

## Fluid Handling Technology

TETRAFLEX®/TETRAWELL®  
PTFE Hose Assemblies



## Safe PTFE hose assemblies

The requirements and operating conditions for hose assemblies can vary greatly from industry to industry. In order to be able to guarantee operational safety, avoid expensive downtimes and reduce the total cost of ownership (purchase, maintenance and replacement costs) to a minimum, the hose assembly must be selected carefully and correctly. In addition, each industry has certain standards, guidelines, approvals and certificates that a hose assembly must meet. The professional assembly and testing of the hose assembly is carried out in our own production facility in Embrach, Switzerland - so we can guarantee you the highest quality.

## PTFE (polytetrafluoroethylene)

PTFE is a hydrophobic plastic whose chemical, thermal, ageing, solvent resistance and non-stick properties are unsurpassed by any other plastic. Furthermore, the inner layers of our hose assemblies are neutral in taste and odor and comply with the requirements of the US Food & Drug Administration (FDA), USP Cl. VI and EC 1935/2004.

## General working conditions

The temperature range is from  $-70^{\circ}\text{C}$  to  $+260^{\circ}\text{C}$  (depending on the pressure reinforcements and outer-covers) and these hose-lines can be used for both positive and negative operating pressures, depending on the hose construction.

## Hose fittings (connecting elements)

The hoses can be assembled with almost all common hydraulic, chemical, pharmaceutical and foodstuff fittings as well as special fittings.

Our TETRAFLEX® and TETRAWELL® hose assemblies meet the tests, approvals and conformities required by the various industries.

Available in various stainless steel and zinc plated steel qualities. On request with PTFE-lined fittings as well.

## Examples of specific Industrial Fittings



TriClamp DIN 32676  
Series a, b and c



Dairy pipe connections  
DIN 11851 or SMS 1145



Camlock couplings  
DIN EN 14420-7



Fixed and loose flange  
DIN or ASME

## Examples of Hydraulic Fittings



Swage-fitting Type GM/GR  
External thread BSP/metric



Swage-fitting Type GRK  
External thread BSPT



Swage-fitting Type CM/CR  
flat face with Swivel-Nut  
Internal thread BSP/metric



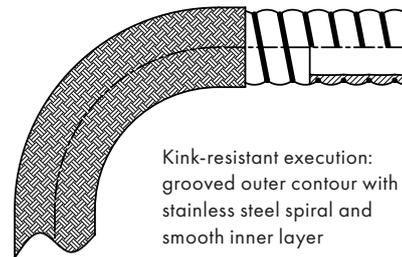
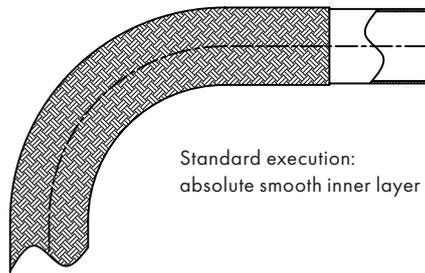
Swage-fitting Type AM/AR  
universal cone with Swivel-Nut  
Internal thread BSP/metric

## TETRAFLEX® hose assemblies

All TETRAFLEX® hoses have a smooth inner layer and are particularly suitable for applications with high pressure and flow rates. Depending on the application, there is a suitable execution of the TETRAFLEX® hose. For vacuum applications or for tight installation conditions (kink-resistant), the hoses are fitted with an additional stainless steel spiral between inner and outer layer.

The high-performance TETRAFLEX® hoses, additionally with a smooth, FDA-compliant silicone cover, are optimally adapted for use in the pharmaceutical and food industries.

A version with an antistatic or electrically conductive PTFE inner layer can be supplied as well.



Hose type	Description	Inner-Ø mm	Working pressure bar	Temperature range °C	Inner- surface
TETRAFLEX® 4250 or 4450	The top all-rounder	6 to 25	80 to 224	-70 to +260	smooth
TETRAFLEX® 4450-SIV	Smooth FDA-compliant silicone cover for pharmaceutical or food industry	6 to 25	80 to 224	-70 to +200	smooth
TETRAFLEX® 4460	The top all-rounder, with conductive PTFE for use in explosive environments	6 to 25	80 to 224	-70 to +260	smooth
TETRAFLEX® 4460-SIV	Smooth FDA-compliant silicone cover and with conductive PTFE-liner for use in explosive environment	6 to 25	80 to 224	-70 to +200	smooth
TETRAFLEX® 3450V	For narrow installation conditions, high kink resistance	12 to 50	25 to 50	-70 to +260	smooth
TETRAFLEX® 3430V-PP	Electrically conductive PP braiding, for narrow installation conditions, high kink resistance	12 to 50	25 to 40	-70 to +90	smooth
TETRAFLEX® 3450V-EPDM	High-performance hose with smooth, vulcanized EPDM cover meets the hygiene requirements in almost all industries	12 to 50	25 to 50	-30 to +160	smooth
TETRAFLEX® 3450V-SIV	High-performance hose with smooth, FDA-compliant silicone cover, perfectly adapted for use in the pharmaceutical and food industries	12 to 50	24 to 50	-70 to +200	smooth



