

NITROGEN

GENERATION SYSTEMS



**Engineered
Corrosion
Solutions[™]**

Complete Corrosion Control.



01/23/2018
20171023SM

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Nation's Leading Service Provider
Mission Critical Fire Protection Experts![®]

SPECIFYING A NITROGEN GENERATOR

The Right System for your Project



STEP 1: SELECT A NITROGEN GENERATOR

To ensure the nitrogen generator is adequately sized, the following information is required:

- 1) The total cumulative size of all dry/preaction sprinkler systems
- 2) The size of the largest single dry/preaction sprinkler system
- 3) The total number of dry/preaction sprinkler systems

With this information an ECS nitrogen generator can be selected. Small to medium projects can generally be supplied with a pre-engineered nitrogen generator that includes an integral air compressor (PGEN-5/10/20). Projects with a larger cumulative sprinkler system capacity should be supplied with an engineered stand-alone nitrogen generator paired with a separate air compressor (PGEN-30/40/50/60).

STEP 2: SELECT A VENT

To facilitate the removal of oxygen, ECS utilizes the patented “fill and purge” breathing process which requires installation of a vent to control gas discharge from the fire sprinkler system. One (1) vent is required on each dry/preaction fire sprinkler riser, with two available options:

- 1) ECS Protector Manual Vent (PAV-D)
- 2) ECS Protector Dry SMART Vent (PSV-D)

The PAV-D is a mechanical device that is closed manually once the system nitrogen concentration has been verified at 98% or greater and represents the most economical approach to oxygen removal. The PSV-D includes an electronic solenoid valve that closes automatically once the desired nitrogen concentration has been reached and is preferred in applications that value automation or minimal human intervention.

STEP 3: SELECT MONITORING EQUIPMENT

Engineered Corrosion Solutions believes that a true corrosion management system should be monitored for performance to ensure that fire sprinkler system piping is properly protected against oxygen corrosion. ECS offers multiple monitoring options to pair with a nitrogen generation system:

- 1) ECS In-Line Corrosion Detector (includes remote test station)
- 2) ECS Protector SMART Gas Analyzer (permanent installation)
- 3) ECS Protector Handheld Gas Analyzer

STEP 4: CONTACT ECS

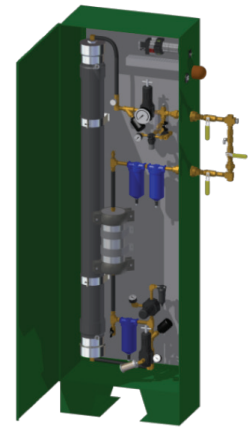
Contact ECS Monday thru Friday, 8 AM - 5 PM (cst) to have a project specific quote returned in four (4) business hours or less. Your project will be reviewed by an ECS engineer to ensure the most cost effective solution is provided.

THE ECS ADVANTAGE

Cost Effective Technology Leader

PATENTED FILL AND PURGE BREATHING PROCESS

- Allows all equipment to be installed in the sprinkler riser room
- No remote equipment in critical areas
- Ensures minimal labor time to install and maintain equipment
- Scientifically proven as fastest method to remove corrosive oxygen



NO UNNECESSARY EQUIPMENT

- No refrigerated dryers, nitrogen storage tanks, or extensive gas sampling lines
- Reduces equipment footprint where space is limited
- Minimizes installation labor and coordination with other trades

ALL EQUIPMENT FULLY ASSEMBLED

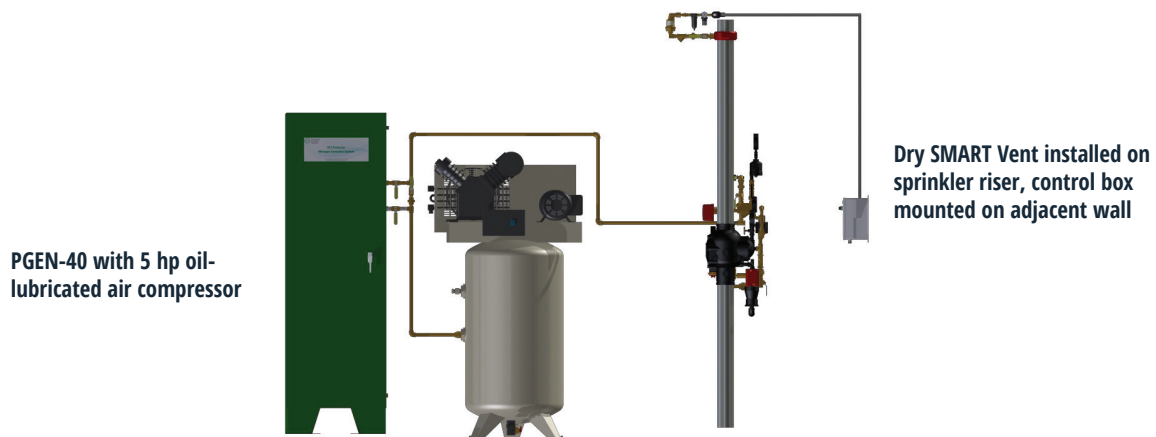
- No additional assembly required on site
- Reduces opportunity for improper installation
- Minimizes installation labor

