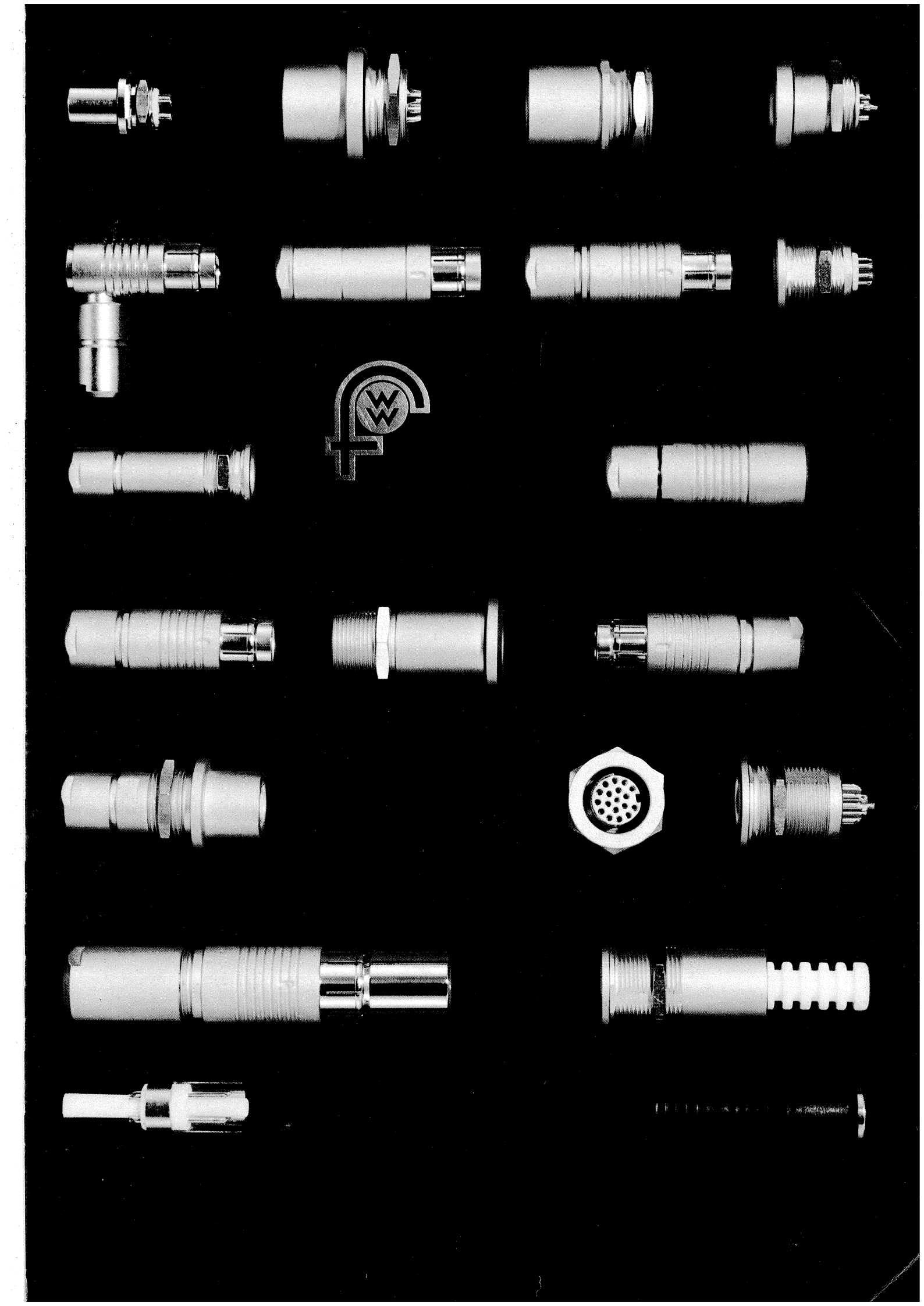

"Fischer" electrical connectors self-locking

High quality insulation and contacts
Tight-tolerance, robust, reliable operation
Normal and sealed patterns

New apparatus designs call for an increasing number of connections requiring high quality electrical and mechanical connectors with absolute reliability. Such connectors must also meet certain additional requirements, e.g.: sealing against water, pressure and high vacuums; resistance to radiation, etc.

