



BULLETIN

HELIDECK NOZZLES
360°, 180° AND 90°

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

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1. GENERAL DESCRIPTION

The Helideck Nozzles are designed to protect helipads. They are available with a 360°, 180°, or 90° discharge pattern to meet design requirements. The Helideck Nozzles deliver a uniform minimum discharge pressure 40 psi (2.8 bar). The nozzles are installed flush with the deck of the protection area within the receiver box. The receiver box is specially engineered to receive the Helideck Nozzle and serve as a cover for the drain.

2. LISTINGS AND APPROVALS

The Helideck Nozzle is FM Approved/UL Listed as part of a fire suppression system combining designated foam concentrates, proportioning devices and bladder tanks.

FM Approved and UL Listed with the following Foam Concentrates:

- Viking AFFF 3%M C6
- Viking AFFF 3%S C6
- Viking AFFF 1%S C6
- Fomtec AFFF 3%M
- Fomtec AFFF 3%S
- Fomtec AFFF 1% Ultra LT

3. TECHNICAL DATA

3.1 Construction Features

Helideck Nozzle

- The Helideck Nozzle spreads AFFF foam solution over the burning liquid faster than oscillating monitors because they are located at the deck level where fuel spills occur.
- 2" grooved inlet for simple installation and removal.
- Durable construction designed for maximum direct load of 350 PSI over surface area of assembly, (designed to withstand load of helicopter parked over Helideck Nozzle).
- The Helideck Nozzle has no moving parts. The spray pattern is developed from its installed position.
- The Helideck Nozzle discharges foam solution at the floor level in the same location that a fuel spill will occur. The location of Helideck Nozzles eliminates the need for expensive oscillating monitors around the perimeter of the helipad.
- Maximum height of spray pattern above floor is 18".
- Holes around the perimeter of the nozzle grate allow drainage.

3.2 Standard Materials

Table 3.2.1 - Standard Materials

Helideck Nozzle:	UNS S31600 Stainless Steel
Nozzle Grate:	Ductile Iron, ASTM A536 Grade 80-55-06
Receiver box:	Stainless Steel
Uniseal Pipe Grommet:	Thermoplastic Elastomer
Paint:	Epoxy powder coating
Standard color:	Red

3.3 Nozzle Markings and Dimensions

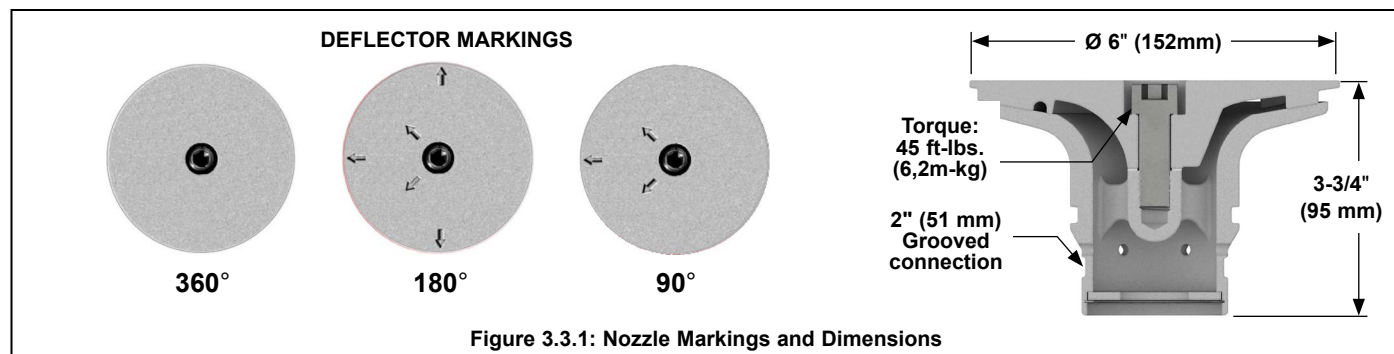


Figure 3.3.1: Nozzle Markings and Dimensions



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3.4 Grate and Receiver Box Dimensions

