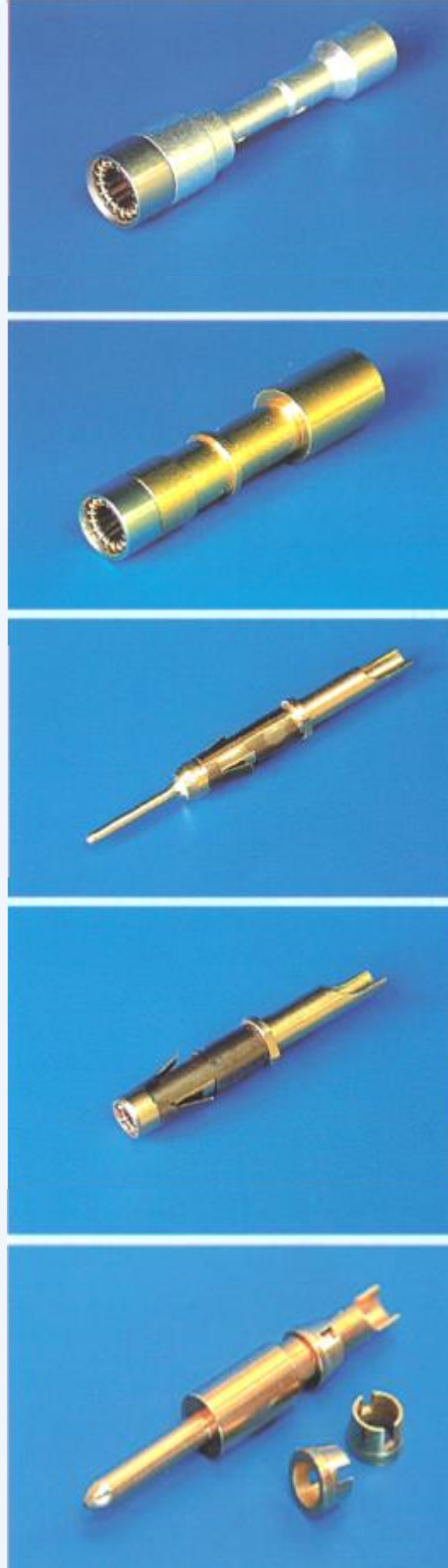


**Hyperboloid  
contacts**

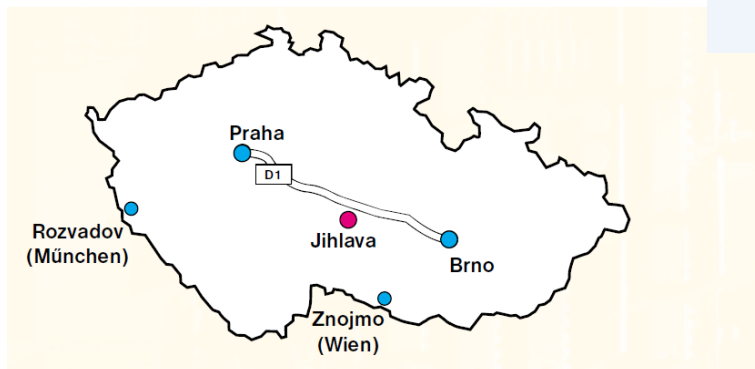
-

**Hypcons**



**Kolektor Tesla Jihlava s.r.o.**

## Welcome to Kolektor Tesla Jihlava s.r.o.



### Company profile

Kolektor Tesla Jihlava s.r.o – liability limited company – is one of the largest Czech manufacturers of electromechanical components specializing in production of connectors, hybrid parts, sensors –business since 1958. The company is certified in compliance with IATF 16949 standard and VDA 6.1 directive for the automotive industry and electronics.

Kolektor Tesla Jihlava provides customers with a comprehensive service including sub-contracting of all primary production operations.

### Electromechanical Components Products Range

#### Connectors

- HYPCON (with hyperbolic geometry)

#### Customer components

- connectors and contacts
- metal and plastic parts for automotive industry
- other electromechanical components

#### Services:

- progressive dies for metal stamping , injection moulds, design and manufacture
- jigs + single-purpose machine development and manufacture
- tailor-made operations in subcontracting range of:
  - ✓ tool-making workshop
  - ✓ moulding workshop
  - ✓ metal stamping workshop
  - ✓ plating plant
  - ✓ precision machining workshop
  - ✓ automation
- specialized assembly operations

## HYPERBOLOID CONTACTS - HYPCONS

A multiplied linear connection between the pin on the male side and the hyperboloid socket on the female side uses a unique technology. The socket bears number of contact spring wires wound inside the socket at a small angle to the centre –line, thus forming a one-sheet rotary hyperboloid.