In this era of automatisation, engineering applications of atomic energy and conquest of space, the operation of complicated installations is often dependent on connecting elements.

Human lives and valuable equipment may depend upon the integrity of the parts used. Thus the need for high quality connectors is constantly increasing.

Among the connectors which satisfy all these conditions, and which in addition can be put to a great many uses, FISCHER connectors head the list.

FISCHER connectors are designed to meet the most exacting requirements:

- **Robust construction and high precision.**
- **Dependable operation, self-locking.**
- **Simple keying.**
- **Simple and trouble-free mounting.**
- **Reliable positioning on different elements guaranteed by two half-shell shaped metallic guides.**
- **High quality insulation, normally of PTFE**
- **Low and constant resistance type nickel and gold-plated contacts ⩽ 3 milliohms.**
- **Pressure tight and high vacuum sealed designs.**
- **Special radiation resistant designs.**
- **Special connectors for thermocouples.**
- **Wide range of models.**

The rapidity of our production programme does not permit us to keep our document always up to date. If the connector you are looking for is not included in the range presented here do not hesitate to inform us so that we may make you a proposal.

Other products of our manufacture:

« SERIE 400 » Plastic bodied connectors.

50 Ohm connectors « NIM-CAMAC ».

Documentation available on request.

FISCHER self-locking connectors at present exist in 8 different sizes: Series 101, 102, 103, 104, 105, 106, 107 and 1051 which come in a very wide range:

coaxial connectors for high frequencies

coaxial connectors for high voltages

multiple connectors

multiple connectors for high voltages

compound connectors: high voltage + low voltage

compound connectors: high frequency + low voltage

connectors for thermocouples,etc.

The outer, metal parts are of chromium-plated brass; if required these parts can be made of stainless steel, for example.

At present, all connectors, with the exception of the 101 series, can be delivered with pressure and high vacuum sealing.

Max. pressure: 8 bar
(upon request for higher pressures).

Residual leakage: $< 10^{-9}$ mbar. l. sec.$^{-1}$

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The contact blocks of multiple connectors are equipped with metallic positioning guides of half-shell shape. These blocks as well as the collets for the cables are designed so that no rotational movement is possible in their respective housings.

So as to ensure fastening of cables, the S, SE, WS plugs and the K, KE, DK and DKE sockets are equipped with a metal cable collet supplied according to the diameter of the cable used (diameter to be stated when ordering.)

The sealed models SE, KE and DKE incorporate a sealing gasket.

Male contacts are of brass, according to QQ-B-626.

Female contacts are of special BZ5 bronze, according to QQ-B-750 or of Beryllium bronze.

Contact protection:

1 micron gold according to MIL-G-45204C, Type II over 5 micron Ni, according to QQ-N-290, class 2.

Resistance of a pair of contacts:

$\leqslant$ 3 milliohms

High quality insulation, normally PTFE.

Resistivity:

PTFE: 10^{15} ohm/cm

Ceramic: 10^{12} ohm/cm

Maximum operation temperatures:

PTFE: 160° C
Ceramic: 200 to 400° C (limited by the material of the contacts)
Watertight and sealed connectors: 130° C continuous, 175° C peak.

In principle all connectors can be supplied with insulating material resistant to radiation up to 10^8 Rad. For higher radiation rate and higher temperature, the insulator will be made of ceramic.

Certain connectors for thermocouples can be supplied with contacts of special materials, e.g. chromel, alumel, iron, constantan, copper, etc.

Solder connections, max. wire dimension

Nominal diameter of contact (mm)	Diameter of hole for wire (mm)
0.7	0.6
0.9	0.8
1.3	1.2
1.6	1.8
2.0	2.0

1.

