOADED CONNECTORS

A solderless connecting system with double-sided pressure connection (Fig.1).



### WORKING MODE

The conventional spring-loaded contact (SLC) ① is mounted in a frame (housing) ②.

The barrel has a groove behind a retention barb ③.

The first contact surface is positioned on one side of the SLC (Fig. 2).

The second contact surface will actuate the spring-loaded contact. An equal contact pressure applies on both surfaces (Fig. 3).



Fig. 1

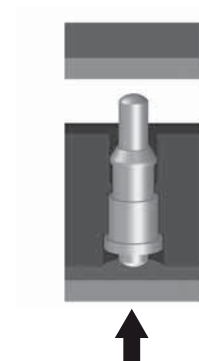


Fig. 2

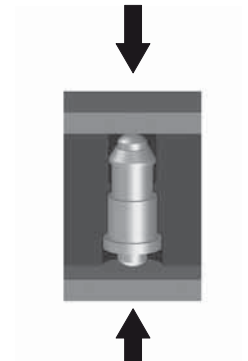


Fig. 3

### AVAILABILITY

Double-sided contacts have been designed to be assembled on custom design connectors or to be integrated by customer into their own assemblies:

- contacts with outside diameter 1.8 mm with min. 4.5 mm distance (D) between connecting surfaces (see Fig. 3).
- contacts with min. 0.8 mm outside diameter and min. 8 mm distance (D) for fine pitch applications.
- long stroke and high contact pressure high reliability clip contacts.

Please consult for more information.



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# CONTACT TECHNOLOGY

MIL CONTACTS

## INTRODUCTION

PRECI-DIP has tapped its unique expertise and tested know-how to develop new MIL socket contacts based on the clip technology.

Two socket contact technologies are available: hooded contacts using the reversed clip and hoodless contacts using the Eagle Grip clip.

These contacts have successfully passed all the qualification tests according to AS39029 and are listed on the QPL.

We are also manufacturing the corresponding precision-machined pin contacts.



## HOODED CONTACTS USING THE REVERSED CLIP PATENTED TECHNOLOGY

### CONTACT DESIGN

The contact consists of three parts, separately manufactured and made of different base materials. This design allows to optimise the performance and to select the most appropriate production process individually:

- Contact body made of machined brass
- Reversed clip made of stamped and formed beryllium-copper
- Protection hood made of deep-drawn stainless steel

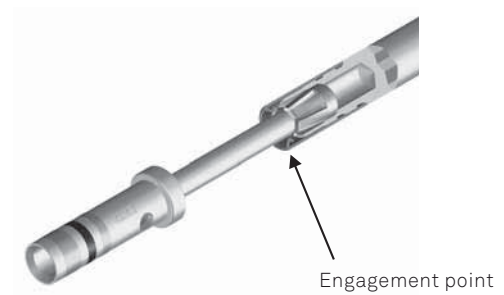
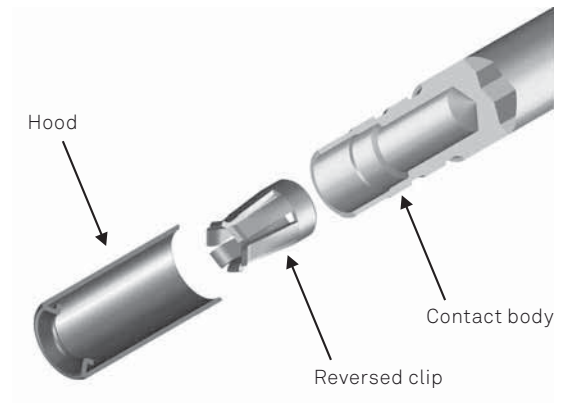
Separate electroplating processes of body and clip allow the best cost-performance ratio. The assembly of the three parts is then carried out on dedicated, fully automatic assembly lines.

Reversed clip contacts are presently available in size 12, 16, 20 and 22. This proprietary technology, entirely developed by PRECI-DIP, is protected by international patents.

### ADVANTAGES AND CHARACTERISTICS

In comparison with the traditional slotted contact body, the reversed clip design has several advantages:

- Smaller difference between insertion and extraction force
- Reduced dispersion of the force values
- Better redundancy at the level of the contact point, thanks to 6 or 8 contact fingers



Reversed clip available in sizes 12, 16, 20, 22



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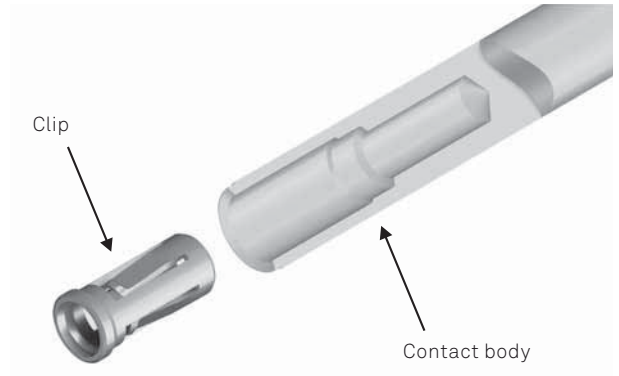
# CONTACT TECHNOLOGY

MIL CONTACTS

## HOODLESS CONTACTS USING THE EAGLE GRIP CLIP PATENTED TECHNOLOGY

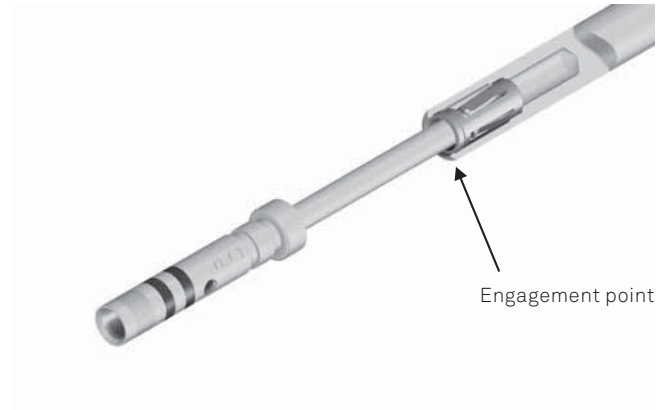
### CONTACT DESIGN

- The hoodless contact consists of two parts: the contact body and the clip (separate pressure member) are made from different base materials.
- The high-speed screw machined contact body is made of brass.
- The use of quality crimping brass renders the annealing operation unnecessary.
- The precision stamped and formed Eagle Grip clip is made of beryllium-copper.
- Separate electroplating processes of the body and clip offer the best cost-performance ratio.
- Automatic assembly lines are designed by our engineers to conduct the body and clip assembly.
- The clip is precisely positioned in the outer shell and firmly held in place between a shoulder and the crimp lip.
- In-line mechanical check is carried out on the assembly machine.
- Eagle Grip clip hoodless contacts are presently available in sizes 16, 20 and 22.
- This PRECI-DIP proprietary technology is protected by international patents.



### ADVANTAGES AND CHARACTERISTICS

- 2-piece contact without hood
- Fully automatic assembly process with in-line mechanical check
- Localized finish: body and clip are plated separately
- High surface quality with a stamped and formed clip
- Precision rolling surface finish in the contact area
- Better contact redundancy thanks to 3 or 4 contact fingers
- Repeatability in the manufacturing process of the clip (tooling and stamping)
- Limited difference between insertion and extraction mating forces
- Narrow range of the force values
- Fully integrated manufacturing process on one single production site
- Swiss precision technology



Eagle Grip clip available in sizes 16, 20, 22

### TECHNICAL SPECIFICATIONS

#### CONTACT BODY

**MATERIAL** Machined brass C34500  
**OVERALL FINISH** Gold plate acc. to ASTM B488, Type II, C, over 2.5 µm Ni

#### CLIP

**MATERIAL** BeCu C17200  
**OVERALL FINISH** Gold plate acc. to ASTM B488, Type II, C, min. 1.27 µm Au over 2.5 µm Ni



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# CONTACT TECHNOLOGY

MIL CONTACTS

## LIST OF PART NUMBERS QUALIFIED PRODUCT LISTED

### SOCKET CONTACTS

CONNECTOR TYPE ACC. TO	MIL P/N	REVERSED / EAGLE GRIP CLIP	PRECI-DIP P/N	SIZE
MIL-DTL-38999 Series I, III, IV	AS/M39029/56-348	Reversed Eagle Grip	83011-1P4-7010-B1 83051-7Q4-6010-01	#22D
	AS/M39029/56-351	Reversed Eagle Grip	83021-1P4-7110-B1 83061-7Q4-6110-01	#20
	AS/M39029/56-352	Reversed Eagle Grip	83031-1P4-7210-B1 83071-7Q4-6210-01	#16
	AS/M39029/56-353	Reversed	83041-1P4-7310-B1	#12
MIL-DTL-38999 Series II	AS/M39029/57-354	Reversed Eagle Grip	83101-7Q4-7010-B1 83091-7Q4-6010-01	#22D
MIL-DTL-24308				
MIL-DTL-55302				
MIL-DTL-83733				
MIL-DTL-24308	AS/M39029/63-368	Eagle Grip	83121-7Q4-6110-01	#20
MIL-DTL-26482 Series 2	AS/M39029/5-115	Reversed Eagle Grip	83181-7Q4-7110-B1 83131-7Q4-6110-01	#20
AS 81703 Series 3				
MIL-DTL-83723 Series 3	AS/M39029/5-116	Reversed Eagle Grip	83191-7Q4-7210-B1 83141-7Q4-6210-01	#16
MIL-DTL-83733	AS/M39029/5-118	Reversed	83151-7Q4-7310-B1	#12
MIL-DTL-26482 Series 1	AS/M39029/32-259	Reversed Eagle Grip	83161-7Q4-7110-B1 83111-7Q4-6110-01	#20
MIL-DTL-26482 Series 1	AS/M39029/32-248	Reversed Eagle Grip	83171-7Q4-7210-B1 83081-7Q4-6210-01	#16
MIL-DTL-26500				

