

Flexible Quick Disconnects for Cavity Pressure Sensors and Quick Disconnect Cable



- Sensor and disconnect position can be different
- Beneficial for mold inserts with different sensor position
- Variable cable lengths

Description and Application

Numerous injection molded parts are not directly created in the mold platen, but with the help of mold inserts. This facilitates the manufacture of the cavities and the handling at servicing. The insertion of cavity pressure and cavity temperatures sensors often set boundaries because of lack of space. Furthermore, by mounting and dismounting the mold inserts, the use of cables with a fixed installation point are not suitable for these types of applications.

The PRIAMUS[®] quick disconnects for cavity pressure sensors facilitate the mounting and dismounting of mold inserts with a simple plug connection, while the sensors themselves remain in the mold insert. This procedure is mainly therefore fail-safe, because the sensors and the sensor cable with quick disconnect stay in the mold insert and do not need to be removed during the disassembling of the mold insert from the mold. Hence sensors can be insert without mounting problems also in interchangeable molds inserts which are changed on the machine.

The advantage of this system persists therein, that different mold inserts with different sensor positions can be applied without changing the position of the quick disconnect. Opposed to a sensor that is installed in the mold plate itself, the position of quick disconnects can be very flexible based on the layout of the mold.

The quick disconnects are available for PRIAMUS[®] cavity temperature sensors as well as for PRIAMUS[®] cavity pressure sensors with and without sensitivity detection (PRIASED[®]).

Sensor Mounting

Flexible quick disconnects are applied when a compact sensor (see data sheet DS6xxx_095 Compact Sensors for Cavity Pressure) couldn't be used. For example the insert height is too low or the position of the quick disconnect departs from the position of the sensor.

The mounting of the sensors can thereby occur with mounting nut, PRIAFIT[®] mounting sleeve or distance sleeve (see data sheet DS60xx_094 Cavity Pressure Sensors).

Quick disconnects are always mounted with mounting nuts.

During installation you have to keep in mind that the insert-sided cable length is chosen neither too short nor too long so the sensor with quick disconnect can be still mounted.

- The cable should not be longer than needed, so that any extra length can be hidden in the channel or bore hole.
- The shorter the cable, the harder it is to mount it in the bore hole.
- The cable must be long enough to make sure that the sensor and the quick disconnect can be mounted in the respected areas.

The stated minimum lengths refer to the overall length of the component, and not the length of the final installation.

The quick disconnect cable should be displaced in the behind mold platen in a channel, which at the best were covered by a thin plate to avoid damages. The angles in the mold, around which the cables are placed, must be added with a phase ($3 \times 45^\circ$) or a radius (R2), therewith the cable will not be damaged.

A pre-centering of the inserts with two alignment pins is necessary for the quick disconnect. The fitting of the pre-centering should be in the quality H7/g6 and the length minimum 10 mm. Generally aligning pins with bund and two fitting diameters (for easier mounting) are used.

The protecting cap has to be fixed on the mounting plate of the connector and should not be placed too close to the junction of the mold therewith the connector doesn't get crushed by the mold closing.

Handling and Cleaning

Before dismounting the mold insert from the mold, the cooling water must be imperatively evacuated and / or the channels have to be steamed out to prevent that the cooling water gets into the quick disconnect.

The contact plug must be kept clean and dry to avoid false signals. The quick disconnects have to be capped directly after dismounting with the protective caps in the scope of delivery.

The mold inserts can be cleaned in an ultrasonic bath without former dismounting of the flexible quick disconnects. For this the protective cap included in the scope of delivery must be used. (Cleaning agent: aqueous tenside solution.) The cleaning of the sensor front with dry ice is also possible.

In the not connected status the protecting cap for the connector at the quick disconnect cable must be plugged on. In the connected status the connector will be connected with the cap of the connecting cable, therewith defilements in the protection cap will be avoided.