When the pin and the socket are mated the hyperboloid –like socket accommodates the round pin and the wires wrap themselves around the pin to ensure a number of linear tensioned contacts.

As a result of this multiple linear connection, an extremely reliable connection is provided even if the connector is exposed to shocks and vibrations (contact interruption < 2 ns).

Round pins mated with HYPCON sockets feature considerably low contact resistance of the connection. One of the key benefits is that low insertion and extraction forces allow the connector to reach a long contact life (up to 100.000 mating and unmating cycles).

## HYPERBOLOID CONTACTS MANUFACTURE

Kolektor Tesla Jihlava is one of few world manufacturers of contacts with hyperboloid technology. We have been experienced in utilizing HYPCON technology since 1971 when Kolektor Tesla Jihlava started to manufacture this contact system under licence.

This high performance of HYPCON contacts is based not only on know-how transferred from the inventor of this system but also on expertise we have acquired over the years.

Most HYPCON contacts are custom designed. On request we can build contacts that differ both in diameter and in shape from those listed in this catalogue. The pin and /or socket body as well as the termination can be adjusted to the requirement of the customer. The design parameters, number, angle and diameter of wires, plating etc. –can be modified to meet requirements on characteristics of the contact.

This catalogue lists only representatives of the manufactured assortment of HYPCON contacts. We reserve the right to implement any changes to the parameters and assortment.

## KEY FEATURES OF HYPERBOLOID CONTACTS

- Low contact resistance (one of the lowest values among existing contact designs).
- Low insertion and extraction forces
- Long contact life
- High reliability even exposed to shocks and vibrations
- High stability of electrical and mechanical parameters over a high number of mating and unmating cycles
- High current and voltage ratings

## APPLICATIONS

The above features make HYPCON contacts suitable for safety-critical applications:

- Avionics, spatial avionics
- Military
- Medical appliances
- Rail traction
- Testing equipment
- Industrial applications
- Communications and data transfer

## CHARACTERISTICS OF HYPERBOLOID CONTACTS

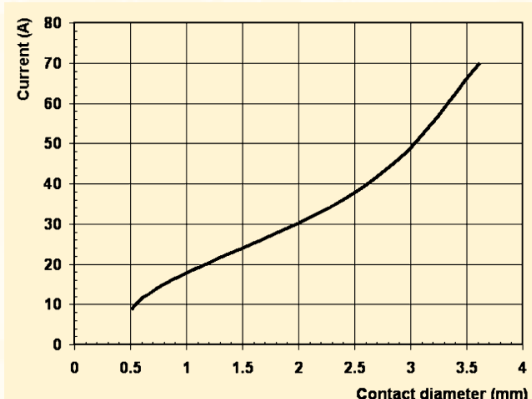
<b>Contact diameter:</b>	according to customer requirement, no fixed upper limit
<b>Rated current:</b>	3 to 70 Amps, higher ampacity on request
<b>Contact resistance (typical):</b>	up to 2.5 mΩ
<b>Mechanical lifetime:</b>	up to 100,000 mating and unmating cycles (type specific)
<b>Corrosion resistance:</b>	0.1 % H <sub>2</sub> S within 24 hours or salt spray 96 hours
<b>Climatic category:</b>	55/125/56 (other implementation on request)
<b>Material (typical):</b>	
• <b>Socket body:</b>	gold or silver plated brass
• <b>Contact wires:</b>	gold plated bronze
• <b>Pins:</b>	gold plated brass or bronze
• <b>Retaining clips:</b>	stamped: beryllium bronze tuned: gold plated brass
<b>Termination options:</b>	- Straight solder pin for PCB
<b>(both for sockets and pins)</b>	- Angled solder pin for PCB
	- Solder cup
	- Wire wrap post
	- Crimp termination with / without strain relief
<b>(other plating or termination on request)</b>	

Tab. 1 - Maximal wire gauge (four indenter crimp)

Diameter of crimp barrel (mm)	Max. wire gauge	
	mm <sup>2</sup>	AWG
0.9	0.14 to 0.35	26 to 22
1.15	0.5	20
1.3	0.75	18
1.45	1	18
1.8	1.5	16
2.3	2.5	14
2.9	4	12
3.5	6	10
4.4	10	8
5.5	16	6
6.9	25	4

Note: When crimping always follow recommendations of the crimping tool manufacturer