### PIN CONTACTS

CONNECTOR TYPE ACC. TO	MIL P/N	OVERALL / LOCALIZED FINISH	PRECI-DIP P/N	SIZE
MIL-DTL-38999 Series I, II, III, IV	AS/M39029/58-360	Overall	82011-40-01	#22D
		Localized	82011-7Q4-01	
MIL-DTL-24308				
MIL-DTL-55302	AS/M39029/58-363	Overall	82021-40-01	#20
		Localized	82021-7Q4-01	
MIL-DTL-83733	AS/M39029/58-364	Overall	82031-40-01	#16
		Localized	82031-7Q4-01	
	AS/M39029/58-365	Overall	82041-40-01	#12
		Localized	82041-7Q4-01	
MIL-DTL-24308	AS/M39029/64-369	Overall Localized	82061-40-01 82061-7Q4-01	#20
MIL-DTL-26482 Series 2	AS/M39029/4-110	Overall Localized	82071-40-01 82071-7Q4-01	#20
AS 81703 Series 3				
MIL-DTL-83723 Series 3	AS/M39029/4-111	Overall	82081-40-01	#16
		Localized	82081-7Q4-01	
MIL-DTL-83733	AS/M39029/4-113	Overall	82091-40-01	#12
		Localized	82091-7Q4-01	
MIL-DTL-26482 Series 1	AS/M39029/31-240	Overall Localized	82051-40-01 82051-7Q4-01	#20
MIL-DTL-26482 Series 1	AS/M39029/31-229	Overall Localized	82101-40-01 82101-7Q4-01	#16
MIL-DTL-26500				



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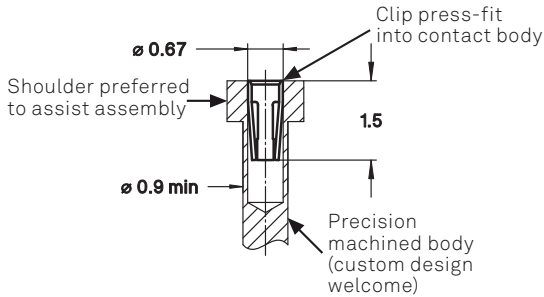
# CONTACT DATA

STANDARD CLIP

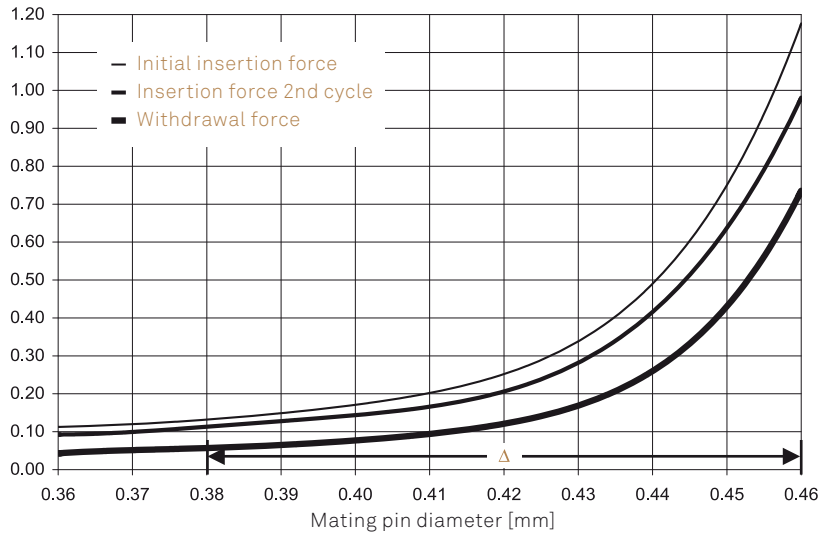
## CLIP CODE 0110

4-FINGER

MATING PIN DIAMETER RANGE	0.36-0.46 mm
COMPLIANCY $\Delta$	0.08 mm
MIN. MATING PIN LENGTH	1.8 mm
CURRENT RATING	1 A



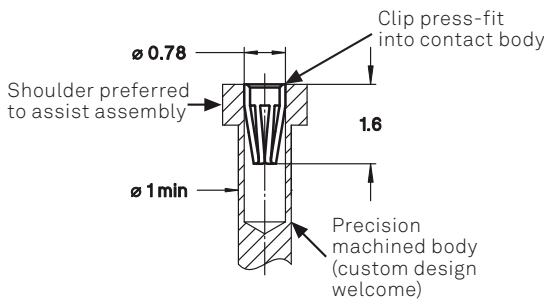
Force [N]



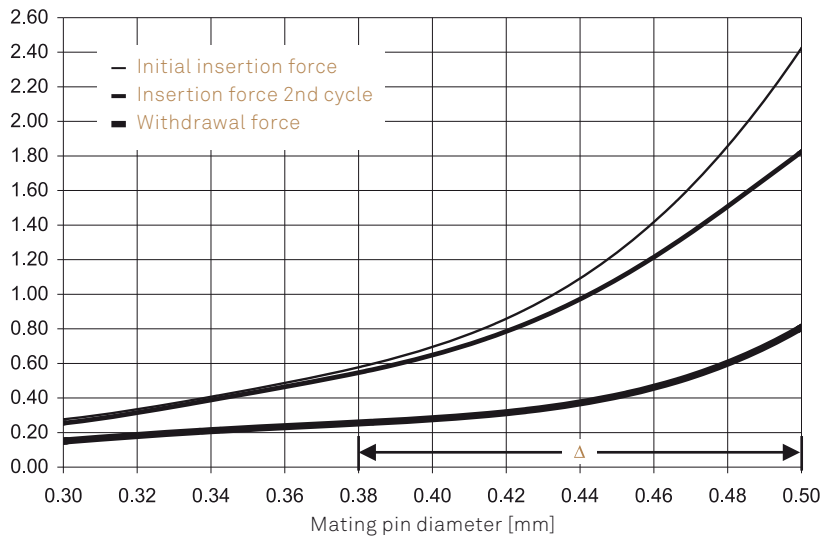
## CLIP CODE 5410

6-FINGER

MATING PIN DIAMETER RANGE	0.3-0.5 mm
COMPLIANCY $\Delta$	0.12 mm
MIN. MATING PIN LENGTH	1.8 mm
CURRENT RATING	1 A



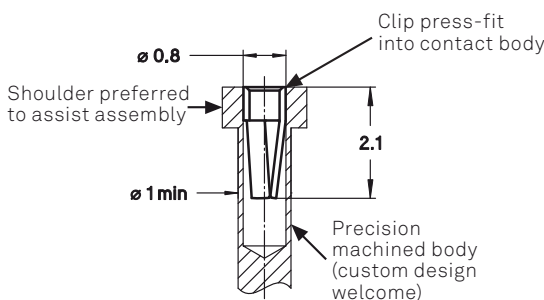
Force [N]



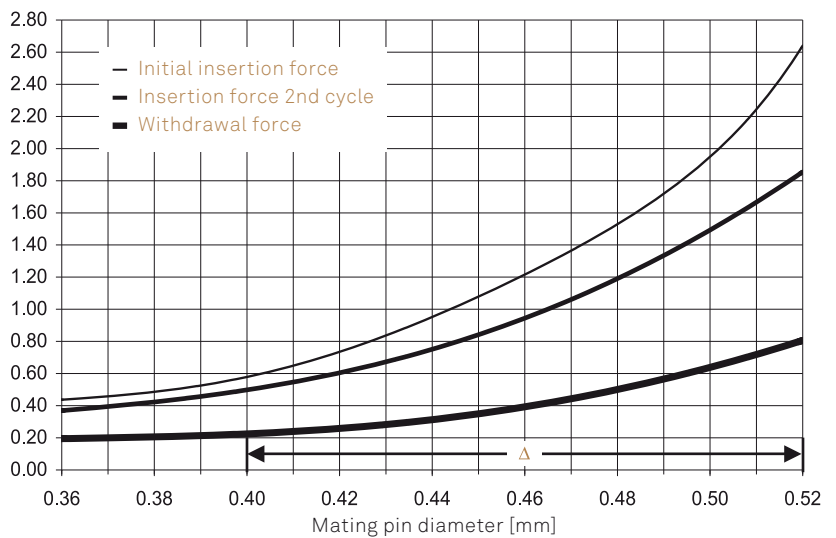
## CLIP CODE 1110

3-FINGER

MATING PIN DIAMETER RANGE	0.36-0.52 mm
COMPLIANCY $\Delta$	0.12 mm
MIN. MATING PIN LENGTH	2.3 mm
CURRENT RATING	3 A



Force [N]