Flexible Quick Disconnects for Cavity Pressure Sensors



Technical Data

Properties	Unit	Specifications
Maximum mold temperature	°C °F	200 392
Insulation resistance	Ω	> 10 ¹³ (at 20 °C)

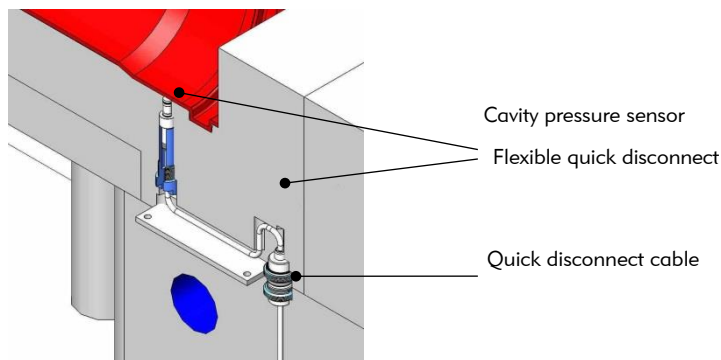
Variants

Type	For:	Bending radius	Cable length in [m]	
6101Ex.x	Cavity pressure sensors with sensitivity detection of types 6001B, 6002B, 6003B	9 mm	l = x.x Minimum length: 0.1 m	
6103Ex.x	Cavity pressure sensors with sensitivity detection of types 6006BC, 6007BC, 6010BC	5 mm	Production tolerance:	
			Cable length in [m]	Tolerance +.../-0 mm
6104Bx.x	Cavity pressure sensors without sensitivity detection of type 6008AA	5 mm	<0.5	5
6106Ax.x	Cavity pressure sensors without sensitivity detection of types 6001A, 6003A	9 mm	>0.5 ... 1.0	10

Specify cable length x.x in [m] when ordering (length over all, incl. quick disconnect and connector).

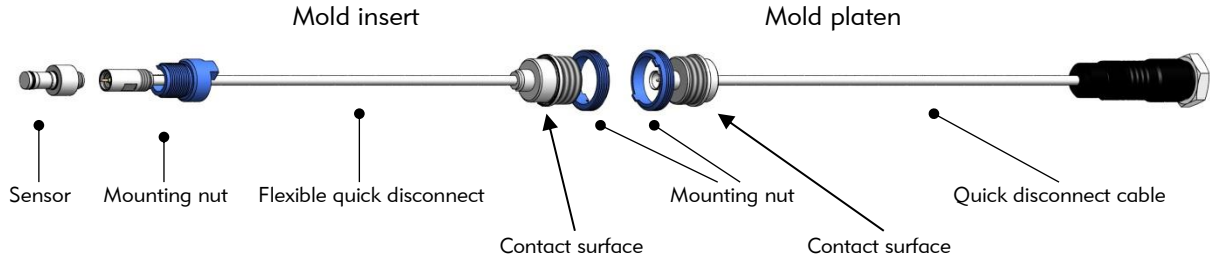
Mounting Example

Mounting of a cavity pressure sensor with flexible quick disconnect and quick disconnect cable



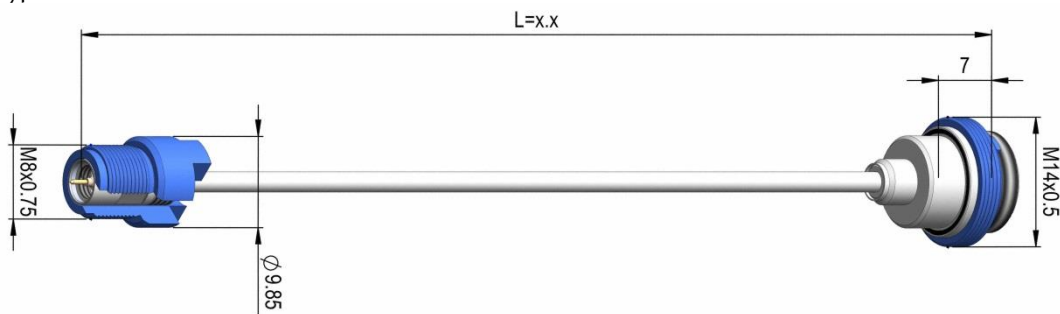
Cavity Pressure Sensor with Flexible Quick Disconnect and Quick Disconnect Cable

