

SAPPHIRE 42 Bar Systems

Application

SAPPHIRE Fire Suppression Systems deliver 3M™ Novec™ 1230 Fire Protection Fluid, a safe, environmentally friendly clean agent system, that has a proven track record for protecting people and high value assets.

Conventional SAPPHIRE systems use a storage pressure of 25 bar, which is suitable for many applications. The 42 bar system was developed to provide the designer with more flexibility when planning the layout of the system. The higher pressure permits the containers to be placed further from the hazard area (if required), the use of smaller pipe diameters and allows the use of selector valves, enabling multiple areas to be protected using one bank of containers.

Features

- Fully meets EN 12094 (components)
- Compliance with VdS 2381 guidelines for halocarbon systems
- Designs according to EN 15004, ISO 14520, and NFPA 2001
- VdS flow calculation software
- Selector valve systems
- Fitted with pressure monitoring (optional)
- Can be operated electronically, pneumatically, or manually
- Operating range -20 °C to 50 °C
- Manufactured in EU
- Longer pipe runs
- Smaller pipe diameters

Approvals

- LPCB
- VdS
- CNBOP
- GOST
- CE marked



E000684

Specifications

Environmental Data		
Ozone Depletion Potential (ODP):	0	
Global Warming Potential (GWP):	1	
Atmospheric Life Time (ALT):	3 days to 5 days	
Operating temperature (system):	-20 °C to 50 °C	
Storage temperature (system):	-20 °C to 50 °C	
Physical Properties of Novec 1230 Fluid		
Properties:	Unit	Value
Molecular mass:	-	316.04
Boiling point at 1,013 bar (absolute):	°C	49.2
Freezing point:	°C	-108.0
Vapour pressure 20 °C:	bar abs*	0.3260
Liquid density 20 °C:	g/ml	1.616
Saturated vapour density 20 °C	kg/m ³	4.3305
Heat of vaporization at boiling point:	KJ/kg	88.0
Chemical formula:	CF ₃ CF ₂ C(O)CF(CF ₃) ₂	
Chemical name:	Dodecafluoro-2-methylpentan-3-one	

*1 bar = 0.1 MPa = 10⁵ Pa; 1 MPa = 1 N/mm²

Ordering Information

SAPPHIRE Container Assembly - 42 bar Welded to EN 13322-1 and and EN 14208								
Part Number	Description	Valve Size (mm)	Diameter (mm)	Height to Outlet	Tare Weight (kg)	Minimum Agent Weight (kg)	Maximum Agent Weight (kg)	Maximum Gross Weight (kg)
303.207.030	8 L (TPED)	25	254	305	17.4	4	8	25.4
303.207.031	16 L (TPED)	25	254	504	23.4	8	16	39.4
303.207.032	32 L (TPED)	25	254	836	27.5	16	32	59.5
303.207.033	52 L (TPED)	50	406	595	68.7	26	52	120.7
303.207.034	106 L (TPED)	50	406	1022	88.8	53	106	194.8
303.207.107	140 L (TPED)*	50	406	1286	100.0	70	140	240.0
303.207.035	147 L (TPED)*	50	406	1356	108.8	73.5	147	255.8
303.207.036	180 L (TPED)*	50	406	1635	128.8	90	180	308.8
Notes	<p>The 147 L and 180 L containers are outside the scope of VdS guidelines for fire suppression systems (VdS 2381).</p> <p>The 140 L container is not included in LPCB and CNBOP approval listings.</p> <p>The 8 L to 147 L containers are manufactured to EN 13322-1. The 180 L container is manufactured to EN 14208.</p>							

- Each container assembly consists of a container complete with transport cap, valve assembly with pressure gauge, and a container label (ordered separately).
- Each container assembly is pressurized with dry nitrogen to 42 bar (nominal) at 20 °C.
- Containers must not be stored in direct sunlight, in adverse weather conditions, and must not be positioned where water can accumulate around the base.

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