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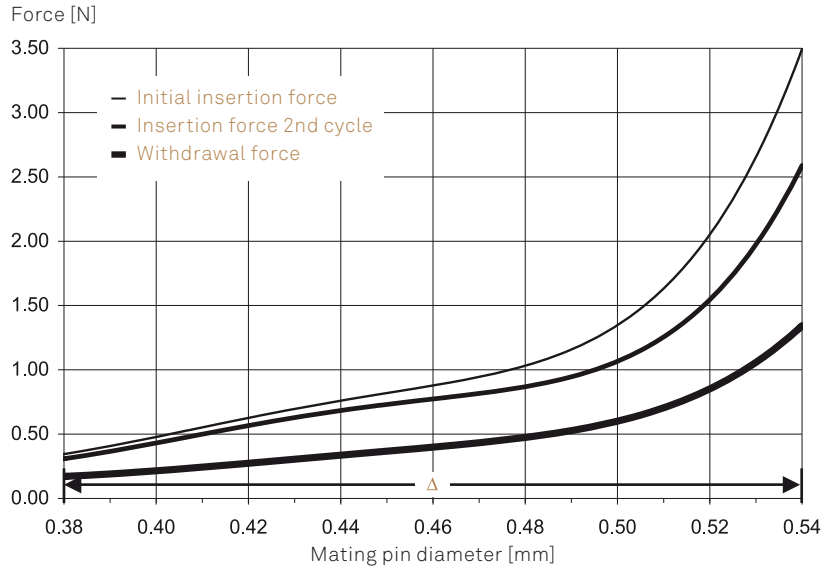
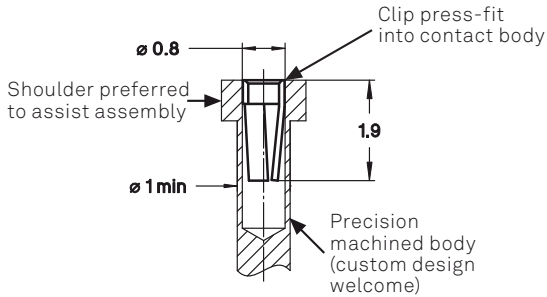
# CONTACT DATA

STANDARD CLIP

## CLIP CODE 2110

3-FINGER

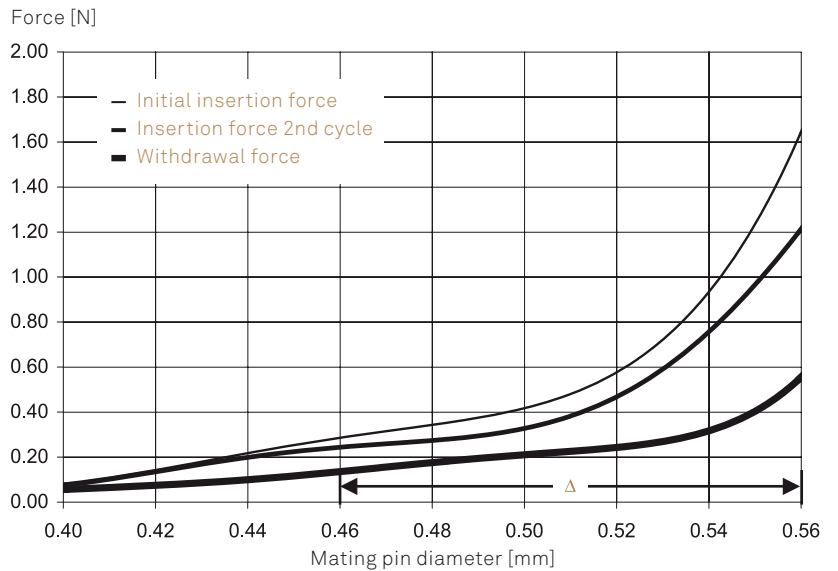
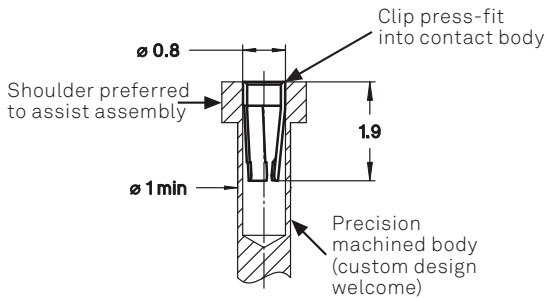
MATING PIN DIAMETER RANGE	0.38-0.54 mm
COMPLIANCY $\Delta$	0.16 mm
MIN. MATING PIN LENGTH	2.2 mm
CURRENT RATING	2 A



## CLIP CODE 0510

3-FINGER

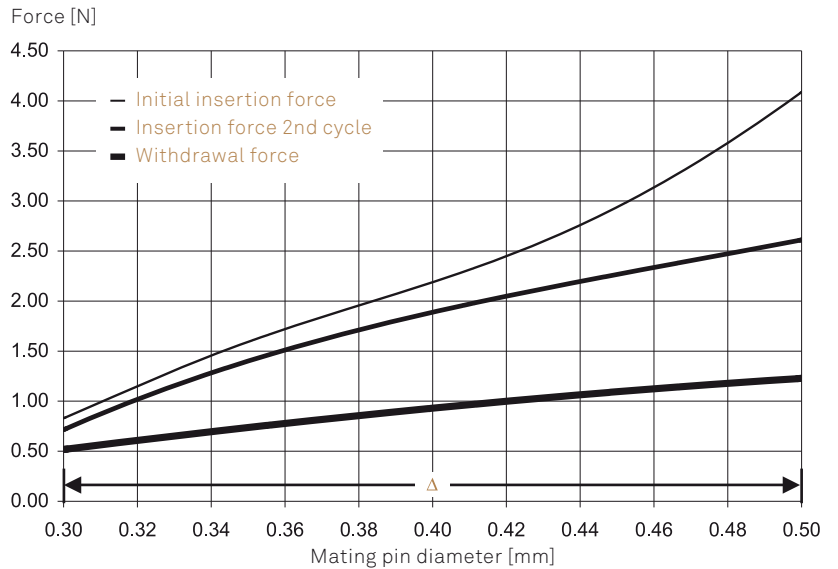
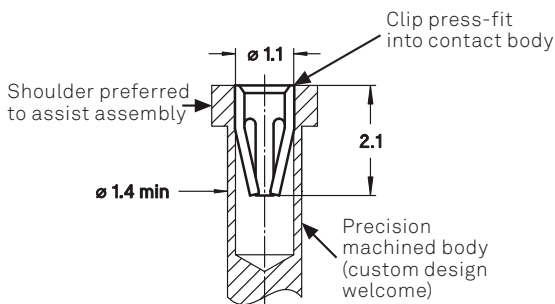
MATING PIN DIAMETER RANGE	0.4-0.56 mm
COMPLIANCY $\Delta$	0.1 mm
MIN. MATING PIN LENGTH	2.2 mm
CURRENT RATING	2 A



## CLIP CODE 3020

4-FINGER

MATING PIN DIAMETER RANGE	0.3-0.5 mm
COMPLIANCY $\Delta$	0.2 mm
MIN. MATING PIN LENGTH	2.4 mm
CURRENT RATING	3 A





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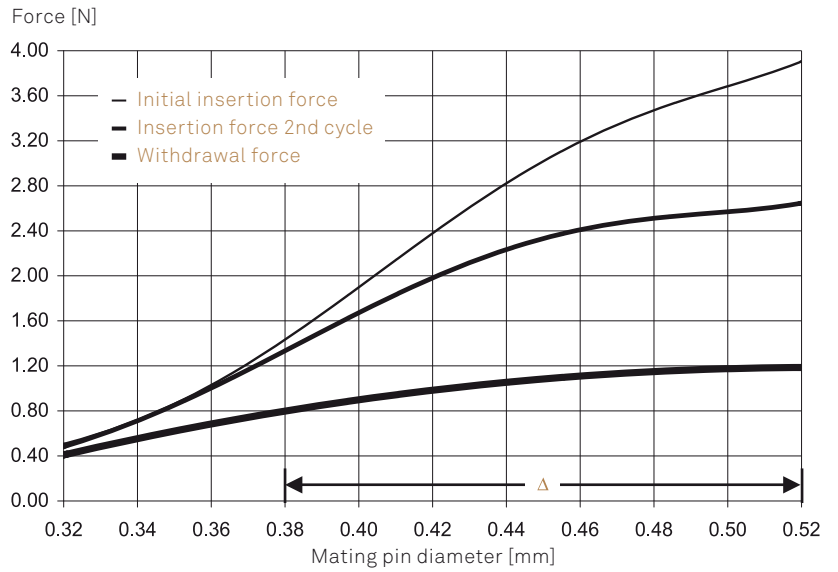
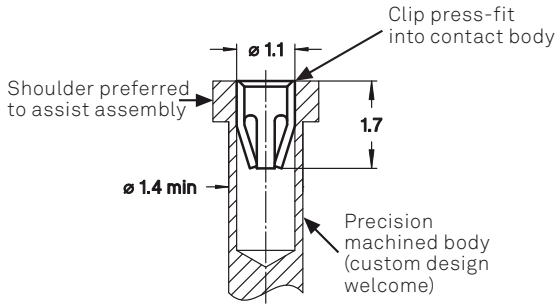
# CONTACT DATA

