

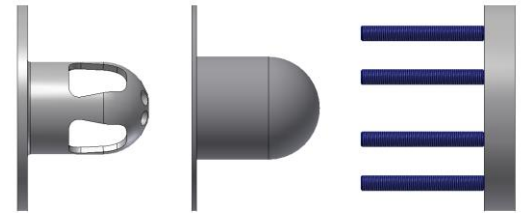
HRD NOZZLE ASSEMBLIES

DESCRIPTION

High Rate Discharge (HRD) nozzle assemblies are mounted between the explosion suppression container and vessel wall. Nozzle assemblies are available in spreader, telescopic, and no-nozzle configurations. To equip an HRD suppression container for use, it is necessary to order a nozzle assembly and its compatible nozzle cover and bolting pad. Each part is sold separately to maximize design flexibility.

Fike patented “Zero Restriction” nozzles do not add flow restrictions due to the fact that the total area of the dispersion opening is twice that of the nozzle inlet. In addition to the spreader nozzle, Fike offers a flush-mount, telescoping nozzle for abrasive applications, and a no-nozzle assembly for eliminating any protrusion into the process. Hygienic versions of the telescopic and no-nozzle assemblies are available. For high temperature environments, contact Fike about protective thermal barriers.

Fike nozzle covers provide a hermetic seal until the HRD is activated and the agent is released. Upon release, the nozzle cover bursts open, allowing unrestricted flow of the suppressant.



STANDARD FEATURES AND BENEFITS

| | |
|---|--|
| Patented design | Zero flow restriction, full coverage, and increased agent discharge velocity. |
| Available flush mounted assemblies | Keeps nozzles from protruding into a process. |
| Available telescopic nozzle assemblies | Telescopic nozzles combine the flush mount’s internal profile with the spreader nozzle’s superior performance. |
| Available hygienic designs | Food grade/FDA approved materials; Hermetic seal prevents the accumulation of process materials around HRD port, reducing potentially unsanitary conditions. |

NOZZLE COVERS

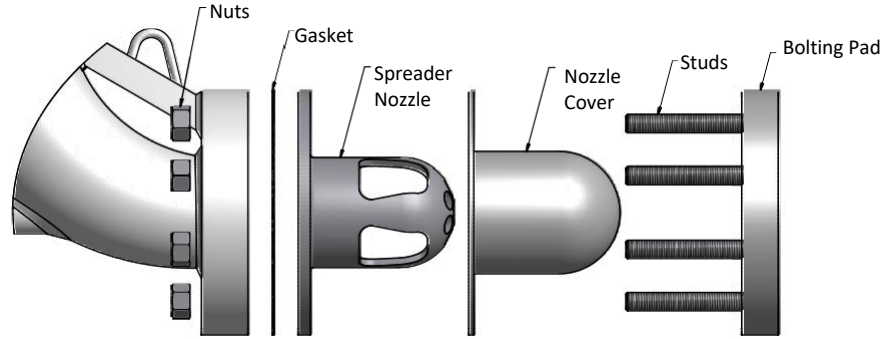
Nozzle covers are available in a variety of materials to suit the unique characteristics of the customer’s process conditions.

| Material | Benefits/Characteristics |
|---------------------|---|
| Neoprene | Max Temperature: 250°F/121°C; Food grade |
| Silicone | Max Temperature: 450°F/232°C; Food grade |
| Viton® | Max Temperature: 430°F/221°C |
| 316 Stainless Steel | Increased abrasion resistance; Food grade |
| Hastelloy® C276 | Increased corrosion resistance |

Disclaimer: All metal nozzle covers fragment

NOZZLE ASSEMBLIES

HRD nozzle assemblies come complete with all nuts, studs, gaskets, O-rings, ball plungers, dampers, sleeves, hold-downs, cap screws, and support pins necessary for installation. Applicable parts vary by assembly. Nozzle covers and bolting pads must be purchased separately. Refer to the following illustrations.