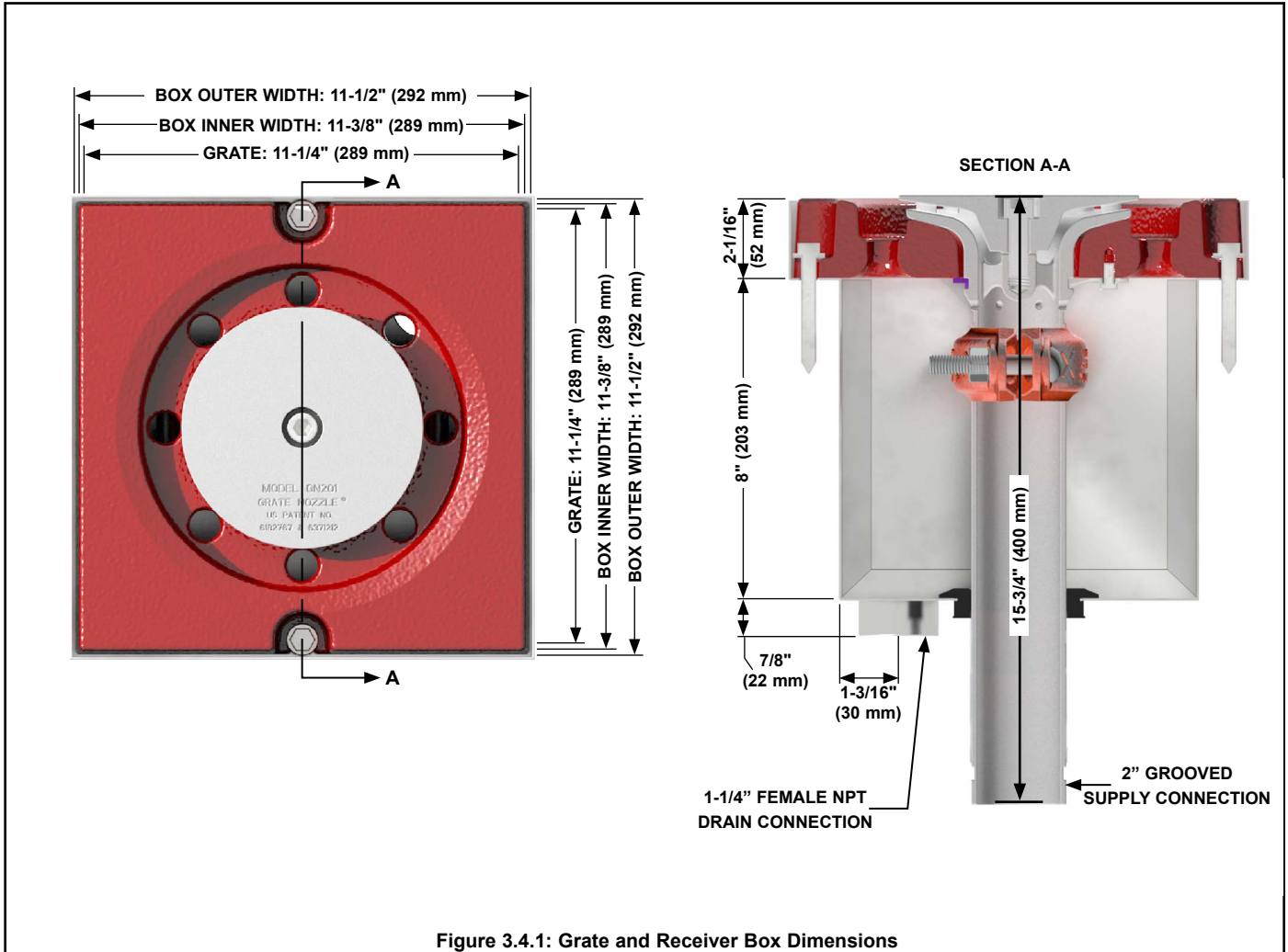


Figure 3.4.1: Grate and Receiver Box Dimensions

3.5 Standard Design Specifications

Table 3.3.1 - Standard Design Specifications

Model	Type	K-factor		Working Pressure ¹				Flow Range				Approvals ²
				Minimum		Maximum		Minimum		Maximum		
		Imperial	Metric	PSI	bar	PSI	bar	GPM	LPM	GPM	LPM	
GN201	360°	23.3	333	40	2.76	70	4.82	147	556	195	737	FM/UL
	180°	11.9	170	40	2.76	70	4.82	75	284	100	378	FM/UL
	90°	6.4	91	40	2.76	70	4.82	40	151	54	204	FM/UL

Footnotes

- Working pressure at inlet of the Grate Nozzle.
- Approved and Listed system components can be found at www.approvalguide.com or www.database.UL.com. Note that the listed Working Pressure and Flow Ranges are specific to the tested foam concentrate.