Mounting in bore hole and cable channel

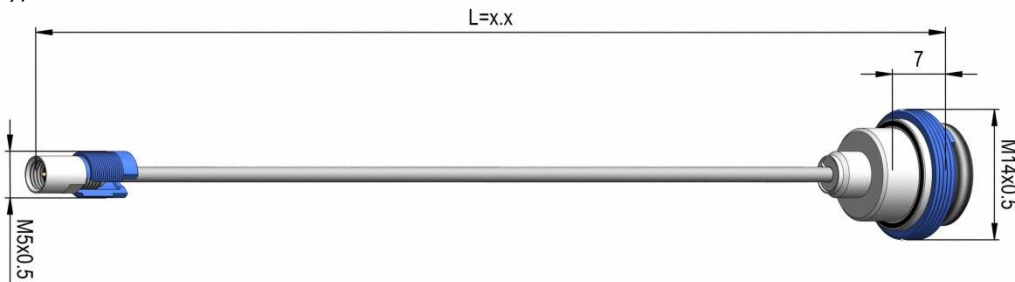


Dimensions Flexible Quick Disconnects for Cavity Pressure Sensors

Type 6101Ex.x



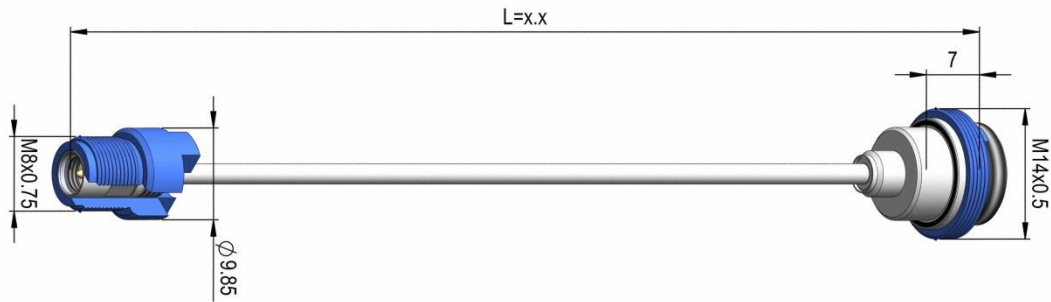
Type 6103Ex.x



Type 6104Bx.x

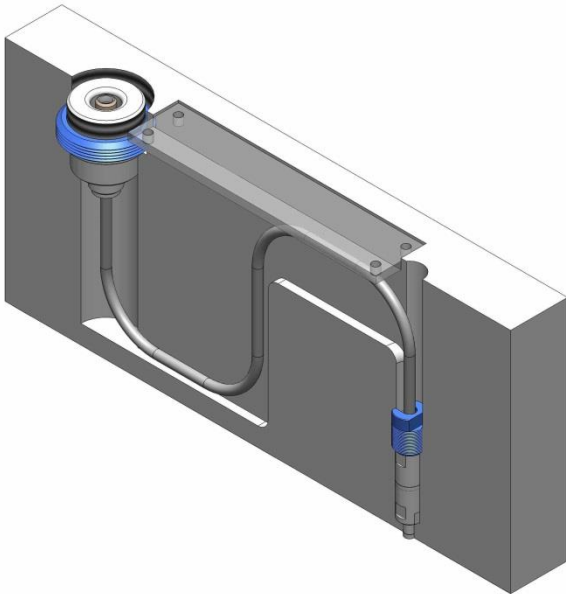


Type 6106Ax.x

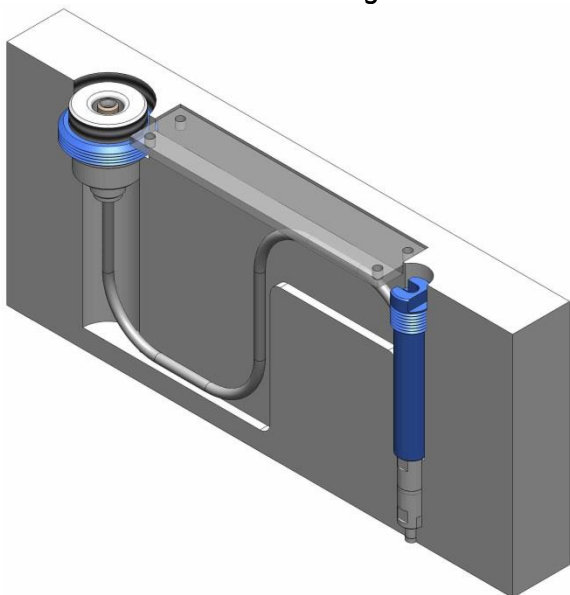


Examples for Installation Situation

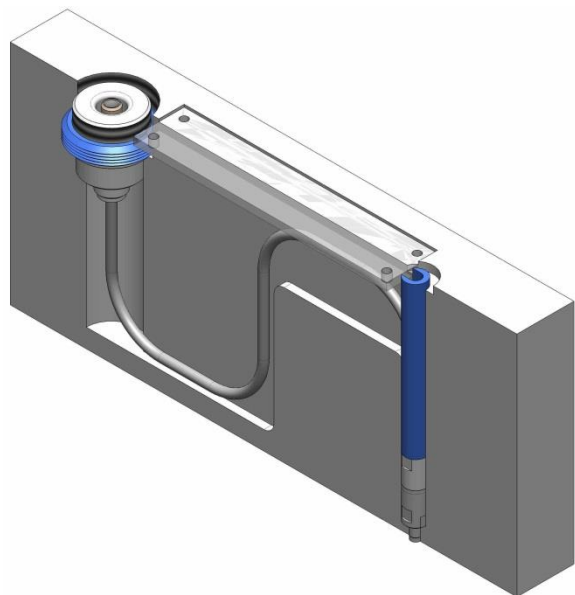
Standard Mounting Nut



Alternative 1 PRIAFIT® Mounting Sleeve

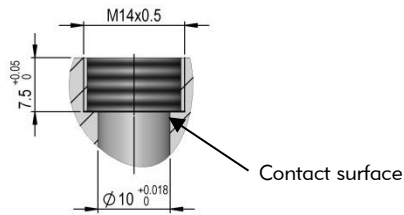


Alternative 2 Distance Sleeve



DS61xx_096e Ed. 12.16
Subject to technical amendments
Projection method: First Angle Projection

Mounting hole – Flexible Quick Disconnect in the Mold Insert



For mounting holes for cavity pressure sensors see data sheet DS60xx_094 „Cavity Pressure Sensors“.

Mounting of Flexible Quick Disconnects with Mounting Nut

By mounting with mounting nut the flexible quick disconnects were put on with the following tightening torques.

Flexible quick disconnect	Tightening torques
6101Ex.x 6103Ex.x 6104Bx.x 6106Ax.x	3.5 Nm (with mounting nut type 6546A)

Scope of Delivery

