Fluoropolymer chemical hoses (PFA) - for the most aggressive chemicals

DYNAMIC® SAFE - TECH

Hazardous substance hose for all hazardous areas

Inner layer: black PFA polymer **Reinforcement:** synthetic cord, steel spiral **Outer layer:** black and white UPE polyethylene, rubber synthetic
Operating temp: -35°C to +130°C

Top-quality "FULL OHM" fully antistatic suction and delivery hose (Ω/T), designed for the transfer of highly flammable and very chemically aggressive substances.
Inner layer made of perfluoroalkoxy polymer PFA (a fluoropolymer with properties similar to Teflon), antistatic ($R<10^{(6)}\ \Omega$), mirror smooth, meeting high hygienic requirements (FDA, USP, European EU). Synthetic rubber **interlayer**, includes synthetic cord **reinforcement** and steel wire spiral. **The outer layer is** of the MARBLE type (marbled), smooth, polyethylene-coated (UPE), antistatic ($R<10^{(6)}\ \Omega$), FDA-compliant, odourless and tasteless, resistant to abrasion, ozone and ageing, chemicals and short-term exposure to aggressive acids. The MARBLE layer also has the advantage of a low coefficient of friction - the hose glides and does not soil the surfaces with which it is in contact, and is easy to clean.

The excellent **chemical resistance of PFA** and **the antistatic properties of** both the inner and outer layers ($R<10^{(6)}\ \Omega$) and across the hose wall ($R<10^{(9)}\ \Omega$) make the hose an expensive but technically ideal solution for applications requiring highest safety, in all **explosion risk zones (ATEX)**. Used in the chemical, petrochemical, pharmaceutical and cosmetic industries, as well as in biotechnology. Not suitable for autoclave sterilisation. A version with additionally integrated copper lines (M/T) is available on special request.

Cleaning (food industry):

hot water	steam	oxidising acids (peracetic, nitric), hydrogen peroxide (3%)	non-oxidizing acids (phosphoric acid) (5%)	chlorine, sodium hypochlorite (200 ppm)	sodium hydroxide (3%)
95°C / 30 min	130°C / 30 min	max 80°C / 30 min	max 80°C / 30 min	80°C / a few minutes	max 80°C / 30 min

Standards and requirements:
Chemical hoses: EN 12115:2011 Food industry, food contact: 1935/2004/EC, 2023/2006/EC (GMP); inner layer: 10/2011/EU, USP Class VI, FDA 21 CFR 177.1550; ISO 10993-4,-10,-11, not cytotoxic (ISO 10993 Part 5); outer layer: FDA 21 CFR 177.1520. Does not contain plasticisers, phthalates or substances of animal origin.
Explosive atmospheres: ATEX Directive (zones: 0, 1, 2, 20, 21, 22), EN 50014/ IEC 60079-0.

Chemical resistance check: PTFE **chemical** resistance table (pre-selection), PFA resistance table (available from Tubes International, pre-selection), confirmation of resistance and conditions of use by Tubes International.
Fitting: Spigot ("tail" to hose) ends should be used which are smooth and have no sharp or high notches which could cut or damage the PFA inner layer when clamped. The diameter of the spigot should be exactly matched to the diameter of the hose to ensure tightness. Installation with collets or shell clamps.

index	internal diameter [mm]	external diameter [mm]	wall thickness [mm]	working pressure [bar]	Bursting pressure [bar]	vacuum [bar]	bend radius* [mm]	mass [kg/m]	Roll length [m]
MT-DYNAMIC-ST-10	10	22	6	10	40	0,9	100	0,5	20
MT-DYNAMIC-ST-13	13	25	6	10	40	0,9	135	0,55	20
MT-DYNAMIC-ST-19	19	31	6	10	40	0,9	188	0,72	20
MT-DYNAMIC-ST-25	25	37	6	10	40	0,9	225	0,89	30
MT-DYNAMIC-ST-32	32	45	6,5	10	40	0,9	262	1,16	30
MT-DYNAMIC-ST-38	38	51	6,5	10	40	0,9	338	1,47	30
MT-DYNAMIC-ST-51	51	65,5	7,25	10	40	0,9	412	2,08	30
MT-DYNAMIC-ST-63	63,5	79,5	8	10	40	0,9	450	2,80	20
MT-DYNAMIC-ST-76	76	92	8	10	40	0,9	525	3,48	20
MT-DYNAMIC-ST-100	100	117	8,5	10	40	0,9	700	4,70	20

Notes: indices highlighted in colour - most commonly used. * - static minimum bend radius (for dynamic bending contact Tubes International).