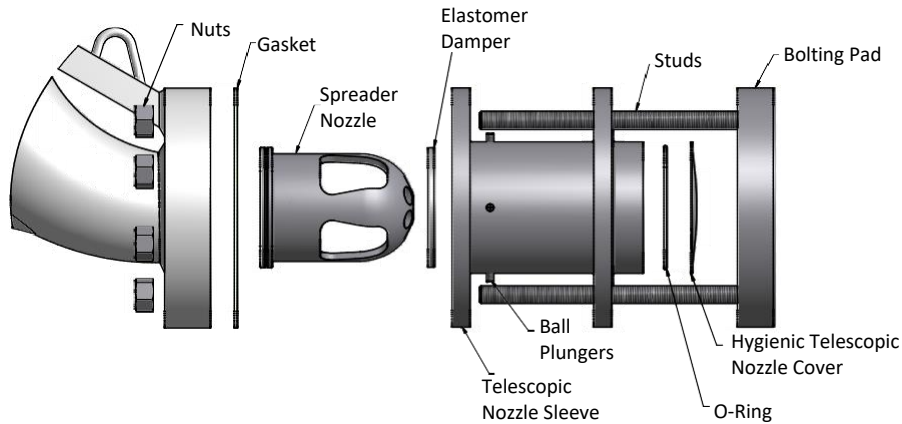


4" HRD SPREADER NOZZLE ASSEMBLY (E80-025-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|--|
| E80-025-1 | 4" Spreader Nozzle for use with Baffle Plate |
| E80-025-2 | 4" Spreader Nozzle for use with Mechanical Lockout |
| E80-025-3 | 4" Spreader Nozzle for use with Ball Valve Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|-----------------------|
| E02-0172-4 | Viton® |
| E02-0172-5 | Neoprene |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E70-0064-1 | Carbon Steel |
| E70-0064-3 | 316 Stainless Steel |

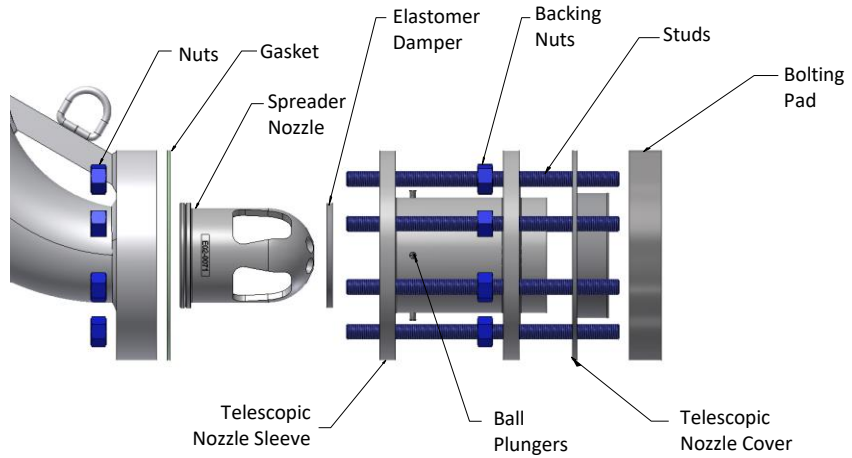


4" HRD TELESCOPIC NOZZLE ASSEMBLY HYGIENIC COVER (E80-0067-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|---|
| E80-0067-1 | 4" Telescopic Nozzle Hygienic for use with Baffle Plate |
| E80-0067-2 | 4" Telescopic Nozzle Hygienic for use with Mechanical Lockout |
| E80-0067-3 | 4" Telescopic Nozzle Hygienic for use with Ball Valve Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|----------------------------------|
| E80-0060-2 | 316 Stainless Steel (X-Score) |
| E80-0060-3 | Hastelloy C276 (X-Score) |
| E80-0148 | 316 Stainless Steel (360° Score) |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E80-0065-1 | 316 Stainless Steel |
| E80-0065-4 | Hastelloy C276 |