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3.6 Ordering Information

Table 3.4.1 - Ordering Information				
Part Number	Description	Discharge Pattern	Shipping Weight	
			Lbs	Kg
F21942	Nozzle Assy - 360°	360°	6.5	2.95
F21941	Nozzle Assy - 180°	180°	6.5	2.95
F21940	Nozzle Assy - 90°	90°	6.5	2.95
22719	Helideck Nozzle Assy with Receiver Box	360°	9.7	4.40
22718	Nozzle Receiver Box	N/A	71.0	32.20
22716Q	Nozzle grate	N/A	52.0	23.60

4. SCOPE OF DELIVERY

Ensure that all components are complete and in good condition. The 360° Helideck Nozzle is supplied individually boxed with the items listed below.

Included:

- Helideck Nozzle (Quantity 1)
- Nozzle Grate (Quantity 1)
- Helideck Receiver box (Quantity 1)

5. AVAILABILITY

Please contact your local Viking sales office for further information.

The product is available directly from Viking and official distributors only.

Americas: The Viking Corporation, 210 N. Industrial Park Drive, Hastings, Michigan 49058, Toll free phone: (800) 968-9501

EMEA: Viking SA, ZI Haneboesch, L-4562 Differdange / Niederkorn, Tel.: +352 58 37 37 - 1, Fax: +352 38 37 36, vikinglux@viking-emea.com

APAC: The Viking Corporation (Far East) Pte. Ltd., 69 Tuas View Square, Westlink Techpark, Singapore 637621
Tel: (+65) 6 278 4061, Fax: (+65) 6 278 4609, Email: vikingsingapore@vikingcorp.com

6. INSTALLATION

6.1 General Notes

NOTICE

To prevent over discharge of foam solution, care should be taken to achieve the pressure range defined in Table 3.3.1 at the inlet to the Helideck Nozzle. It is therefore recommended to use a Pressure Regulating Flow Control Valve on larger systems.

- A. The water or foam/water solution supply to Helideck Nozzles must be continuous, clean, and obstruction free. It is recommended that all nozzle deflectors are removed and the pipework flushed prior to commissioning.
- B. Ensure that the deflector is orientated in the correct direction on the 180° and 90° types.
- C. When removing and replacing the nozzle deflector, the deflector retaining bolt must be tightened to a minimum torque of 45 ft-lbs
- D. The supply piping must be self-supporting.
- E. Install wye-type strainers with isolation valves upstream of the riser. Strainers are to be Stainless Steel with a mesh screen no greater than 1/8" perforation.
- F. Positioning must be flush with floor, aligned for bolting of Helideck to grate and placed to accommodate the remaining Helideck drainage system.