INDUSTRY BEST LEAD TIMES

- 72 hours from purchase order to shipment
- Respond to project demands immediately
- Complete projects on time and under budget

SUPERIOR CUSTOMER SERVICE AND PRODUCT SUPPORT

- Single engineer point of contact for every project
- Replacement parts available for shipment in 24 hours
- Project commissioning and training available with every project



NITROGEN GENERATORS

Pre-Engineered Plug and Play Systems

PGEN-5

- Up to 950 gallons total sprinkler system capacity
- FM Approved
- Integral oil-less air compressor
- Air bypass alarm included
- Wall-mount ready

SPECIFICATIONS

- Nitrogen Purity: 98%+
- Electrical: 120VAC, 10 amps
- Dimensions: 36" (H) x 24" (W) x 8" (D)

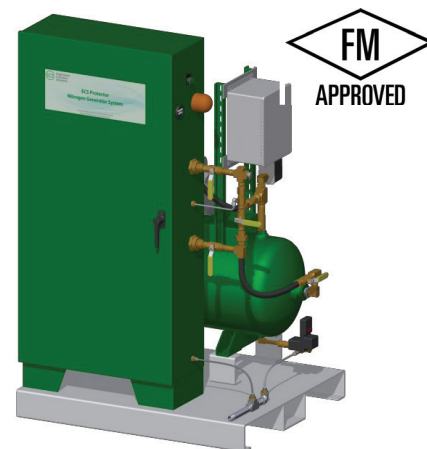


PGEN-10

- Up to 1,850 gallons total sprinkler system capacity
- FM Approved
- Integral oil-less air compressor w/ air receiver tank
- Air bypass alarm included
- All equipment skid-mounted

SPECIFICATIONS

- Nitrogen Purity: 98%+
- Electrical: 120VAC, 20 amps
- Dimensions: 58" (H) x 32" (W) x 40" (D)

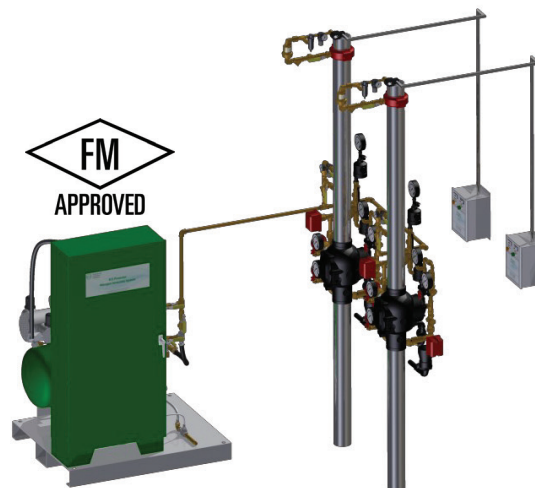


PGEN-20

- Up to 3,200 gallons total sprinkler system capacity
- FM Approved
- Integral oil-less air compressor w/ air receiver tank
- Air bypass alarm included
- All equipment skid-mounted

SPECIFICATIONS

- Nitrogen Purity: 98%+
- Electrical: 120V AC, 2 amps (generator)
460V AC/3 phase (compressor)
- Dimensions: 58" (H) x 32" (W) x 40" (D)



NITROGEN GENERATORS

Engineered Stand-Alone Systems

PGEN-30

- Up to 3,200 gallons total sprinkler system capacity
- Paired with oil-less air compressor or house air
- Air bypass alarm included
- Stand-alone cabinet