Graph 1 - Maximal HYPCON ampacity



Note: Actual ampacity can be lower due to required design parameters

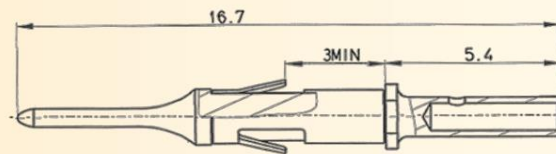
**PINS** - pin body can be modified to meet your requirements

All dimensions in mm

## Item 1P

### HYPCON 0.6

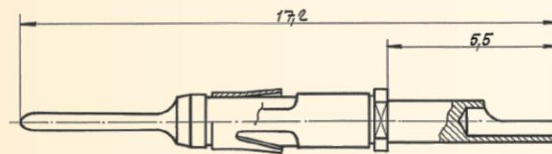
Description: Pin  
Part number: WF 817 61  
Termination: Crimp



## Item 2P

### HYPCON 0.6

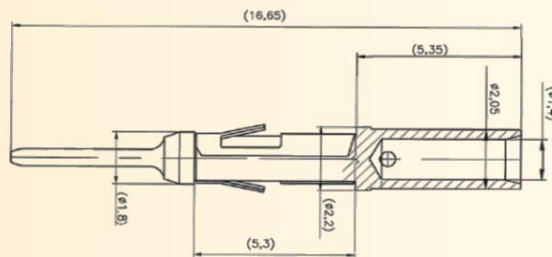
Description: Pin  
Part number: 2 WF 459 01  
Termination: Solder



## Item 3P

### HYPCON 0.6

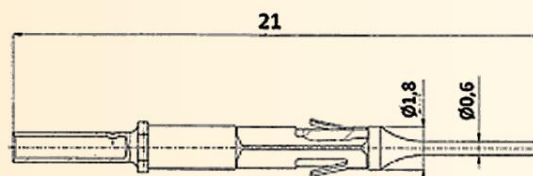
Description: Pin  
Part number: 2 WF 459 35  
Termination: Crimp



## Item 4P

### HYPCON 0.6

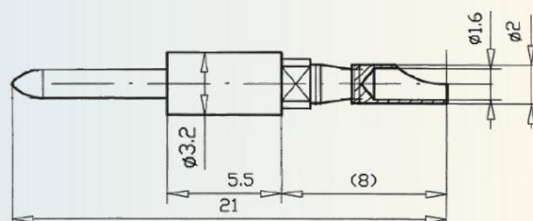
Description: Pin  
Part number: 021.060.1020  
Termination: Crimp



## Item 5P

### HYPCON 1.5

Description: Pin  
Part number: WA 460 60  
Termination: Solder



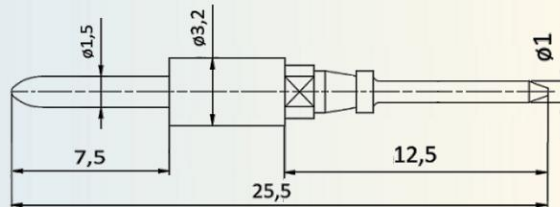
**PINS** - pin body can be modified to meet your requirements

All dimensions in mm

## Item 6P

### HYPCON 1.5

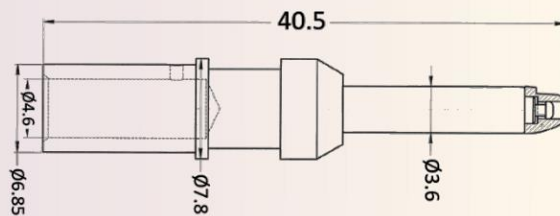
Description: Pin  
Part number: WA 460 66  
Termination: Solder pin for PCB



## Item 7P

### HYPCON 3.6

Description: Pin  
Part number: 2 WK 182 26  
Termination: Crimp



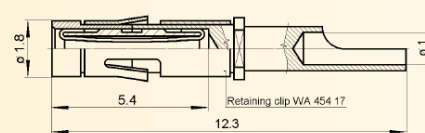
**SOCKET** - Socket body can be modified to meet your requirements

All dimensions in mm

## Item 4

### **HYPCON 0.6**

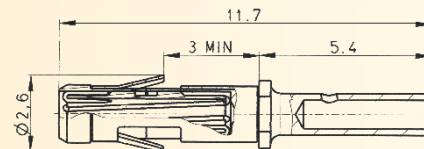
Description: Socket contact with retaining clip  
Part number: WF 817 82  
Termination: Solder cup