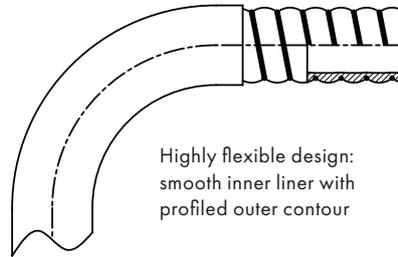
## TETRAFLEX® PRIME PTFE hose assemblies - NEW: SMOOTH AND FLEXIBLE

The TETRAFLEX® PRIME combines the advantages of the smooth inner layer of the TETRAFLEX® and the very good bending behaviour similar to a TETRAWELL®.

Due to the strong profiling of the outer contour of the PTFE liner and an additional metal spiral, it has a very high flexibility and kink resistance. The metal spiral is embedded well protected between synthetic pressure carrier inserts. The TETRAFLEX® PRIME is therefore ideal for dynamic applications.

The liner is food compliant according to FDA and EU Food Directive 1935/2004 and 1245/2020, as well as USP Class VI for pharmaceutical applications.

Depending on the medium and application, the PTFE liners are available in white (virgin) or black (antistatic) as well as covers made in various EPDM qualities. For pharmaceutical applications, the TETRAFLEX® PRIME PHARM is equipped with a white silicone cover. Production takes place in the clean room according to ISO 14644 Class 8.



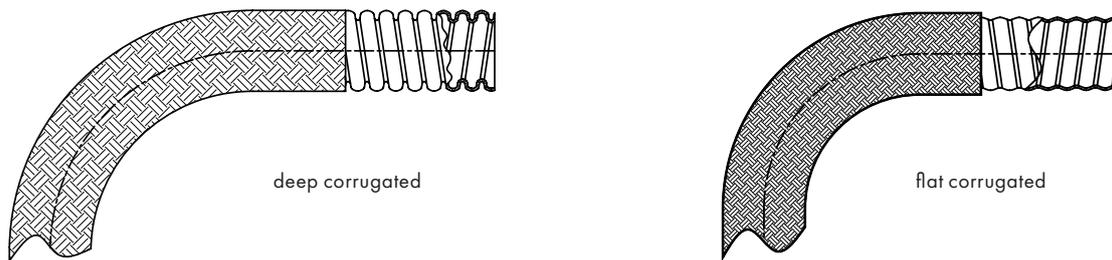
Hose type		Description	Inner-Ø mm	Working pressure bar	Temperature range °C	Inner- surface
TETRAFLEX® PRIME CHEM	NEW PRODUCT 	Conductive EPDM cover, virgin liner	25 to 50	16	-40 to +150	smooth
TETRAFLEX® PRIME CHEM AS	NEW PRODUCT 	Conductive EPDM cover, liner, full conductive	25 to 50	16	-40 to +150	smooth
TETRAFLEX® PRIME CHEM EPD	NEW PRODUCT 	Blue EPDM cover, virgin liner	25 to 50	16	-40 to +150	smooth
TETRAFLEX® PRIME PHARM	NEW PRODUCT 	Silicone cover, virgin liner, produced in clean room according to ISO 14644 class 8	25 to 50	7 to 10	-60 to +180	smooth



## TETRAWELL® hose assemblies

TETRAWELL® stands for the corrugated version of PTFE hose assemblies, which primarily offer high flexibility. We distinguish between flat corrugated and deep corrugated geometry. The flat corrugated design is particularly suitable for lower pressure loss and higher pressure values; the deep corrugated design for higher flexibility and very good bending behavior.

For higher vacuum loads, we equip the TETRAWELL® hoses with an additional stainless steel spiral. A wide variety of materials and designs can be selected for both the braiding (pressure carrier) and the outer cover.