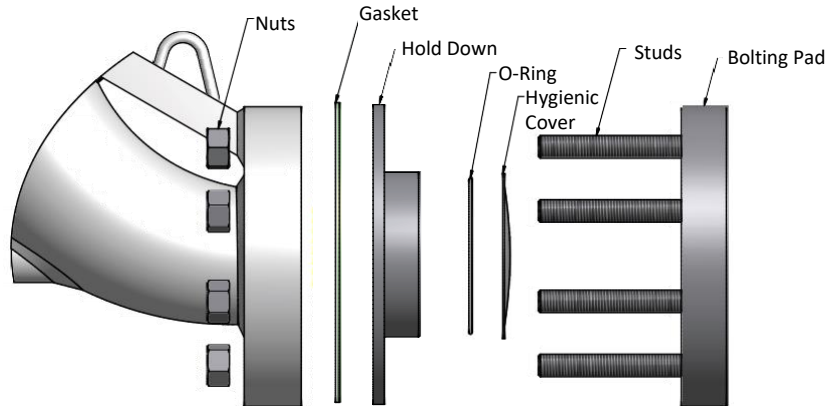


4" HRD TELESCOPIC NOZZLE ASSEMBLY (E80-011-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|--|
| E80-011-1 | 4" Telescopic Nozzle for use with Baffle Plate |
| E80-011-2 | 4" Telescopic Nozzle for use with Mechanical Lockout |
| E80-011-3 | 4" Telescopic Nozzle for use with Ball Valve Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|-----------------------|
| E02-0344-1 | Silicone |
| E02-0344-2 | Neoprene |
| E02-0344-3 | Viton |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E70-0175-1 | Carbon Steel |
| E70-0175-3 | 316 Stainless Steel |

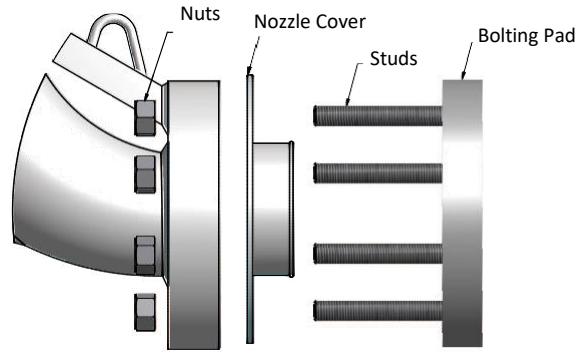


4" HDR NO-NOZZLE ASSEMBLY HYGIENIC COVER (E80-029-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|---|
| E80-029-1 | 4" No-Nozzle Hygienic Cover for use with Baffle Plate |
| E80-029-2 | 4" No-Nozzle Hygienic Cover for use with Mechanical Lockout |
| E80-029-3 | 4" No-Nozzle Hygienic Cover for use with Ball Valve Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|----------------------------------|
| E80-0060-2 | 316 Stainless Steel (X-Score) |
| E80-0060-3 | Hastelloy C276 (X-Score) |
| E80-0148 | 316 Stainless Steel (360° Score) |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E80-0065-1 | 316 Stainless Steel |
| E80-0065-4 | Hastelloy C276 |

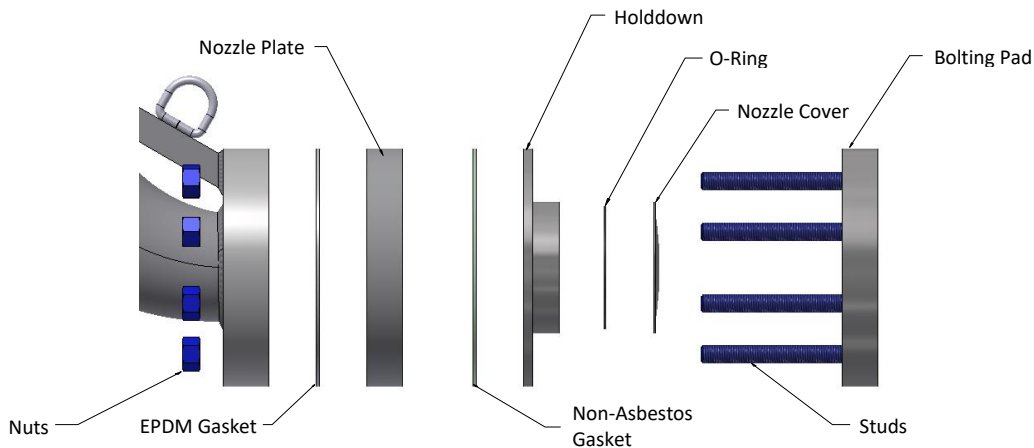


4" HRD NO-NOZZLE ASSEMBLY (E80-052-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|--|
| E80-052-1 | 4" No-Nozzle for use with Baffle Plate |
| E80-052-2 | 4" No-Nozzle for use with Mechanical |
| E80-052-3 | 4" No-Nozzle for use with Ball Valve |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|-----------------------|
| 02-8939-1 | Neoprene |
| 02-8939-2 | Silicone |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E70-0064-1 | Carbon Steel |
| E70-0064-3 | 316 Stainless Steel |