STANDARD CLIP

## CLIP CODE 1210

4-FINGER

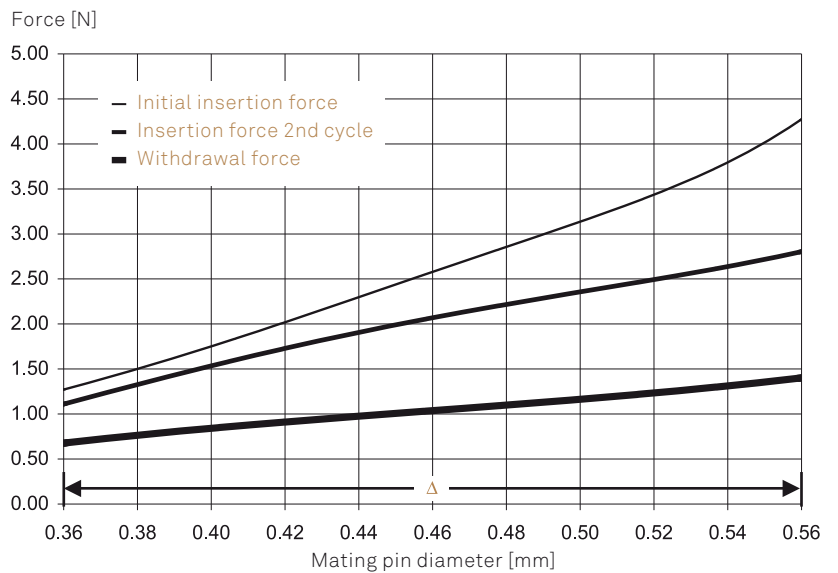
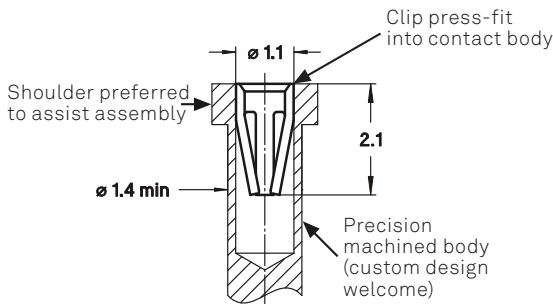
MATING PIN DIAMETER RANGE	0.32-0.52 mm
COMPLIANCY $\Delta$	0.14 mm
MIN. MATING PIN LENGTH	2 mm
CURRENT RATING	3 A



## CLIP CODE 3010

4-FINGER

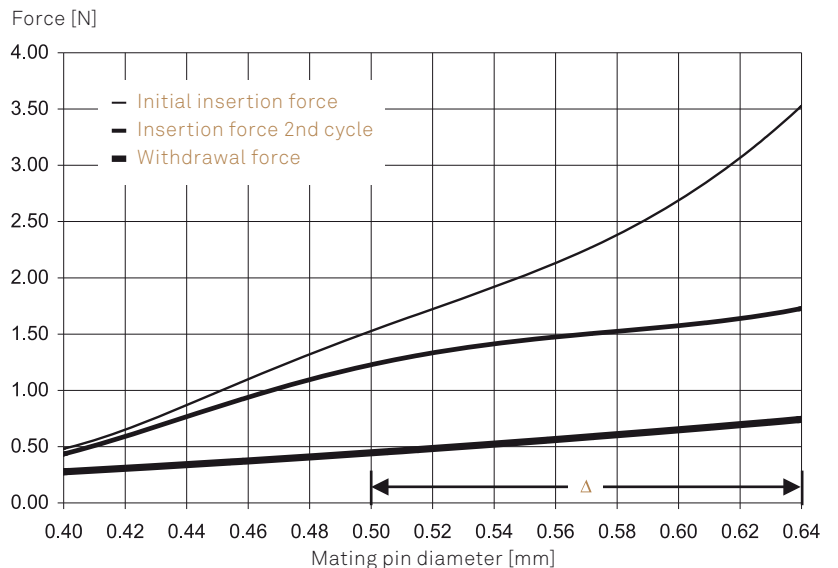
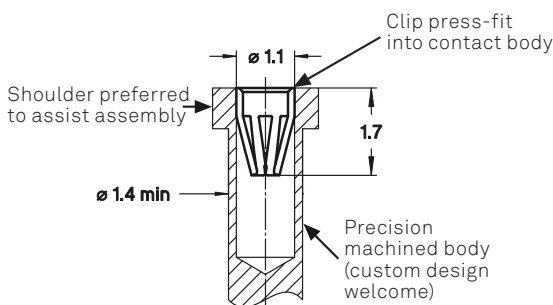
MATING PIN DIAMETER RANGE	0.36-0.56 mm
COMPLIANCY $\Delta$	0.2 mm
MIN. MATING PIN LENGTH	2.4 mm
CURRENT RATING	3 A



## CLIP CODE 2210

6-FINGER

MATING PIN DIAMETER RANGE	0.4-0.64 mm
COMPLIANCY $\Delta$	0.14 mm
MIN. MATING PIN LENGTH	2 mm
CURRENT RATING	3 A



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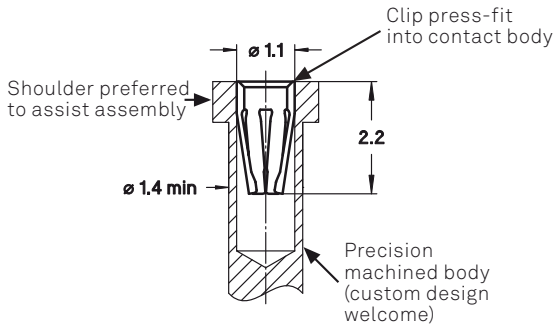
# CONTACT DATA

STANDARD CLIP

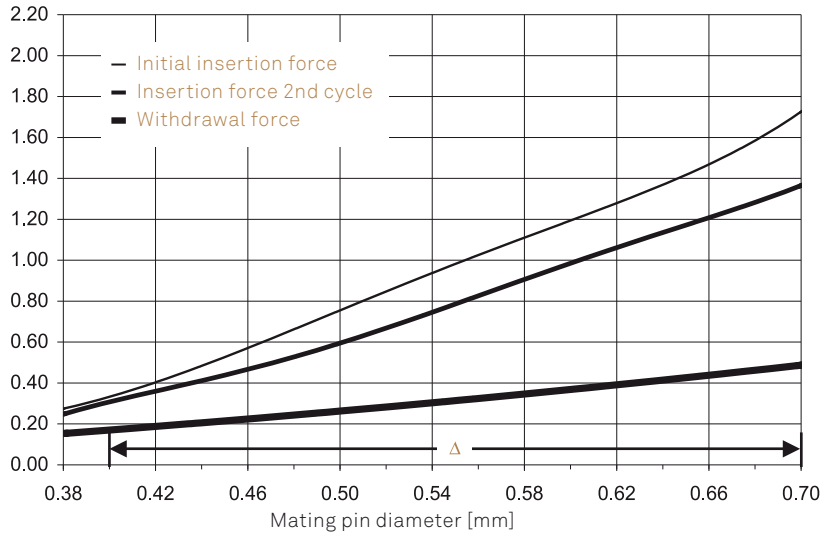
## CLIP CODE 3110

6-FINGER

MATING PIN DIAMETER RANGE	0.38-0.7 mm
COMPLIANCY $\Delta$	0.3 mm
MIN. MATING PIN LENGTH	2.5 mm
CURRENT RATING	3 A



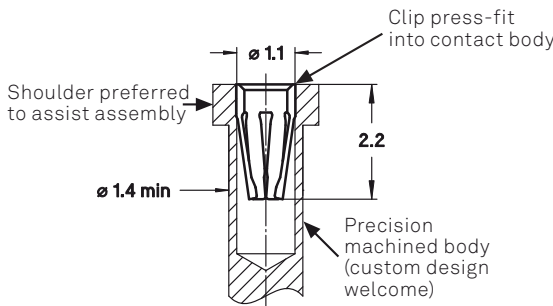
Force [N]



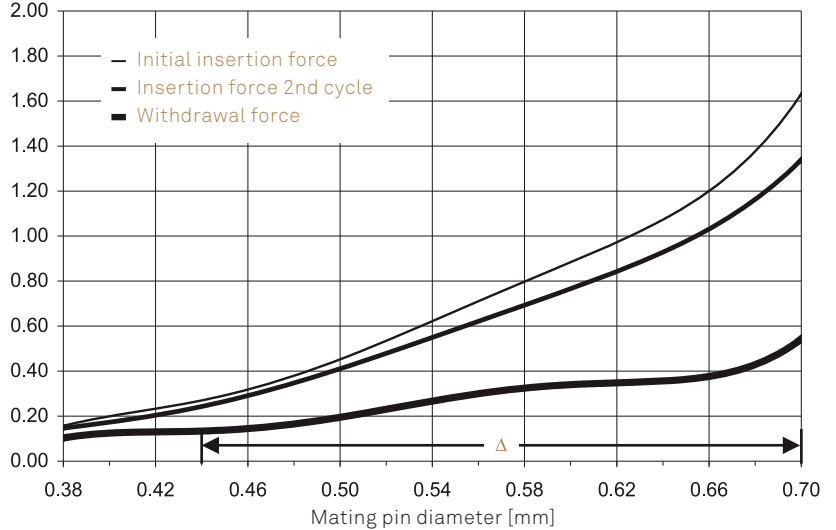
## CLIP CODE 3130

6-FINGER

MATING PIN DIAMETER RANGE	0.38-0.7 mm
COMPLIANCY $\Delta$	0.26 mm
MIN. MATING PIN LENGTH	2.5 mm
CURRENT RATING	3 A



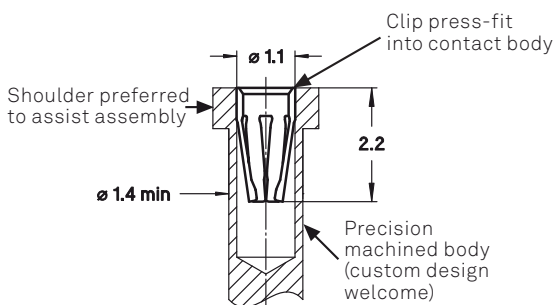
Force [N]