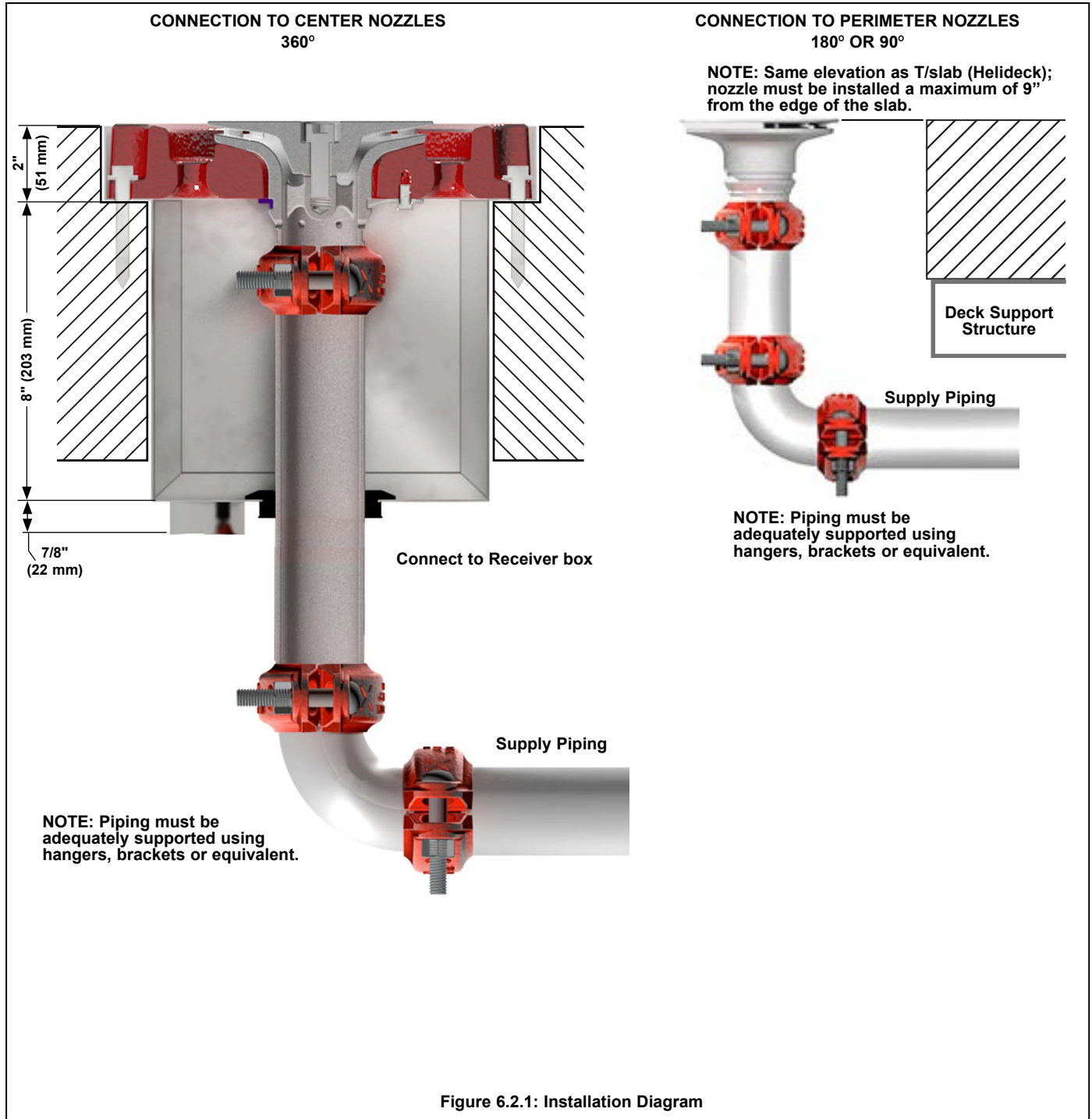


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6.2 Installation Diagrams



7. OPERATION

The Helideck Nozzle is a deluge discharge device located at the deck level of a helideck. Helideck Nozzles provide deck coverage



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by discharging foam solution at the floor level in a fixed 90°, 180° or 360° pattern. The discharge pattern has a 25' radius for all models. The 360° Helideck Nozzles are installed into a customized receiver box. Helideck Nozzles are supplied from a pressure regulating deluge or flow control system. Refer to appropriate Viking technical data pages.

8. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact The Viking Corporation directly.

9. INSPECTIONS, TESTS AND MAINTENANCE

WARNING

Any system maintenance or testing that involves placing a control valve or detection system out of service may eliminate the fire protection of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.

Refer to respective requirements, according to the relevant standards for Inspection, Testing and Maintenance. If applicable, refer to FM Global Property Loss Prevention Datasheet 4-12 for specific test and commissioning criteria.

In addition, the "Authority Having Jurisdiction" (AHJ) may have additional maintenance, testing and inspection requirements that must be followed. Helideck Nozzles are open discharge devices and require inspection, per NFPA 25, be conducted at least annually. As the nozzles are part of a deluge system, system testing and maintenance shall be that of NFPA 25 and the manufacturer's recommendations.

If Helideck Nozzles are installed in an area subject to freezing, frequent inspections may be required to ensure particles of ice have not formed in front of the discharge ports of the Helideck Nozzle.

10. DISPOSAL



At end of use the product described here should be disposed of via the national recycling system.