## Item 5

### **HYPCON 0.6**

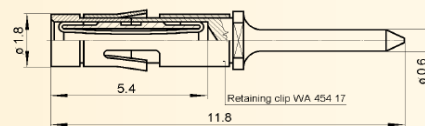
Description: Socket contact with retaining clip  
Part number: Special  
Termination: Crimp terminal



## Item 6

### **HYPCON 0.6**

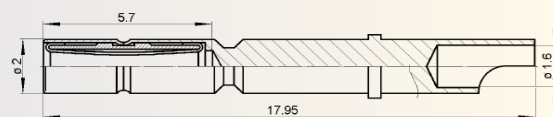
Description: Socket contact with retaining clip  
Part number: WF 817 92  
Termination: Solder pin for PCB



## Item 7

### **HYPCON 1**

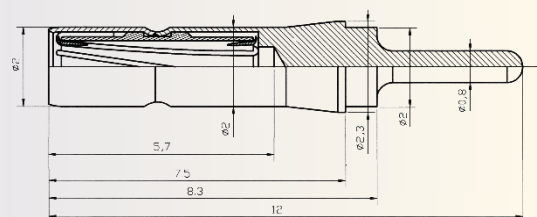
Description: Socket contact  
Part number: 2 WF 820 83  
Termination: Solder cup



## Item 8

### **HYPCON 1**

Description: Socket contact  
Part number: Special  
Termination: Solder pin for PCB





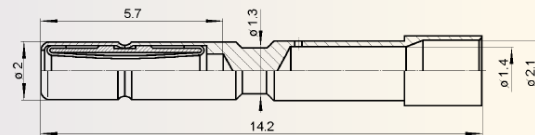
**SOCKETS** - Socket body can be modified to meet your requirements

All dimensions in mm

## Item 10

### HYPCON 1

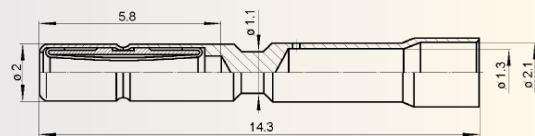
Description: Socket contact  
Part number: Special  
Termination: Crimp terminal



## Item 11

### HYPCON 1

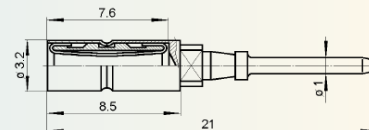
Description: Socket contact  
Part number: Special  
Termination: Crimp terminal



## Item 14

### HYPCON 1.5

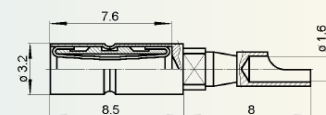
Description: Socket contact  
Part number: WF 825 63  
Termination: Solder pin for PCB  
Retention: Clip WA 024 12



## Item 15

### HYPCON 1.5

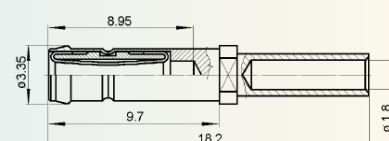
Description: Socket contact  
Part number: WF 825 66  
Termination: Solder cup  
Retention: Clip WA 024 12



## Item 16

### HYPCON 1.5

Description: Socket contact  
Part number: 2 WF 819 34  
Termination: Crimp terminal





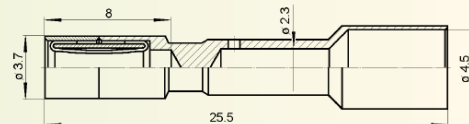
**SOCKETS** - Socket body can be modified to meet your requirements

All dimensions in mm

## Item 18

### HYPCON 2

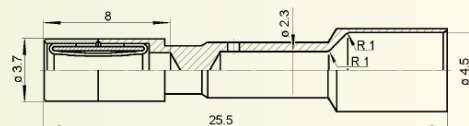
Description: Socket contact  
Part number: 2 WF 820 61  
Termination: Crimp terminal



## Item 20

### HYPCON 2

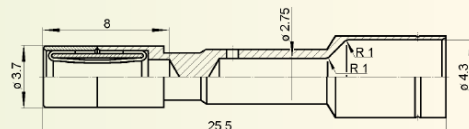
Description: Socket contact  
Part number: 2 WF 820 81  
Termination: Crimp terminal



## Item 21

### HYPCON 2

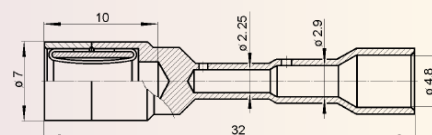
Description: Socket contact  
Part number: Special  
Termination: Crimp terminal