SPECIFICATIONS

- Nitrogen Purity: 98%+
- Electrical: 120V AC, 2 amps
- Dimensions: 52" (H) x 24" (W) x 12" (D)

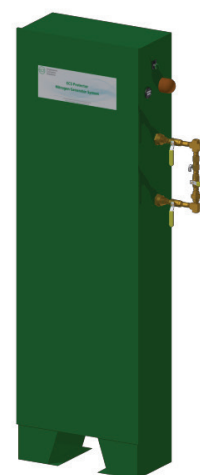


PGEN-40

- Up to 10,000 gallons total sprinkler system capacity
- FM Approved
- Paired with 5 hp oil lubricated air compressor
- Air bypass alarm included
- Stand-alone cabinet

SPECIFICATIONS

- Nitrogen Purity: 98%+
- Electrical: 120V AC, 2 amps
- Dimensions: 78" (H) x 24" (W) x 12" (D)

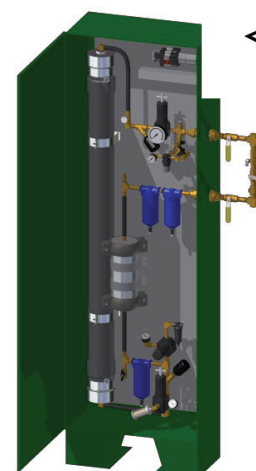


PGEN-50/60

- Up to 18,500/22,500 gallons total sprinkler system capacity
- FM Approved
- Paired with 7.5 or 10 hp oil lubricated air compressor
- Air bypass alarm included
- Stand-alone cabinet

SPECIFICATIONS

- Nitrogen Purity: 98%+
- Electrical: 120V AC, 2 amps
- Dimensions: 78" (H) x 24" (W) x 12" (D)

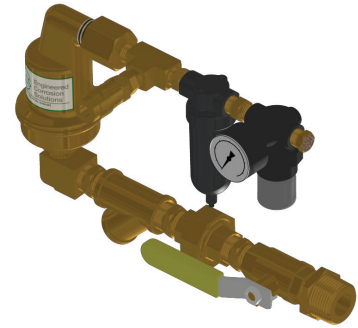


PGEN ACCESSORIES

Venting and Pressure Control Devices

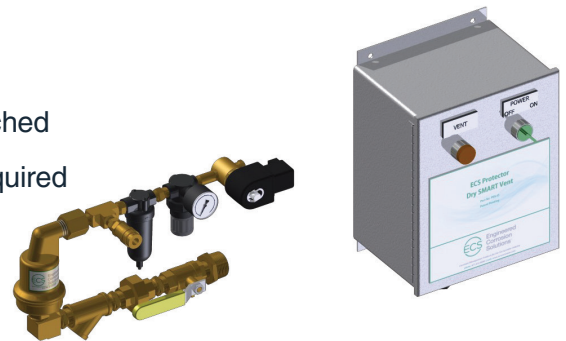
ECS Protector Manual Vent (PAV-D)

- Facilitates patented “fill and purge” breathing process
- Sprinkler system reaches 98% nitrogen within two (2) weeks
- Installed at fire sprinkler riser, no remote installation required
- Pressure regulator prevents system depressurization
- Float valve prevents water discharge
- Requires no plumbing to drain
- No electric required



ECS Protector Dry SMART Vent (PSV-D)

- Facilitates patented “fill and purge” breathing process
- Automatically closes once 98% nitrogen has been reached
- Installed at fire sprinkler riser, no remote installation required
- Pressure regulator prevents system depressurization
- Float valve prevents water discharge
- Requires no plumbing to drain
- Includes control box enclosure, requires 120V power supply



ECS Protector Nitrogen Interface Controller (NIC-1)

- Allows one nitrogen source to supply multiple sprinkler systems operating at different pressures
- Facilitates patented “fill and purge” breathing process when paired with a venting device
- “Plug and Play” performance in self-contained wall mount cabinet
- Includes manual bypass for fast fill option
- Requires 120V power supply