Article	Type	Article	Type
Mounting nut	6546A	Protective cap	1308A

Mounting nut typ 6546A



Accessories (Optional)

Connecting and extension cables

Type	Coat	Sensitivity detection	Bending radius [mm] (* bundled)	Connector ⁽¹⁾ TRIAX / ⁽²⁾ Code 1)
Connecting cables:				
1041A	Plastic	with and without	12	Fischer Type S 102 male ¹⁾ – Fischer Type S 102 male ¹⁾
1049B	Metal hose	with and without	20	Fischer Type S 102 male ¹⁾ – Fischer Type S 102 male ¹⁾
Multi pin connecting cables:				
1045B	Plastic	with and without	12 (25*)	Fischer Type S 104 fem. 16-pin ²⁾ – 4 x Fischer Type S 102 male ¹⁾
1046B	Plastic	with and without	9 (40*)	Fischer Type S 104 fem. 16-pin ²⁾ – 8 x Fischer Type S 102 male ¹⁾
1047A	Plastic	with and without	12	Fischer Type S 104 fem. 16-pin ²⁾ – 1 x Fischer Type S 102 male ¹⁾
1048B	Plastic	with and without	12 (20*)	Fischer Type S 104 fem. 16-pin ²⁾ – 2 x Fischer Type S 102 male ¹⁾
1054B	Plastic	with and without	50	Fischer Type S 104 fem. 16-pin ²⁾ – Fischer Type S 104 fem. 16-pin ²⁾
Extension cable:				
1043B	Metal hose	with and without	20	Fischer Type S 102 male ¹⁾ – Fischer Type KBE 102 fem. ¹⁾



