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

MANIFLON PFA

Hose for aggressive chemical substances requiring the highest purity

Inner layer: white PFA polymer
Reinforcement: synthetic cord, steel spiral
Cover: black EPDM rubber
Working temperature: from -50°C to +170°C

Top-quality suction and delivery hose for conveying aggressive chemical substances, solvents and concentrated chemicals, offering high thermal and mechanical strength and the highest inner-layer purity.
Inner layer of white perfluoroalkoxy PFA polymer (a fluoropolymer with properties similar to PTFE), mirror-smooth (prevents medium build-up on the walls and is easy to keep clean), odourless and tasteless, meeting high hygiene requirements (FDA, USP, European EU). **Intermediate layers** of synthetic rubber, containing **reinforcement** synthetic cord, a steel-wire spiral. **Outer layer** of EPDM rubber, antistatic ($R<10^6$ Ω), resistant to abrasion, ozone and weathering.
Hose with two built-in copper wires (type M to EN 12115) which, when correctly connected to the metal ends and earthed, dissipate electrical charges. The hose features excellent **chemical resistance and PFA purity, impermeability, resistance to temperature, oxidation and mechanical stress**. Widely used in the chemical industry owing to its full resistance to most chemical substances. Suitable for conveying concentrated acids and lyes (sulphuric, hydrochloric, phosphoric, nitric acid, sodium and potassium hydroxide, etc.). Resistant to rigorous Cleaning-in-Place (CIP) cleaning conditions.

Cleaning (food industry):

hot water	steam (open)	oxidising acids (peracetic, nitric), hydrogen peroxide (3%)	non-oxidising acids (phosphoric acid) (3%)	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 / 30 min	max 80°C / 30 min

Standards and requirements:

Chemical hoses: EN 12115:2021 (type M). Food industry, food contact and hygiene: 1935/2004/EC, 2023/2006/EC (GMP); inner layer: 10/2011/EU (simulant fluids A, B, D1, D2), USP Class VI, 3-A, FDA, D.M. 21/03/73, ISO 10993-4, -10, -11, non-cytotoxic per ISO 10993-5. The hose contains no plasticisers, phthalates, adipates or substances of animal origin, compliant with regulation EC 1907/2006 (REACH).

Chemical resistance check: PTFE chemical resistance table (preliminary selection), PFA resistance table (available from Tubes International, preliminary selection), confirmation of resistance and application conditions by Tubes International (in particular for temperatures above 50°C).

Assembly: Use ends with a hose tail that is smooth, without sharp or high barbs which could cut or damage the PFA inner layer after crimping. The hose tail diameter should be closely matched to the hose diameter to ensure leak-tightness. The copper wires must be correctly connected to the ends. Assembly with ferrules or shell clamps. The hose (installation) must be earthed.

index	diameter inner [mm]	diameter outer [mm]	wall wall [mm]	pressure working [bar]	pressure burst [bar]	vacuum [bar]	bending radius [mm]	weight [kg/m]	length length [m]
MT-MANIFLON-010	10	22	6	16	64	0,9	65	0,42	20
MT-MANIFLON-13	13	25	6	16	64	0,9	90	0,55	20
MT-MANIFLON-016	16	28	6	16	64	0,9	105	0,63	20
MT-MANIFLON-19	19	32	6,5	16	64	0,9	125	0,75	30
MT-MANIFLON-25	25	38	6,5	16	64	0,9	150	0,95	30
MT-MANIFLON-32	32	45	6,5	16	64	0,9	175	1,15	30
MT-MANIFLON-38	38	51	6,5	16	64	0,9	225	1,50	30
MT-MANIFLON-51	51	66	7,5	16	64	0,9	275	2,20	30
MT-MANIFLON-63	63,5	79,5	8	16	64	0,9	300	3,00	20
MT-MANIFLON-76	76	93	8,5	16	48	0,9	350	3,70	20
MT-MANIFLON-100	100	118	9	16	48	0,9	500	5,00	20

Note: The diameter range covered by EN 12115:2021 for suction and delivery hoses is DN19÷DN100.