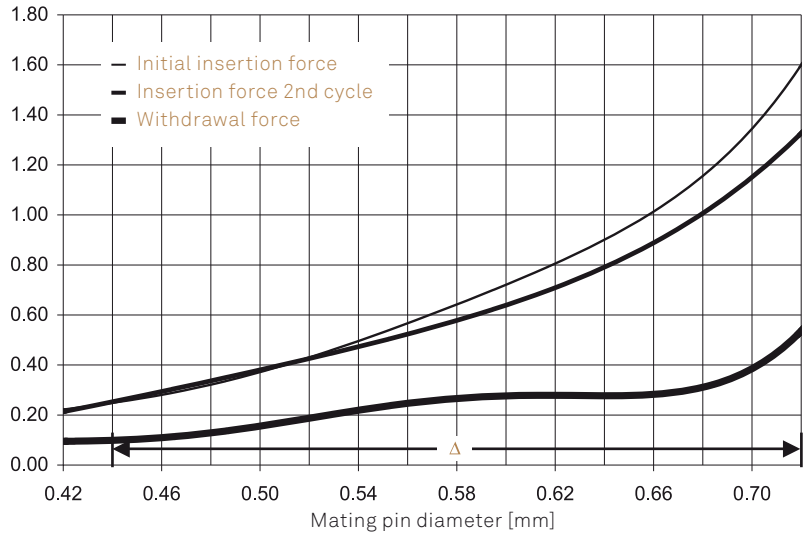
## CLIP CODE 3160

6-FINGER

MATING PIN DIAMETER RANGE	0.42-0.72 mm
COMPLIANCY $\Delta$	0.28 mm
MIN. MATING PIN LENGTH	2.5 mm
CURRENT RATING	3 A



Force [N]







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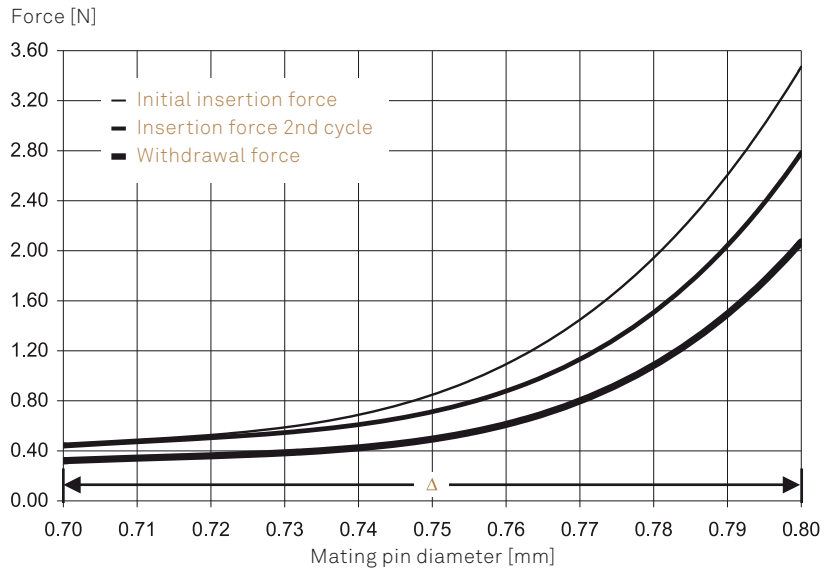
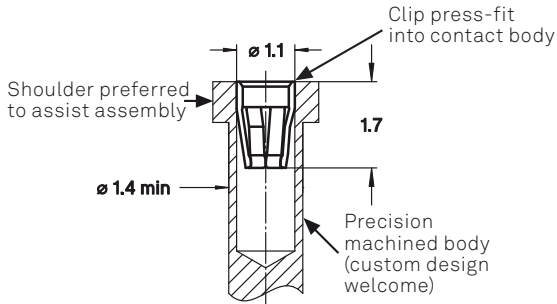
# CONTACT DATA

STANDARD CLIP

## CLIP CODE 5210

6-FINGER

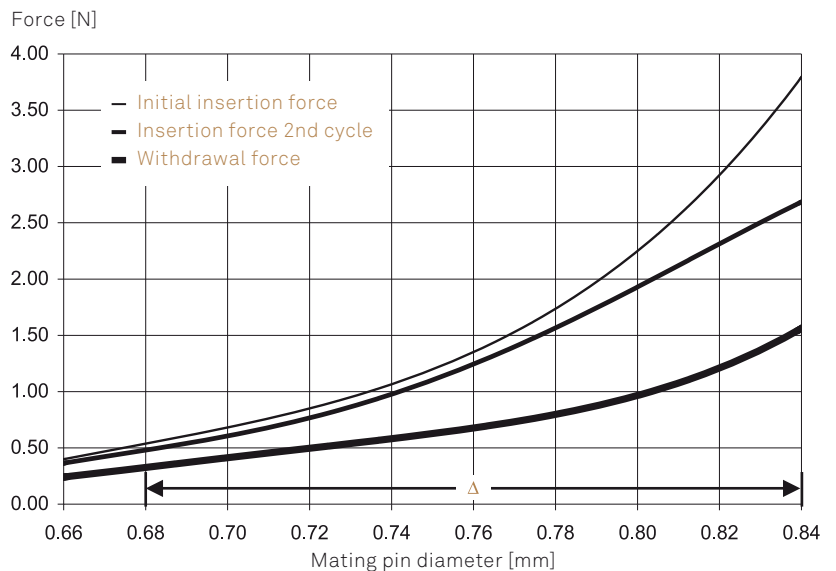
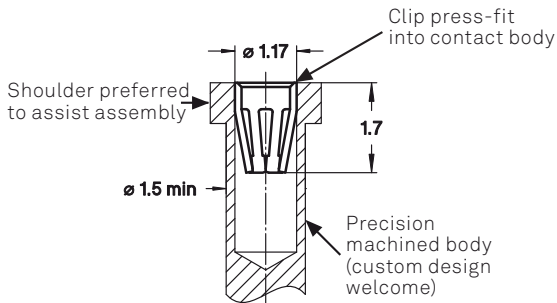
MATING PIN DIAMETER RANGE	0.7-0.8 mm
COMPLIANCY $\Delta$	0.1 mm
MIN. MATING PIN LENGTH	2.2 mm
CURRENT RATING	4.5 A



## CLIP CODE 1410

6-FINGER

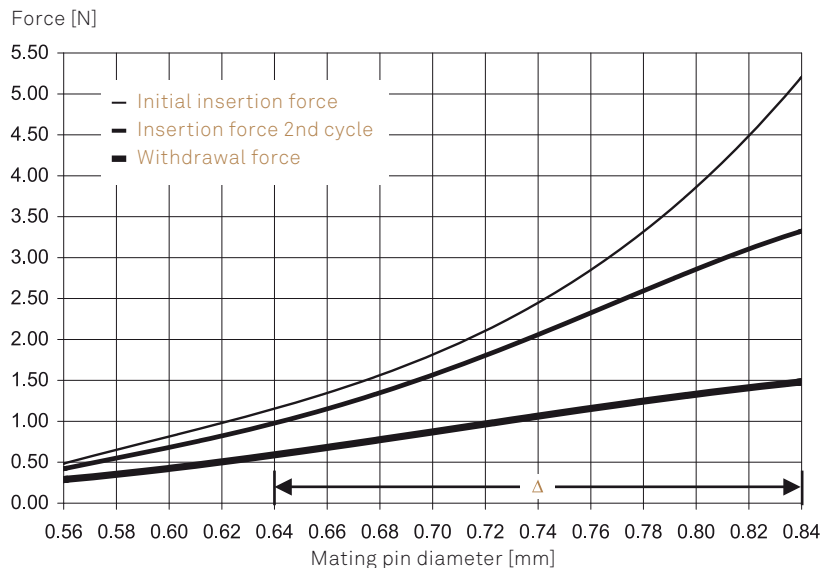
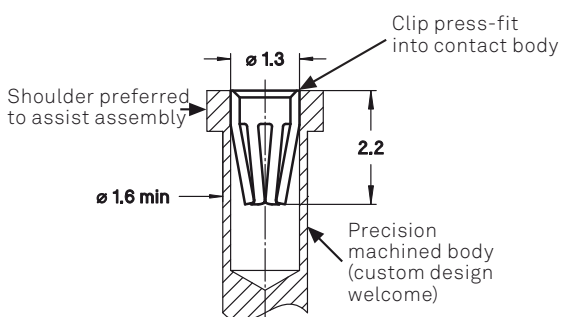
MATING PIN DIAMETER RANGE	0.66-0.84 mm
COMPLIANCY $\Delta$	0.16 mm
MIN. MATING PIN LENGTH	2.2 mm
CURRENT RATING	4.5 A



## CLIP CODE 1610

6-FINGER

MATING PIN DIAMETER RANGE	0.56-0.84 mm
COMPLIANCY $\Delta$	0.2 mm
MIN. MATING PIN LENGTH	2.7 mm
CURRENT RATING	5 A





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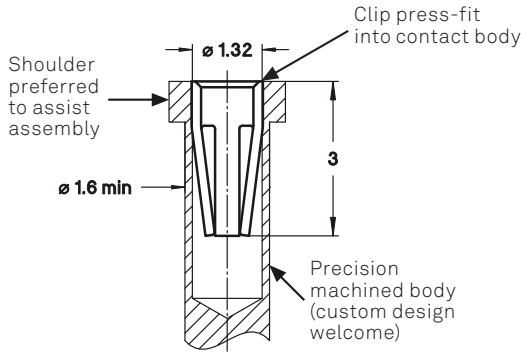
# CONTACT DATA

