GW–S Automatic Sprinkler
CUP (Upright/Pendent), STAINLESS STEEL SS316 / SMO
15mm, K-80, Standard Response

GW SPRINKLER A/S

DESCRIPTION
The GW-S sprinkler series offers high quality, European manufactured, modern compact design, that meet the rigid test requirements set out by the world leading approval authorities. The unique GW PTFE / double groove seal in combination with high end heat responsive frangible glass bulbs guarantee durable operation and reliable performance. All manufacturing and testing processes are performed strictly in compliance with our quality management system, certified to ISO 9001. All metallic components are 100% manufactured from stainless steel.

APPLICATION
GW-S CUP standard response sprinklers are used in fixed fire protection systems. Care must be exercised that RTI, orifice size, temperature rating, deflector style and sprinkler type is in accordance with the latest published sprinkler installation standards i.e. EN12845, CEA4001 or NFPA13.
The CUP (conventional upright/pendent) type sprinkler will pass approximately 50% of the water in the flow direction, and reverse spray 50% - generating a spherical spray that will also wet/cool the ceiling.

TECHNICAL SPECIFICATION

STYLE	CUP (Conventional Upright/Pendent)
RTI-VALUE	RTI > 100, Standard Response A
GLASS BULB DIAMETER	Ø 5 mm
TEMPERATURE RATING *	57, 68, 79, 93, 141, 182, 260°C
ORIFICE:	Ø 11 mm
K-FACTOR:	80 lpm / $bar^{1/2}$
NOMINAL THREAD:	1/2" BSPT or NPT, length: 14mm
MAX. WORKING PRESSURE	12 bar
SYSTEM TEST PRESSURE	20 bar
FACTORY TEST PRESSURE	35 bar
WEIGHT	60 grams
OVERALL LENGTH	52 mm
DEFLECTOR DIAMETER	Ø 32
MATERIAL Option 1	SS316
MATERIAL Option 2	SMO / 6Mo
FINISHES	Natural (stainless steel)

APPROVALS*

VdS	VKF AEAI			CE
VdS (Germany)	VKF (Swizerland)			CE to EN12259-1

* NOTE:
Not all bulb temperatures and material options are approved by all authorities. Please consult GW for specific information.

ACCESSORIES:
SS304/316 escutcheon / rosette

ALTERNATIVE CORROSION RESISTANT MATERIALS
The GW-S Automatic sprinklers are also available in special alloy: Nickel Aluminium Bronze (NAB) and Titanium.

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PROPERTIES OF STAINLESS STEEL

The stainless steel construction extends the life of a sprinkler beyond that of traditional copper alloy sprinklers exposed to corrosive atmospheres. Hence stainless steel sprinklers can withstand many harsh corrosive environments that may cause regular brass sprinklers to deteriorate.
However, before selecting the corrosion resistant alloy, it is strongly recommended that the end user be consulted with respect to the suitability of this alternate material of construction for any given corrosive environment. Most decisions about which stainless steel to use are based on a combination of the following factors:

a. What is the ***corrosive environment***? – atmospheric, water, concentration of particular chemicals, chloride content, presence of acid.
b. What is the ***temperature*** of operation? – high temperatures usually accelerate corrosion rates and therefore indicate (call for) a higher grade.

SS316

SS316 is an austenitic stainless steel containing molybdenum (typical 2,4% Mo) which is more corrosion / acid resistant than the conventional 304/304L stainless steel.

PREN [1)]: 24
CPT [2)]): **15°C**

SMO / 6Mo

SMO is a super austenitic high performance stainless steel containing higher levels of chromium (typical 20% Cr), nickel (typical 18%Ni), molybdenum (typical 6% Mo) and nitrogen with the specific aim of enhancing corrosion resistance. Of the many commercial and technical factors responsible for the development of super austenitic stainless steels none has been more instrumental than the need for grades with high resistance to pitting, crevice corrosion and stress corrosion cracking **in aggressive chloride and high temperature environments**. Thus, the SMO offers significantly better chloride resistance, outperforming the standard stainless steel grades (SS304/SS316). The superior performance is obtained by the use of the alloying elements chromium, molybdenum and nitrogen, all of which are very effective in improving resistance to pitting and crevice corrosion – and high nickel and nitrogen contents for improved resistance to stress corrosion cracking (SCC). It also provides higher creep, stress-to-rupture and tensile strength at elevated temperatures.

PREN [1)]: 43
CPT [2)]: **70°C**

Typical applications for stainless steel sprinklers (where corrosive atmosphere exist)

- Chemical and Petrochemical Processing
- Food and Beverage Processing
- Marine
- Medical
- Petroleum Refining
- Salt-water areas
- Chemical storage areas
- Industrial manufacturing sites
- Pharmaceutical Processing
- Power Generation—nuclear
- Pulp and Paper
- Textiles
- Water Treatment
- Parking garages
- Mechanical rooms

PREN [1)] = Pitting Resistance Equivalent Number (higher number indicate higher corrosion resistance).
CPT [2)] = Critical Pitting Temperature, ASTM G-48A (6%FeCl3 for 72 hr), minimum temp. at which corrosion occurs.