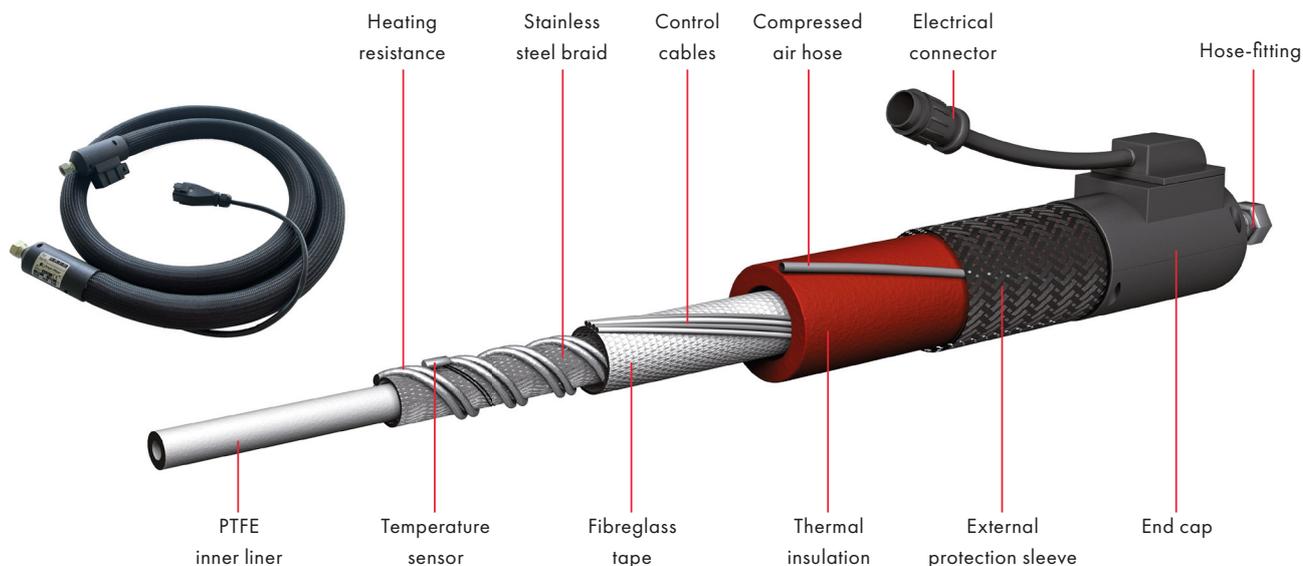
Hose type	Description	Inner-Ø mm	Working pressure bar	Temperature range °C	Inner- surface
TETRAWELL® 1455	Top all-rounder, low pressure loss and high pressure resistance	6 to 50	23 to 172	-70 to +260	flat corrugated
TETRAWELL® 1455-SIV	High-performance hose with FDA-compliant silicone cover, perfect for use in the pharmaceutical and food industries	6 to 50	23 to 172	-70 to +200	flat corrugated
TETRAWELL® 1465	High-performance hose with FDA-compliant silicone cover, perfect for use in the pharmaceutical and food	6 to 50	23 to 172	-70 to +260	flat corrugated
TETRAWELL® 1465-SIV	High-performance hose, with FDA-compliant silicone cover and with conductive PTFE for use in explosive environments	6 to 50	23 to 172	-70 to +200	flat corrugated
TETRAWELL® 1410	Highly flexible hose, available with smooth cuffs	6 to 150	1 to 4	-70 to +260	deep corrugated
TETRAWELL® 1450	Highly flexible, deep corrugated suction and pressure hose	6 to 150	6 to 35	-70 to +260	deep corrugated
TETRAWELL® 1430-PP	Highly flexible, deep-corrugated suction and pressure hose with electrically dissipative polypropylene braiding	12 to 100	10 to 40	-70 to +90	deep corrugated
TETRAWELL® 1430-PVDF	Highly flexible, deep corrugated suction and pressure hose with high acid and temperature resistant PVDF braiding	12 to 75	6 to 10	-70 to +150	deep corrugated
TETRAWELL® 1450-EPDM	High-performance hose, highly flexible, deep corrugated suction and pressure hose with vulcanized, smooth EPDM coating	12 to 50	25 to 60	-30 to +160	deep corrugated
TETRAWELL® 1450-SIV	Highly flexible, deep corrugated suction and pressure hose with FDA-compliant silicone cover	12 to 50	25 to 60	-70 to +200	deep corrugated



## TETRAFLEX®, TETRAWELL® TTH - Heating hose lines

Electrically heated hose systems ensure that the media are conveyed at a constant temperature. Ideally suited for applications in the chemical, pharmaceutical and food industries.

These hose assemblies are available in smooth TETRAFLEX® or corrugated TETRAWELL® execution.



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