Article	Type	Article	Type
Mounting / extraction tool for quick disconnect	6573A	Assembly tool for mounting nut	6563B
Quick disconnect cable for mounting in bore hole and cable channel	6100Ex.x-102	Multi channel connecting box	1195A-8p
BlueLine amplifier	5070A-2p2T	BlueLine amplifier	5080A-xp

Quick disconnect (mold insert)	Cavity pressure sensor	Quick disconnect cable (mold platen)
- 6101Ex.x	6001B 6002B 6003B	6100Ex.x-102
- 6103Ex.x	6006BC 6007BC 6010BC	
- 6104Bx.x	6008AA	
- 6106Ax.x	6001A 6003A	

Quick Disconnect Cable



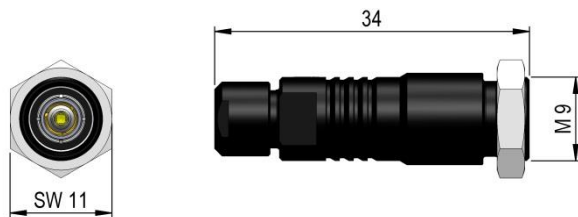
Overview

Type	For:	Mounting in:	Cable length in [m]	
Quick disconnect cable 6100Ex.x-102, male	Flexible quick disconnect 610x, female	Bore hole and cable channel	l = x.x Minimum length: 0.1 m	
			Production tolerance:	
Front view of the particular quick disconnect side			Cable length in [m]	Tolerance +.../-0 mm
			<0.5	5
		>0.5 ... 1.0	10	
		>1.0 ... 5.0	20	

Specify cable length x.x in [m] when ordering (length over all, incl. quick disconnect and connector).