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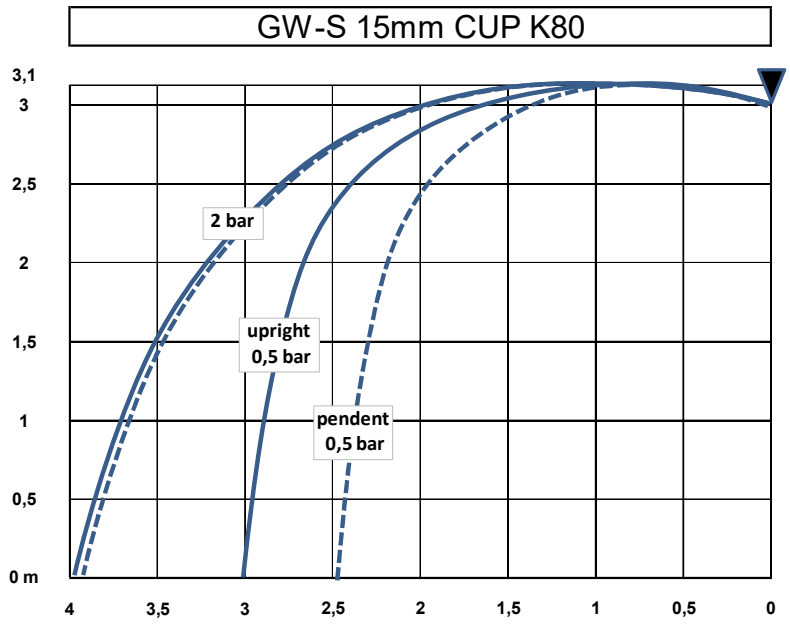
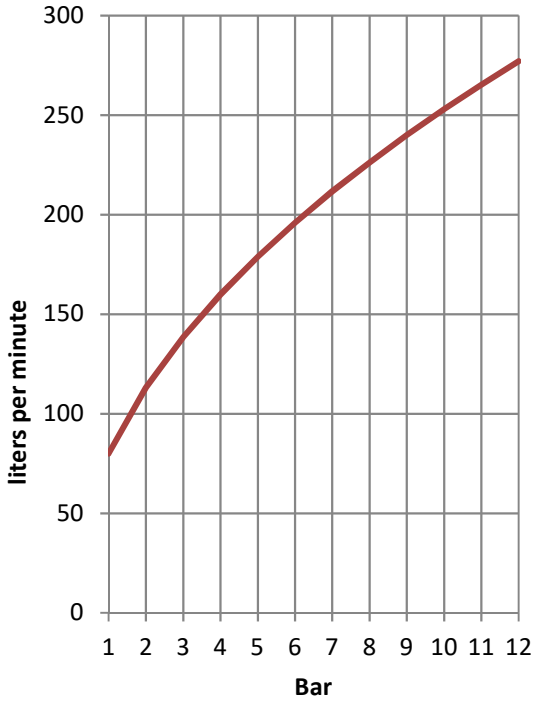
GW SPRINKLER A/S

INSTALLATION
Install CUP type sprinklers in either the upright or the pendent position in accordance with the latest published sprinkler installation standards i.e. EN12845, CEA4001 or NFPA13.
Modern sprinklers incorporate highly sensitive and fragile glass bulbs and the utmost care must be taken during handling and installation not to damage the glass bulb in any way! Never install sprinklers that have been dropped, damaged or fully or partly lacks glass bulb fluid. Install only sprinklers in pipework that is in its final place to prevent mechanical damage of the sprinklers.
Use only GW sprinkler wrench or box-spanner. Recommended torque to obtain leak tight joint: 10 – 20 Nm.
Stainless steel sprinklers should only be installed in corrosive environments that have been thoroughly assessed to be compatible with the selected stainless steel alloy.

MAINTENANCE
The sprinkler system should be inspected and maintained according to e.g. NFPA 25.
Sprinkler heads should be inspected on an annular basis. Ensure that the sprinklers are not used for hanging any objects, and do not show signs of leakage or corrosion. Sprinklers found to be painted, coated or otherwise altered after leaving the factory must be replaced. Also replace any sprinkler that has a cracked bulb or has lost liquid from its bulb.
Dusty sprinklers can be gently cleaned using a feather duster – or similar gentle method/tool.
Automatic sprinklers are recommended to be inspected, tested and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.
GW-S sprinklers are supplied in special purpose built Styrofoam boxes for maximum protection – and spare sprinklers should always be stored / kept in the original packaging until installation.

WATER DISTRIBUTION & FLOW GRAPH





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