STANDARD CLIP

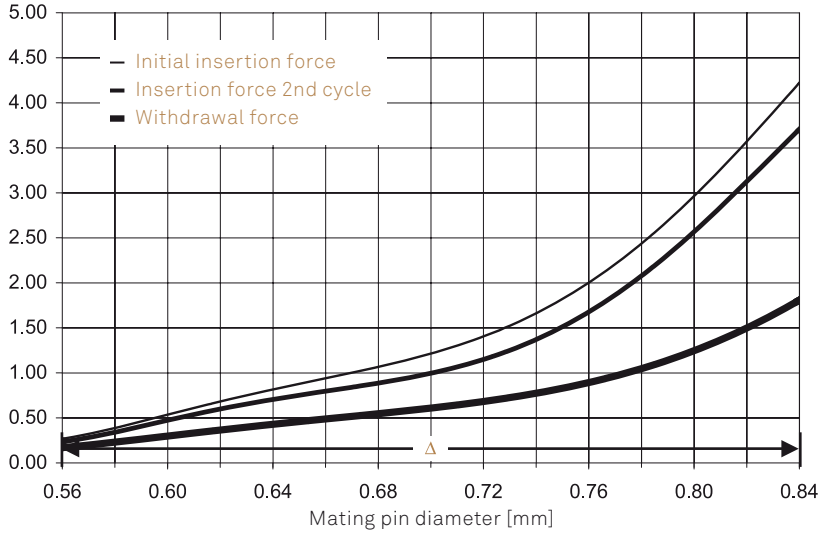
## CLIP CODE 0610

4-FINGER

MATING PIN DIAMETER RANGE	0.56-0.84 mm
COMPLIANCY $\Delta$	0.28 mm
MIN. MATING PIN LENGTH	3.5 mm
CURRENT RATING	5 A



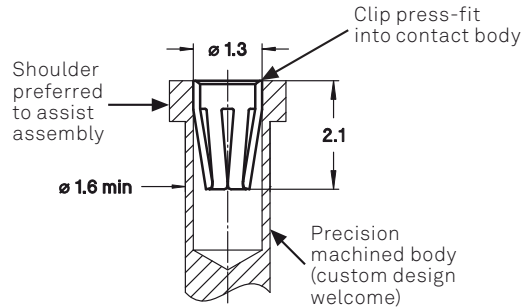
Force [N]



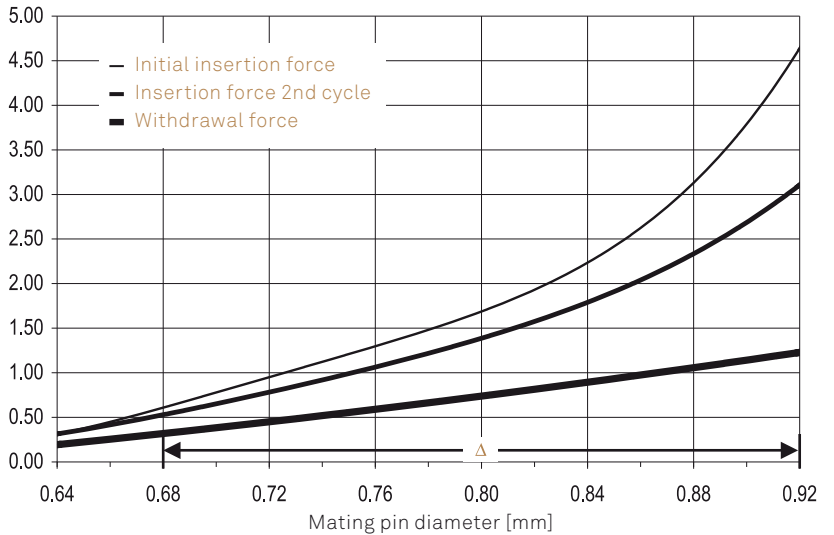
## CLIP CODE 4710

6-FINGER

MATING PIN DIAMETER RANGE	0.64-0.92 mm
COMPLIANCY $\Delta$	0.24 mm
MIN. MATING PIN LENGTH	2.6 mm
CURRENT RATING	5 A



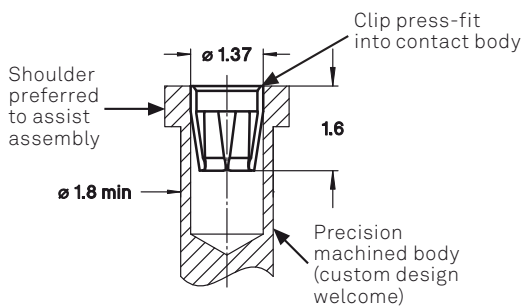
Force [N]



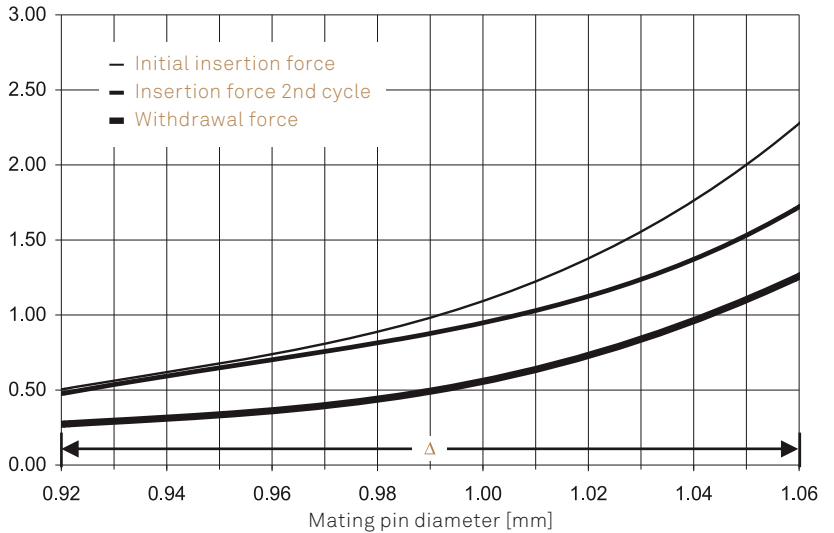
## CLIP CODE 1810

6-FINGER

MATING PIN DIAMETER RANGE	0.92-1.06 mm
COMPLIANCY $\Delta$	0.14 mm
MIN. MATING PIN LENGTH	2.2 mm
CURRENT RATING	8 A



Force [N]





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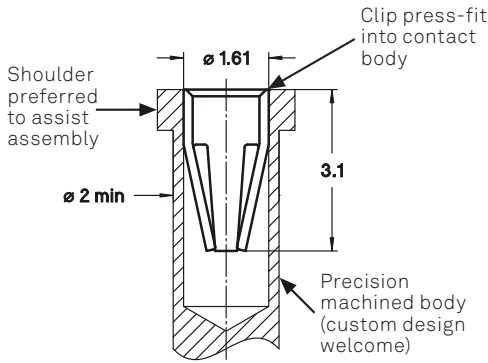
# CONTACT DATA

STANDARD CLIP

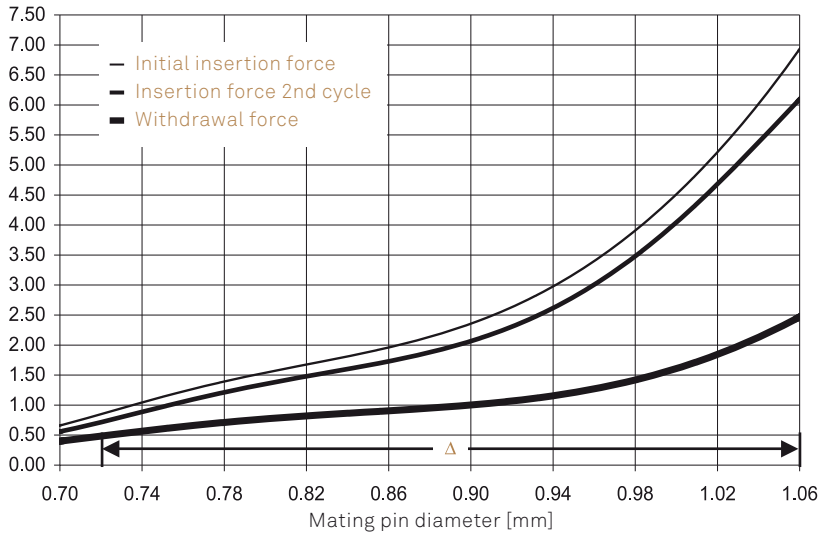
## CLIP CODE 3410

4-FINGER

MATING PIN DIAMETER RANGE	0.7-1.06 mm
COMPLIANCY $\Delta$	0.34 mm
MIN. MATING PIN LENGTH	3.7 mm
CURRENT RATING	8 A



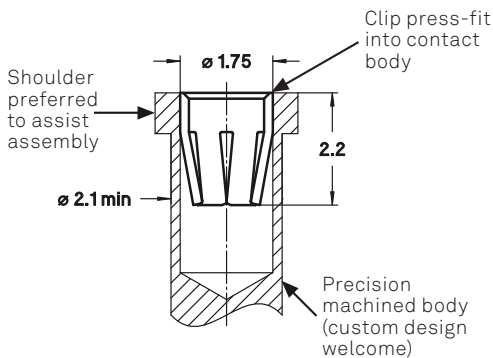
Force [N]