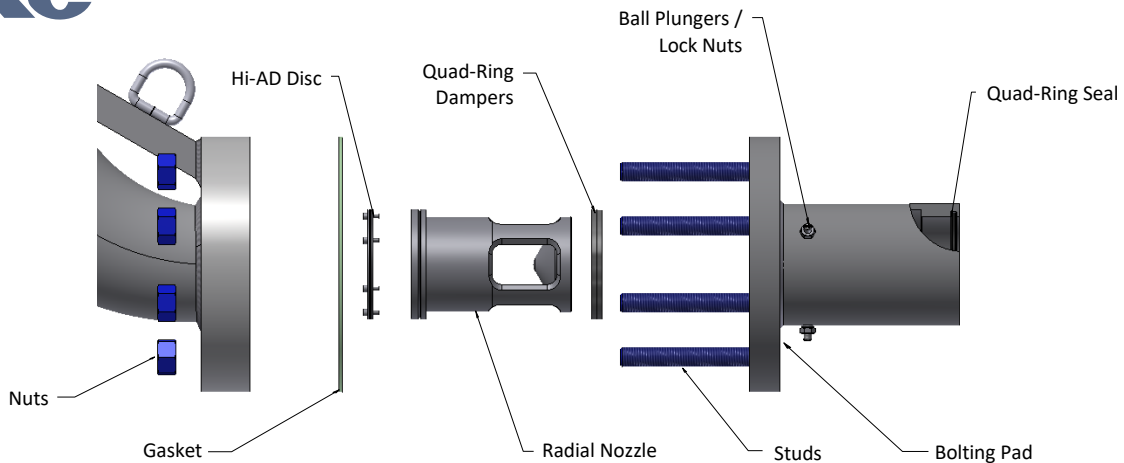
4" HRD EXTENDED DURATION NOZZLE ASSEMBLY (E80-065-XX-X)

| Nozzle Assembly - Duration | |
|----------------------------|-------------|
| Duration | Nozzle Size |
| E80-065- <u>05</u> -X | 500 |
| E80-065- <u>10</u> -X | 1000 |
| E80-065- <u>15</u> -X | 1500 |
| E80-065- <u>20</u> -X | 2000 |

| Nozzle Assembly – Lockout (Lockout Ordered Separately) | |
|--|---|
| Lockout | Nozzle Assembly Description |
| E80-065-XX- <u>1</u> | 4" HRD Extended Duration Nozzle for use with Baffle Plate |
| E80-065-XX- <u>2</u> | 4" HRD Extended Duration Nozzle for use with HRD Lockout |
| E80-065-XX- <u>3</u> | 4" HRD Extended Duration Nozzle for use with Ball Valve Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|-----------------------|
| E80-0060-2 | 316 Stainless Steel |
| E80-0060-3 | Hastelloy C276 |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E80-0065-1 | 316 Stainless Steel |
| E80-0065-4 | Hastelloy C276 |
| E80-0065-10 | Carbon Steel |