One pin TRIAX connector

Easy connection by TRIAX format



Fischer Type KBE 102 fem. TRIAX

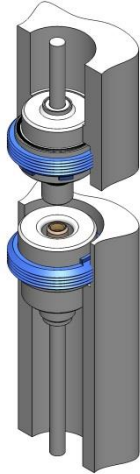
Dimensions

Type 6100Ex.x-102
Bending radius = 9 mm

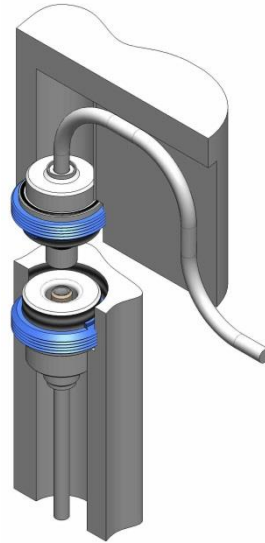


Examples for Installation Situation with Mounting Nut

Mounting in bore hole

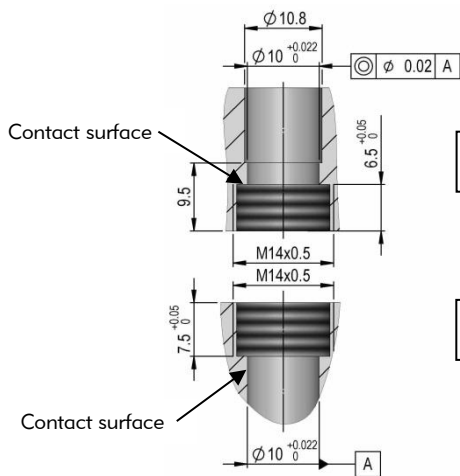


Mounting in cable channel



Mounting Holes with Mounting Nut

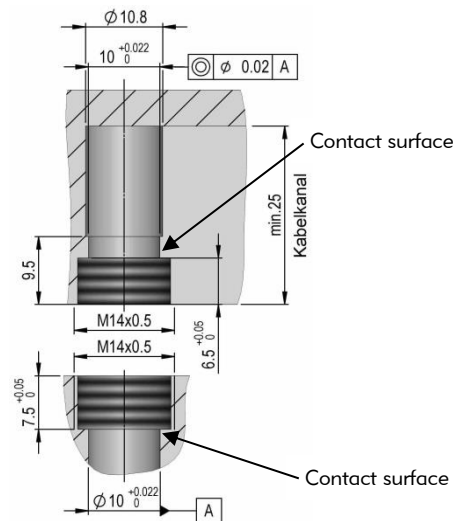
Mounting in bore hole



Mold platen

Mold insert

Mounting in cable channel



Contact surface

min.2,5
Kabelkanal

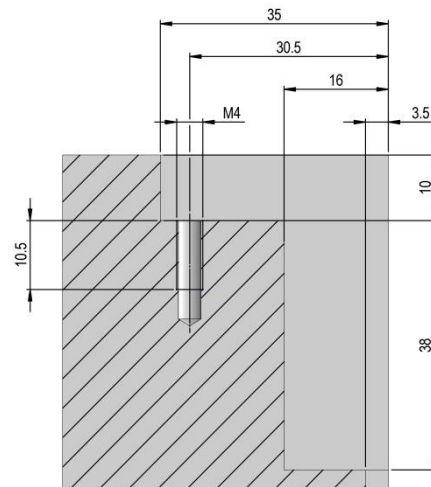
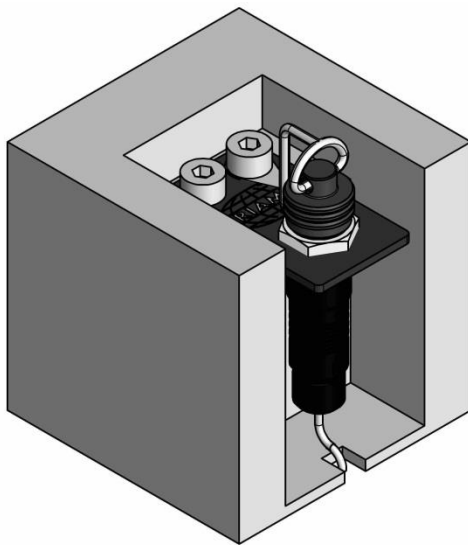
Contact surface

Mounting of Quick Disconnect Cables with Mounting Nut

By mounting with mounting nut the quick disconnect cables were put on with the following tightening torques.

Quick disconnect cable	Tightening torques
6100Ex.x-102	3.5 Nm (with mounting nut type 6546A)

Installation Situation – Connector with Mounting Plate

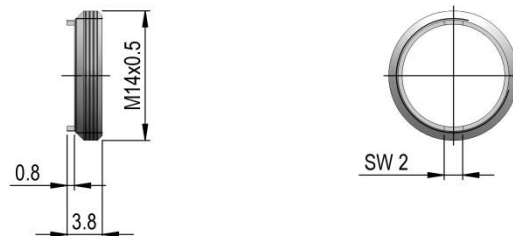
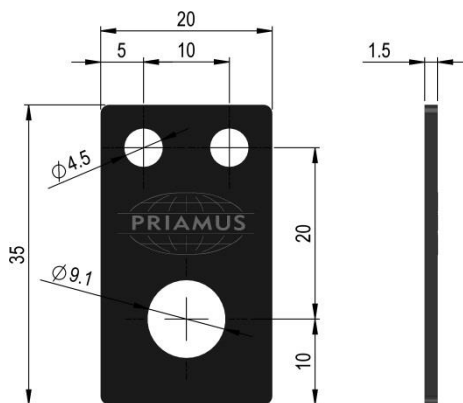


Scope of Delivery

Article	Type	Article	Type
Mounting nut	6546A	Mounting plate	6581A
Protective cap	1308A		

Mounting plate type 6581B

Mounting nut type 6546A



Accessories (Optional)

Article	Type	Article	Type
Mounting / extraction tool for quick disconnect cable	6573A	Assembly tool for mounting nut	6563B