Notes

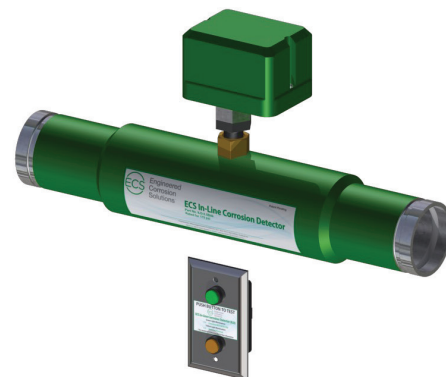
- One (1) venting device required per sprinkler system, vent assembly requires 1/2” connection at riser
- Install Dry SMART Vent control box on wall adjacent to vent assembly installed at riser
- Nitrogen Interface Controller only required for multiple dry/preaction systems supplied from one nitrogen source and operating at different pressures, not required for multiple dry/preaction systems operating at a single maintenance pressure

PGEN ACCESSORIES

Monitoring Devices

ECS In-Line Corrosion Detector (ILD)

- Only device that provides continuous real-time corrosion monitoring of a fire sprinkler system
- Matches size, schedule, and material of system piping
- Provides 360° surface area to detect internal corrosion
- Thin wall section monitored by UL Listed/FM Approved pressure switch
- No obstruction risk and no replacement coupons used
- Includes remote test station, can be monitored remotely and with fire alarm or building automation systems



ECS Protector SMART Gas Analyzer (SGA-1)

- Provides continuous real-time gas concentration of system
- Multiple signal outputs: contact closure, 0-5V DC, and 4-20mA
- Can be monitored by fire alarm or building management systems
- Includes digital display
- Accepts 24V DC or 120V AC power supply
- Paired with ECS venting device for continuous gas supply



ECS Protector Handheld Gas Analyzer (PHGA-1)

- Handheld battery powered device verifies nitrogen purity
- Measures gas concentration at vent sampling port or nitrogen generator discharge
- Features one button self-calibration



Notes

- At least one (1) In-Line Corrosion Detector recommended per nitrogen generator
- In-Line Corrosion Detector typically installed on dry/preaction system mains where trapped water collects
- One (1) SMART Gas Analyzer recommended per nitrogen generator, must be installed adjacent to ECS venting device
- Pressure rated gas sample tubing between venting device and gas analyzer provided by ECS

NITROGEN GENERATOR SPECIFICATIONS

ECS Protector Series

	PGEN-5	PGEN-10	PGEN-20	PGEN-30	PGEN-40	PGEN-50	PGEN-60
Total System Capacity	950 gal	1,850 gal	3,200 gal	3,200 gal	10,000 gal	18,500 gal	22,500 gal
Single System Capacity (1)	265 gal	345 gal	950 gal	variable	1,440 gal	2,025 gal	2,900 gal
Size (H x W x D)	36 x 24 x 8	58 x 32 x 40	58 x 32 x 40	52 x 24 x 12(2)	78 x 24 x 12(2)	78 x 24 x 12(2)	78 x 24 x 12(2)
Weight	125 lbs	400 lbs	425 lbs	152 lbs(2)	264 lbs(2)	300 lbs(2)	300 lbs(2)
Configuration	Wall mount	Skid mount	Skid mount	Stand alone	Stand alone	Stand alone	Stand alone
Electrical	120V	120V	120V/ 460V/3p(3)	120V(4)	120V(4)	120V(4)	120V(4)
Air Compressor	Integral oil-less	Integral oil-less	Integral oil-less	Oil-less/ house air(5)	Oil lubricated	Oil lubricated	Oil lubricated
Lead Time (6)	72 hrs	72 hrs	72 hrs	72 hrs	72 hrs	72 hrs	72 hrs
Warranty (7)	1 year	1 year	1 year	1 year	1 year	1 year	1 year

Notes

- (1) Single system capacity based on 30 min. fill requirement of largest single sprinkler system at 40 psi; a secondary air compressor with normally closed isolation valve can be used to meet fill requirement for larger individual systems
- (2) Size and weight of nitrogen generator only, does not include separate air compressor
- (3) 120V power supply required for nitrogen generator, 208 or 460V/3 phase power supply required for compressor
- (4) Power requirement for stand alone nitrogen generator only, does not include separate air compressor power requirements, options include: 200V/230V/460V 3 phase
- (5) PGEN-30 designed to receive air from oil-less compressed air supply only
- (6) Lead time refers to time from order receipt to shipment from ECS facility, does not include shipping time
- (7) Per ECS terms and conditions

**The De Facto Standard in
Fire Sprinkler Corrosion Control™**

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