GAQF.EX4510 - CLEAN-AGENT EXTINGUISHING SYSTEM UNITS

Clean-agent Extinguishing System Units

See General Information for Clean-agent Extinguishing System Units

ANSUL - A TYCO FIRE PROTECTION PRODUCTS BRAND EX4510
1 STANTON ST
MARINETTE, WI 54143-2542 USA

PRE-ENGINEEREED UNITS

Sapphire® Models *570636* and *570637* Clean Agent Extinguishing System Units, stored pressure type, having nominal charging capacities of 40 (18) and 80 (36) lb (kg) of 3M™ Novec™ 1230 Fire Protection Fluid (FK-5-1-12) Clean Agent, respectively. The units are super-pressurized to 360 psig (25 bar) with operating temperatures of 32°F (0°C) to 130°F (54°C). The units are designed for total flooding protection against Class A surface burning, Class B flammable liquid and C fires occurring within an enclosure.

These system units are intended to be designed and installed in accordance with the Listee's Pre-Engineered System Installation Guide P/N 570527 dated May 15, 2003, revised September 1, 2010, and Ansul Bulletin No. 2015187a, Placement Indicator Switch, dated December 31, 2015.

ENGINEEREED UNITS

IG-541 (Inergen) Clean Agent Extinguishing System Units, stored pressure type, having nominal storage capacities of 200, 250, 350, 425, 435 cu ft of IG-541 (Inergen). The units are pressurized to 2175 psig (150 Bar) at 70°F with operating temperatures of 32°F to 130°F. The units are designed for total flooding protection against Class A surface burning, Class B flammable liquid and Class C fires occurring within an enclosure.

A description of these extinguishing system units and the design and installation limitations are contained in the Listee's installation manual P/N 416655-15 issued November 13, 2017, and Ansul Bulletin No. 2018056, Acoustic Nozzle, dated May 4, 2018. These installations require the use of the Listee's flow calculation software 150 Bar Inergen Designer Version 2.1.2 for engineered or Inercalc Version 1.3.0 for balanced engineered. Copies are available from the above Listee.

IG-541 (Inergen) Clean Agent Extinguishing System Units, stored pressure type, having nominal storage capacities of 575 cu ft of IG-541 (Inergen). The units are pressurized to 2900 psig (200 Bar) at 70°F with operating temperatures of 32°F to 130°F. The units are designed for total flooding protection against Class A surface burning, Class B flammable liquid and Class C fires occurring within an enclosure.

A description of these extinguishing system units and the design and installation limitations are contained in the Listee's installation manual P/N 430149-06 issued November 24, 2017, and Ansul Bulletin No. 2018056, Acoustic Nozzle, dated May 4, 2018, and Ansul Bulletin No. 2018234, ANSUL 3/4 in. Acoustic Nozzle, dated November 30, 2018. These installations require the use of the Listee's flow calculation software 200 Bar Inergen Designer Version 5.1.3 for engineered. Copies are available from the above Listee.

Engineered IFlow Models *441380*, *441373*, *441419*, *441417*, *445912*, *446834*, *446714*, *446836*, *445913*, *446835*, *446715*, *446837*, *441428* and *441427* Clean Agent Extinguishing System Units, stored pressure type, having nominal charging capacities of 22.3, 22.3, 22.3, 22.3, 22.3, 22.3, 22.3, 22.3, 39.0, 39.0, 39.0, 39.0, 39.0 and 39.0 cubic meters of Inergen (IG-541) Clean Agent, respectively. The units are pressurized to 300 bar with operating temperatures of -4°F (-20°C) to 130°F (54°C). The units are designed for total flooding protection against Class A surface burning, Class B flammable liquid and C fires occurring within an enclosure.

These system units are intended to be designed and installed in accordance with the Listee's Engineered System Installation, Recharge and Maintenance Manual, P/N 441435 Rev. 02 dated October 2015, Manual Bulletin - Ansul Inergen 300-Bar Exchange Program, Bulletin No. 2016030, dated April 27, 2016, Manual Bulletin - Ansul Inergen 300 Bar PESO Cylinder Assemblies, Bulletin No. 2107113, Dated Feb. 2018, Manual Bulletin - INERGEN-300 Bar (iFLOW) UL/FM Manual Updates, Bulletin No. 2017289, dated January 31, 2018, Ansul (iFLOW) UL/FM Manual Updates, Bulletin No. 2018056, Acoustic Nozzle, dated May 4, 2018 , and Ansul Bulletin No. 2018234, ANSUL 3/4 in. Acoustic Nozzle, dated November 30, 2018. These installations require the use of the Listee's flow calculation software, the Tyco IFlow 300 Engineered System Flow Calculation Software Versions 2.0.0, 2.0.2, or 2.1. Copies are available from the above Listee.

Sapphire ® Clean Agent Extinguishing System Units containing 3M™ Novec™ 1230 Fire Protection Fluid (FK-5-1-12), Models *570635*, *570633*, *570634*, *570638*, *570639*, *570640*, *570641* and *570586*, stored pressure type, having nominal storage capacities of 20, 50, 90, 140, 280, 390, 450 and 850 lb of Novec™ 1230 Fluid (FK-5-1-12), respectively. The units are pressurized to 360 psig (24.8 bar) at 70°F with operating temperatures of 32°F to 130°F. The units are designed for total flooding protection against Class A surface burning, Class B flammable liquid and Class C fires occurring within an enclosure. A description of these extinguishing system units and the design and installation limitations are contained in the Listee's installation manual P/N 570590-4 issued September 1, 2010 (Rev 3), Bulletin 5849, dated June 8, 2012, Bulletin 2015187a, dated December 31, 2015 and Main/Reserve Actuation Isolator Installation Manual Supplement p/n 437276 dated March 31, 2010. These installations require the use of the Listee's flow calculation software ANSL 3.61b or TYCO4.00. Copies are available from the above Listee.