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11. ACCESSORIES AND SPARE PARTS

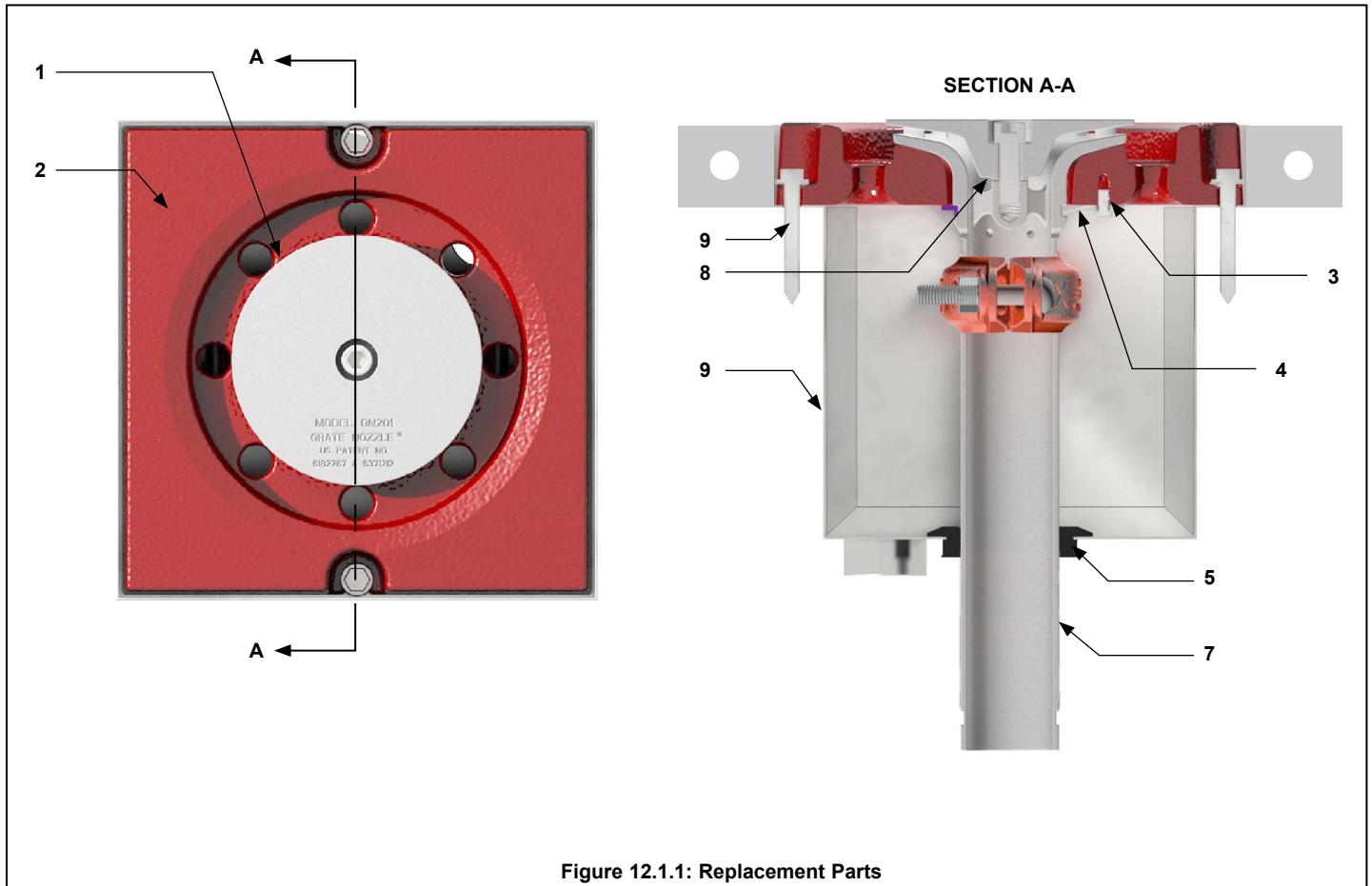


Figure 12.1.1: Replacement Parts

REF.	PART NUMBER	DESCRIPTION	MATERIAL	QUANTITY
1	F21942	Nozzle Assembly - 360°	316 Stainless Steel	1
	F21941	Nozzle Assembly - 180°		
	F21940	Nozzle Assembly - 90°		
2	22716Q	Grate	80-55-06 Ductile Iron	1
3	01761A	Screw, H.H.C., 1/4-20 x 1/2" Lg.	18-8 Stainless Steel	3
4	F02008	Spring Clip	316 Stainless Steel	3
5	22714	Rubber Seal	EPDM	
6	18898	Hex	Stainless Steel	
7	22713	Pipe	Schedule 40	
8	F02007	PTFE Washer	PTFE	1
9	22716Q	Receiver Box assembly	Stainless Steel	