## Item 22

### HYPCON 3.6

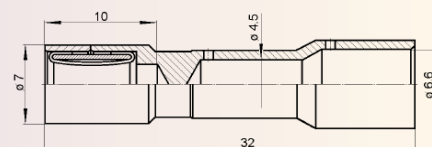
Description: Socket contact  
Part number: 2 WF 820 62  
Termination: Crimp terminal



## Item 23

### HYPCON 3.6

Description: Socket contact  
Part number: 2 WF 820 63  
Termination: Crimp terminal



**SOCKETS** - Socket body can be modified to meet your requirements

All dimensions in mm

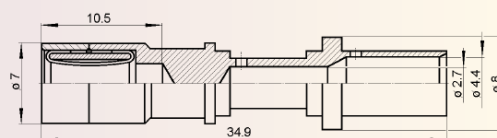
## Item 25

### HYPCON 3.6

Description: Socket contact

Part number: Special

Termination: Crimp terminal



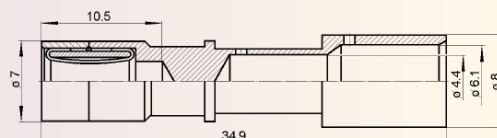
## Item 26

### HYPCON 3.6

Description: Socket contact

Part number: Special

Termination: Crimp terminal



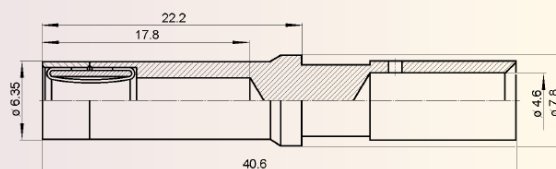
## Item 27

### HYPCON 3.6

Description: Size 8 socket contact

Part number: Special

Termination: Crimp terminal

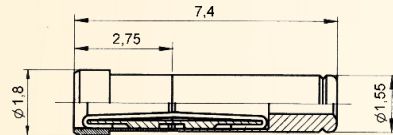


**SOCKETS** - Some atypical contacts maynot be available in the required volumes or time. Please always consult manufacturer for latest information on particular P/N.

## Item 34

### HYPCON 0.6

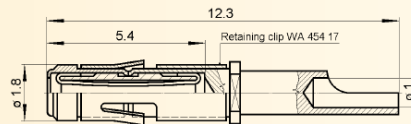
Description: Socket contact  
Part number:  
Termination: Socket contact  
2WF 820 27



## Item 35

### HYPCON 0.6

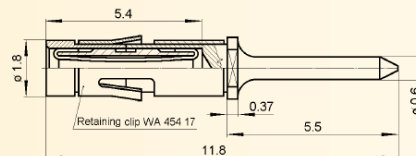
Description: Socket contact with retaining clip  
Part number: 2 WF 819 31  
Termination: Solder cup



## Item 36

### HYPCON 0.6

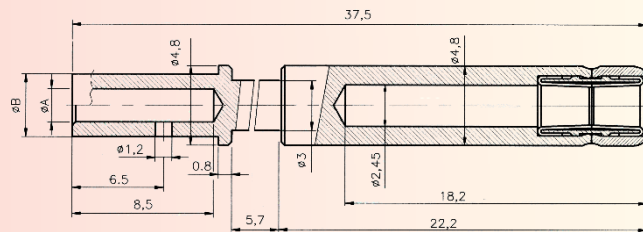
Description: Socket contact with retaining clip  
Part number: Special  
Termination: Solder pin for PCB



## Item 46

### HYPCON 2.5

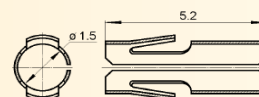
Description: Socket contact  
Part number: 2 WF 820 74  
Termination: 2 WF 820 41,42,44,45



## Item 47

### HYPCON 0.6

Description: Contact retaining clip for removable contacts  
Part number: WA 454 17





## Kolektor Tesla Jihlava s.r.o.

Industrial Zone II  
Hruškové Dvory 53  
586 01 Jihlava  
Czech Republic  
Tel.: +420 567 113 476  
Mail: [info.tesla@kolektor.com](mailto:info.tesla@kolektor.com)  
[marketing.tesla@kolektor.com](mailto:marketing.tesla@kolektor.com)  
[www.kolektor.com](http://www.kolektor.com), [www.teslaji.cz](http://www.teslaji.cz)

GPS: N 49° 25' 01,04", E 15° 36' 29,46"