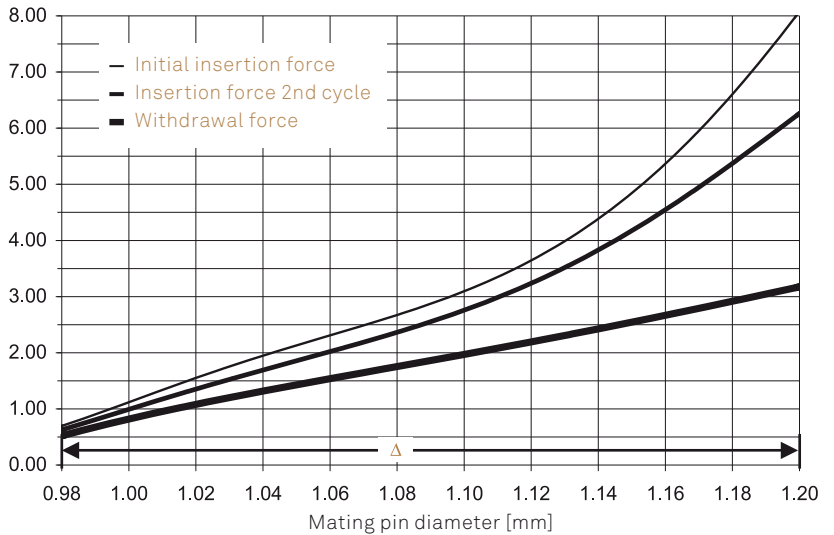
## CLIP CODE 0210

6-FINGER

MATING PIN DIAMETER RANGE	0.98-1.2 mm
COMPLIANCY $\Delta$	0.22 mm
MIN. MATING PIN LENGTH	3 mm
CURRENT RATING	8 A



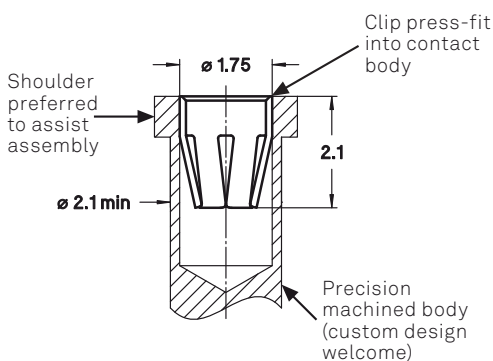
Force [N]



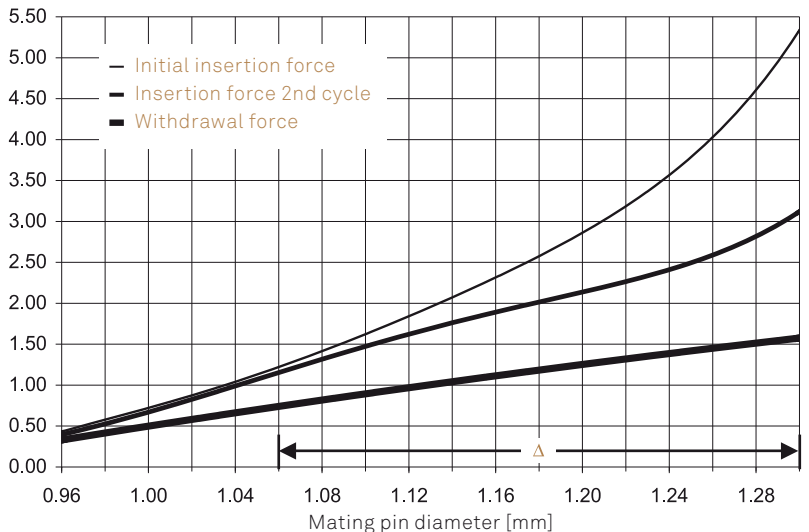
## CLIP CODE 2710

6-FINGER

MATING PIN DIAMETER RANGE	0.96-1.3 mm
COMPLIANCY $\Delta$	0.24 mm
MIN. MATING PIN LENGTH	3 mm
CURRENT RATING	8 A



Force [N]



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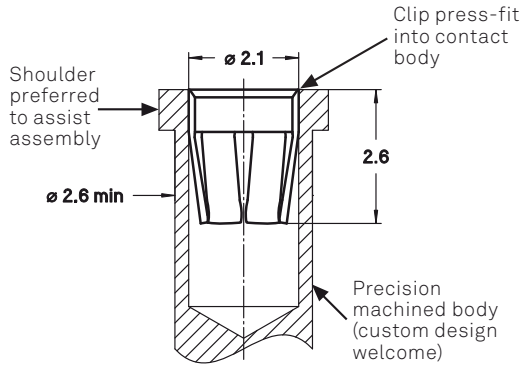
# CONTACT DATA

STANDARD CLIP

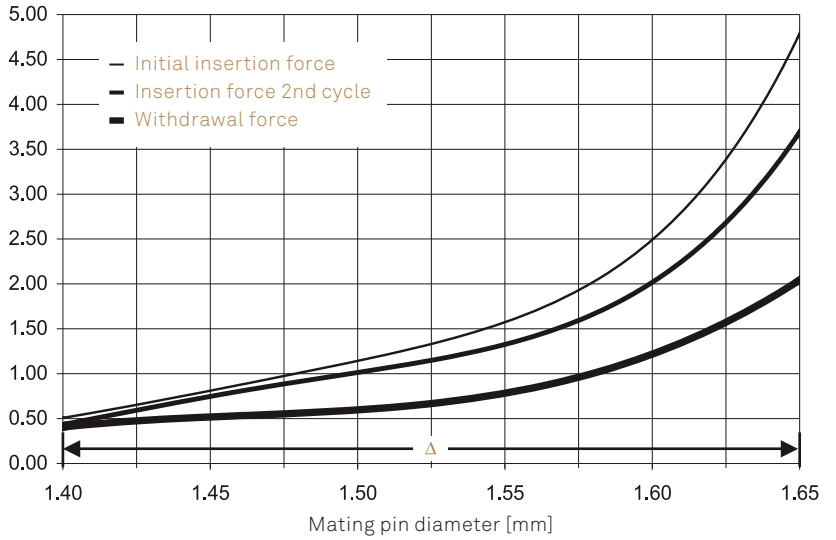
## CLIP CODE 4910

6-FINGER

MATING PIN DIAMETER RANGE	1.4-1.65 mm
COMPLIANCY $\Delta$	0.25 mm
MIN. MATING PIN LENGTH	3.4 mm
CURRENT RATING	11 A



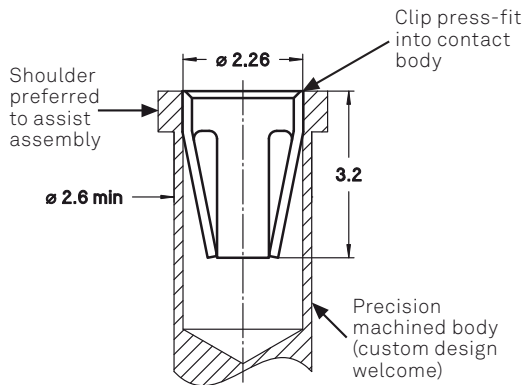
Force [N]



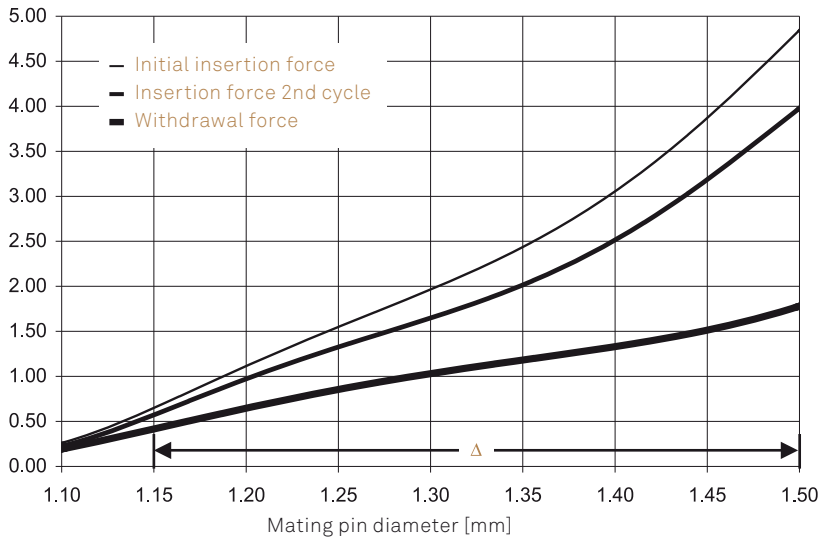
## CLIP CODE 1310

4-FINGER

MATING PIN DIAMETER RANGE	1.1-1.5 mm
COMPLIANCY $\Delta$	0.35 mm
MIN. MATING PIN LENGTH	4.2 mm
CURRENT RATING	11 A



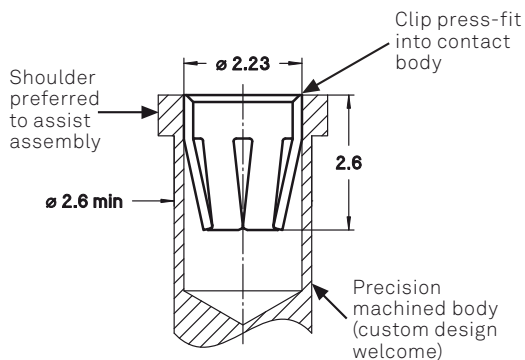
Force [N]