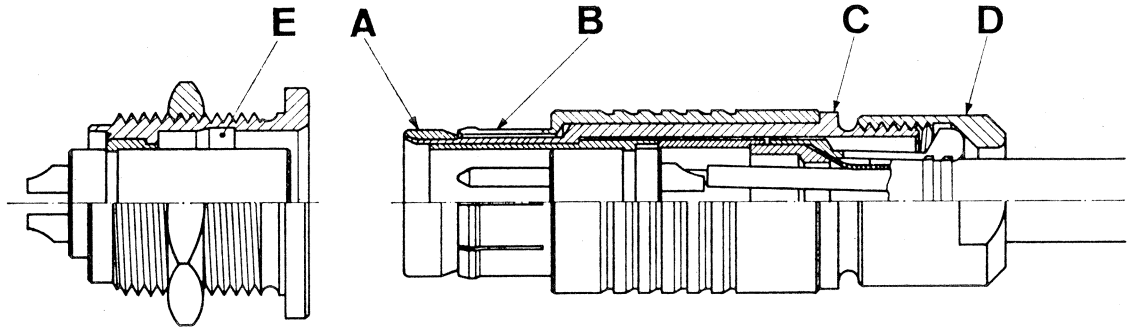
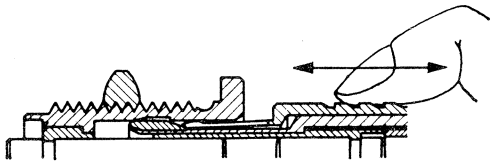


Figure 1

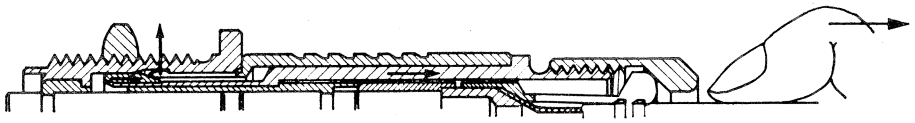
A = tapered sleeve
B = sliding sleeve
C = body
D = cap nut
E = locking slot

2.



3.

4.



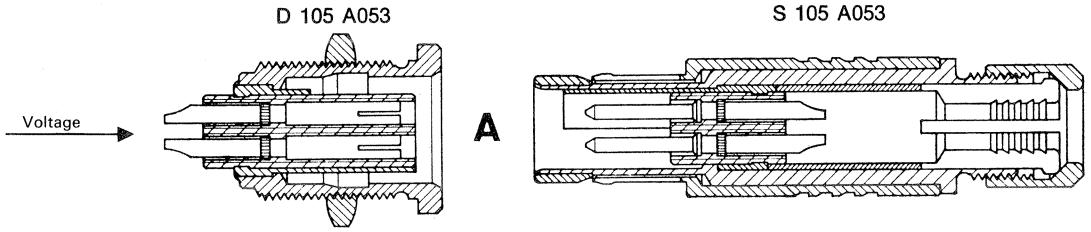
Figures 2, 3 and 4

Figure 2 (section) shows the plug and the socket in insertion or withdrawal position.

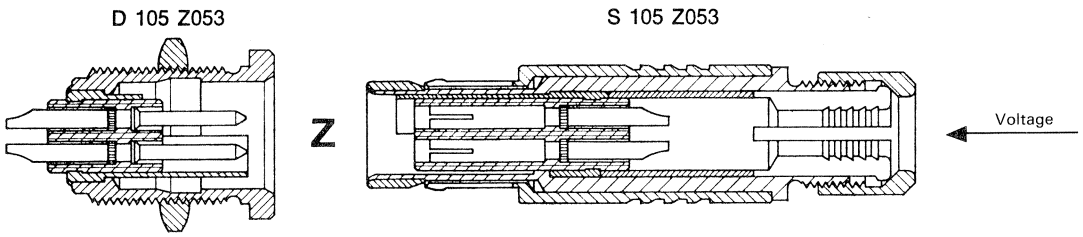
Figure 3 shows a locked connector. Any traction on the cable or the nut will still increase the locking effect (Fig. 4).

To disengage, the plug should be taken by its sliding sleeve and withdrawn in an axial manner (Fig. 2).

Pattern A: "socket" contacts are protected against risk of an accidental contact.
Example: D 105 A053, S 105 A053



Pattern Z: plug contacts are protected against risk of an accidental touch.
Example: D 105 Z053, S 105 Z053



Special designs on request
Swiss patent No. 364 543 and foreign patents.

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