Sapphire ® Clean Agent Extinguishing System Units containing 3M™ Novec™ 1230 Fire Protection Fluid (FK-5-1-12), Models *442639*, *570839*, *442640*, *442641* and *442642* stored pressure type, utilizing seamless cylinders having nominal storage capacities of 90, 210, 320, 370, and 476 lb of Novec™ 1230 Fluid (FK-5-1-12), respectively. The units are pressurized to 360 psig (24.8 bar) at 70°F with operating temperatures of 32°F to 130°F. The units are designed for total flooding protection against Class A surface burning, Class B flammable liquid and Class C fires occurring within an enclosure. A description of these extinguishing system units and the design and installation limitations are contained in the Listee's installation manual P/N 570805-2 issued September 2015, Bulletin 2015187a, dated December 31, 2015, and the Sapphire Engineered system Flow Calculation Software Version ANSL 3.81b or TYCO4.00. Copies are available from the above Listee.

FM-200® Models *442872*, *442873*, *442874*, *442875*, *442876*, *442877*, *442878*, and *442879* Clean Agent Extinguishing System Units utilizing DOT rated cylinders, stored pressure type, having nominal charging capacities of 8, 16, 32, 52, 106, 147, 180, and 343 L (17, 35, 70, 114, 233, 324, 396 and 756 lbs) of FM-200® Clean Agent, respectively. FM-200® Models *442882*, *442883*, *442884*, *442885*, *442886*, *442887*, *442888*, and *442889* Clean Agent Extinguishing System Units utilizing TC rated cylinders, stored pressure type, having nominal charging capacities of 8, 16, 32, 52, 106, 147, 180, and 343L (17, 35, 70, 114, 233, 324, 396 and 756 lbs) of FM-200® Clean Agent, respectively. The units are super-pressurized to 360 psig (25 bar) with operating temperatures of 32°F to 130°C (0°C to 54°C). The units are designed for total flooding protection against Class A surface burning, Class B flammable liquid and C fires occurring within an enclosure. These system units are intended to be designed and installed in accordance with the Listee's Engineered System Installation, Recharge and Maintenance Manual, P/N 442940 dated 2015-10-09, Rev. 0, and the FM-200® Engineered System Flow Calculation Software Version TYCO4.00. Copies are available from the above Listee.

Ansul Sapphire® Plus Clean Agent Extinguishing System Units, stored pressure type, having nominal charging capacities of 3M^{TM} NOVEC^{TM} 1230 Clean Agent as indicated below. The units are super-pressurized to 70 bar at 20°C with operating temperatures of -18°C to 50°C. The units are designed for total-flooding protection against Class A surface burning, Class B flammable liquid, and Class C fires occurring within an enclosure.

These system units are intended to be designed and installed in accordance with the Listee's Engineered System Installation, Recharge and Maintenance Manual, P/N 571000 dated June 15, 2018, and the Sapphire 70 Flow Calculation Software Version 2.0.16 with calc module Version 2.0.5, or Suppression Design Center (SDC) online interface Version GSI 2.0.5. Copies are available from the above Listee.

AGENT STORAGE CONTAINER ASSEMBLY

Weight of Agent (kg)	Part No.
4.5-21.0	303700001, 303700007 303700041, 303700047
9.0-42.0 10.5-47.5	303700002, 303700008 303700042, 303700048 303700025, 303700029
14.0-63.0	303700003, 303700009 303700043, 303700049
18.0-84.0	303700004, 303700010 303700044, 303700050
24.0-112.0	303700026, 303700030
36.0-168.0	303700005, 303700011 303700027, 303700031 303700045, 303700051
45.0-210.0	303700065, 303700066
54.0-252.0	303700006, 303700012 303700046, 303700052 303700028, 303700032

Ansul Sapphire® Plus Clean Agent Extinguishing System Units, stored pressure type, having nominal charging capacities of 3MTM NOVECTM 1230 Clean Agent as indicated below. The units are super-pressurized TO 70 bar at 20°C with operating temperatures of -18°C to 65°C. The units are designed for total-flooding protection against Class A surface burning, Class B flammable liquid, and Class C fires occurring within an enclosure.

These system units are intended to be designed and installed in accordance with the Listee's Engineered System Installation, Recharge and Maintenance Manual, P/N 571000 dated June 15, 2018, and the Sapphire 70 Flow Calculation Software Version 2.0.16 with calc module Version 2.0.5, or Suppression Design Center (SDC) online interface Version GSI 2.0.5. Copies are available from the above Listee.

AGENT STORAGE CONTAINER ASSEMBLY

Weight of Agent (kg)	Part No.
4.5-20.3	303700013, 303700019 303700053, 303700059
9.0-41.0	303700014, 303700020 303700054, 303700060
10.5-45.5	303700033, 303700037
14.0-60.8	303700015, 303700021 303700055, 303700061
18.0-81.0	303700016, 303700022 303700056, 303700062
24.0-108.0	303700034, 303700038
36.0-162.0	303700017, 303700023 303700057, 303700063 303700035, 303700039
45.0-202.5	303700067, 303700068
54.0-243.0	303700018, 303700024 303700058, 303700064 303700036, 303700040

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