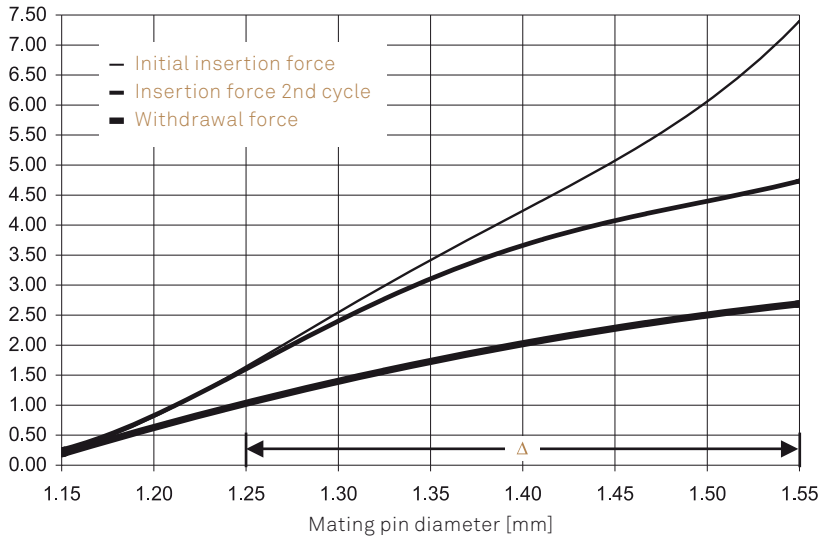
## CLIP CODE 2310

6-FINGER

MATING PIN DIAMETER RANGE	1.15-1.55 mm
COMPLIANCY $\Delta$	0.3 mm
MIN. MATING PIN LENGTH	3.5 mm
CURRENT RATING	11 A



Force [N]





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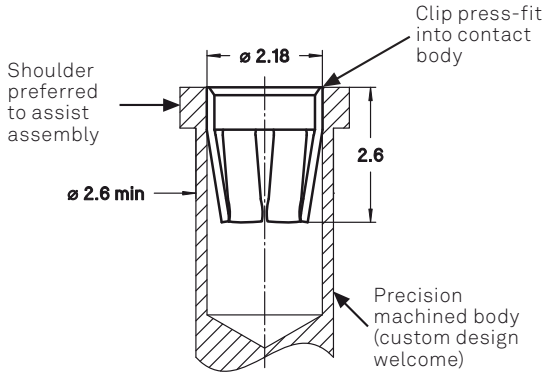
# CONTACT DATA

STANDARD CLIP

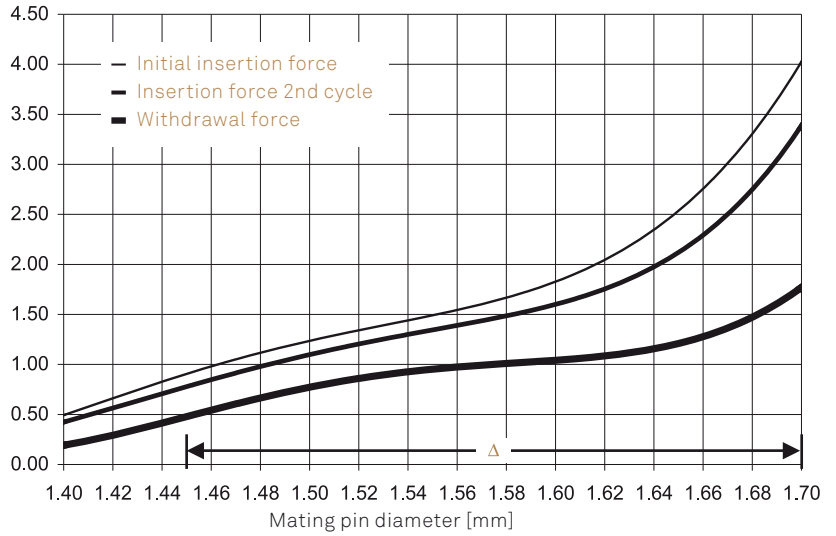
## CLIP CODE 3920

6-FINGER

MATING PIN DIAMETER RANGE	1.4-1.7 mm
COMPLIANCY $\Delta$	0.25 mm
MIN. MATING PIN LENGTH	3.5 mm
CURRENT RATING	11 A



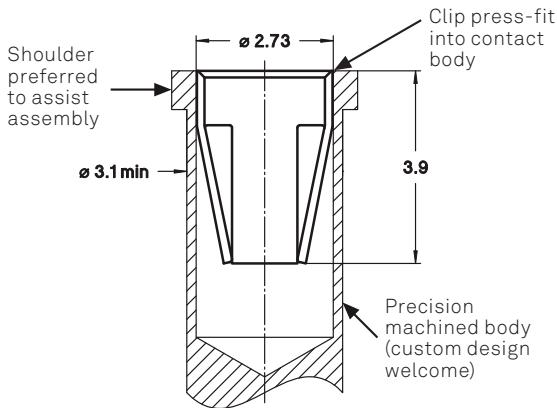
Force [N]



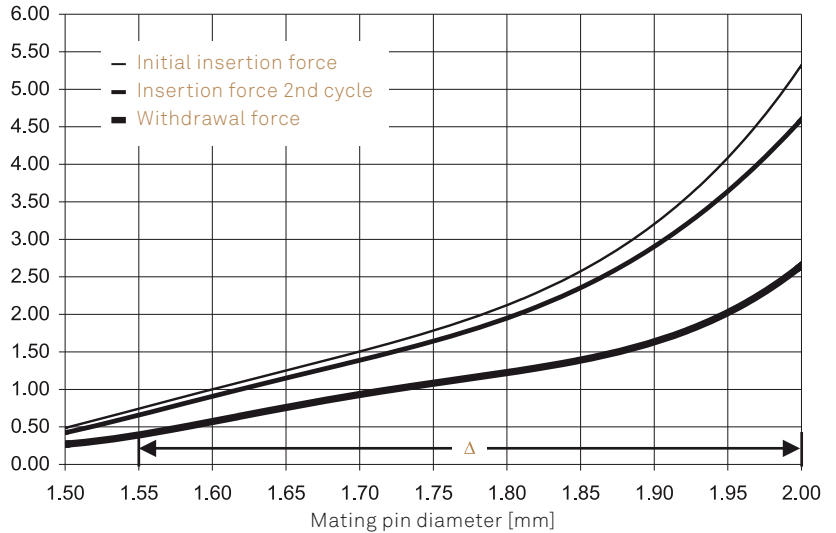
## CLIP CODE 0710

4-FINGER

MATING PIN DIAMETER RANGE	1.5-2 mm
COMPLIANCY $\Delta$	0.45 mm
MIN. MATING PIN LENGTH	5 mm
CURRENT RATING	15 A



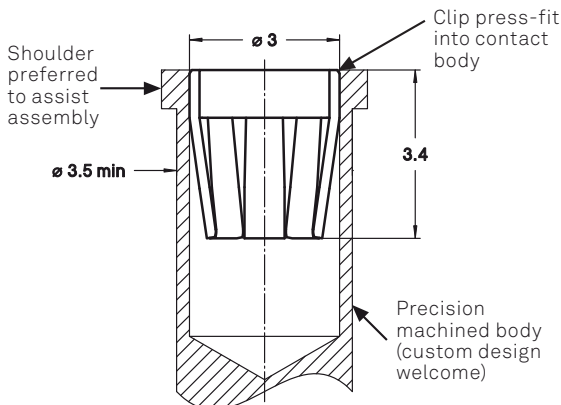
Force [N]



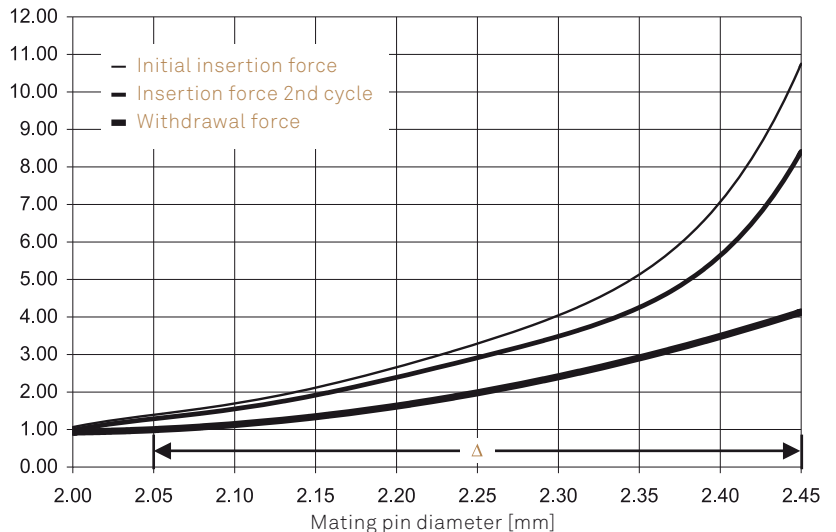
## CLIP CODE 4010

8-FINGER

MATING PIN DIAMETER RANGE	2-2.45 mm
COMPLIANCY $\Delta$	0.4 mm
MIN. MATING PIN LENGTH	4.7 mm
CURRENT RATING	18 A



Force [N]



CONTACTS

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