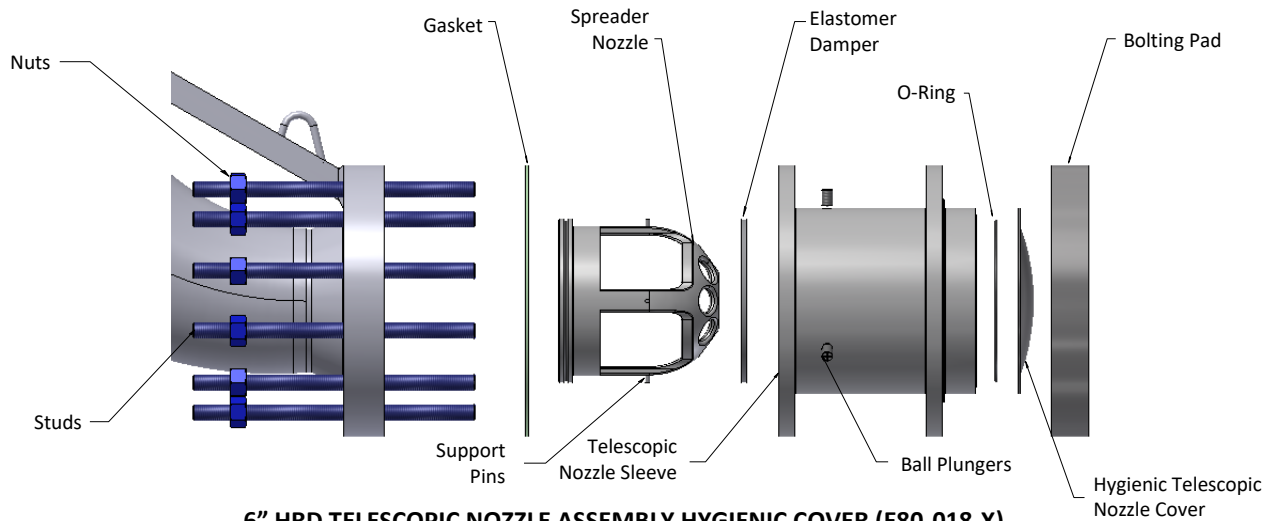


4" HRD RADIAL NOZZLE ASSEMBLY (E80-068-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|--|
| E80-068-1 | 4" Radial Nozzle for use with Baffle Plate |
| E80-068-2 | 4" Radial Nozzle for use with Mechanical Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|-----------------------|
| 45049922 | 303 Stainless Steel |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| 45048700 | Carbon Steel |

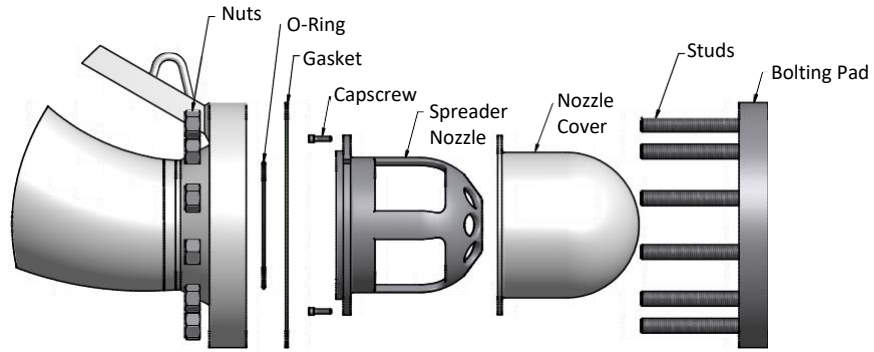


6" HRD TELESCOPIC NOZZLE ASSEMBLY HYGIENIC COVER (E80-018-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|---|
| E80-018-1 | 6" Telescopic Nozzle Hygienic for use with Baffle Plate |
| E80-018-2 | 6" Telescopic Nozzle Hygienic for use with Mechanical Lockout |
| E80-018-3 | 6" Telescopic Nozzle Hygienic for use with Ball Valve Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|-------------------------------|
| E80-0171 | 316 Stainless Steel (X-Score) |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E80-0043 | 316 Stainless Steel |



6" HRD SPREADER NOZZLE ASSEMBLY (E80-026-X)

| Nozzle Assembly P/N | Nozzle Assembly Description |
|---------------------|--|
| E80-026-1 | 6" Spreader Nozzle for use with Baffle Plate |
| E80-026-2 | 6" Spreader Nozzle for use with Mechanical Lockout |
| E80-026-3 | 6" Spreader Nozzle for use with Ball Valve Lockout |

| Nozzle Cover P/N | Nozzle Cover Material |
|------------------|-----------------------|
| 02-8574-1 | Silicone |
| 02-8574-2 | Neoprene |

| Bolting Pad P/N | Bolting Pad Material |
|-----------------|----------------------|
| E70-0084-1 | Carbon Steel |
| E70-0084-3 | 316 Stainless Steel |



REFURBISH KITS

In the event of a discharge the HRD and nozzle assembly will need to be refurbished to be ready to use. Nozzle Refurbish Kits contain all the necessary replacement parts for the HRD and the nozzle assembly. Suppressant, nozzle covers, & GCA's must be ordered separately.

| Refurbish Kit P/N | Description | Nozzle Assembly P/N Reference |
|-------------------|---|-------------------------------|
| E85-033-04 | Reload Kit – Spreader or No-Nozzle – 4” | E80-052-X & E80-025-X |
| E85-033-04F | Reload Kit – Hygienic No-Nozzle – 4” | E80-029-X |
| E85-033-04TS | Reload Kit – Elastomer Telescopic Nozzle – 4” | E80-011-X |
| E85-033-04TH | Reload Kit – Hygienic Telescopic Nozzle – 4” | E80-0067-X |
| E85-033-06 | Reload Kit – Spreader Nozzle - 6” - 50L Ver. 1 | E80-026-X (Ver. 1) |
| E85-047 | Reload Kit – Spreader Nozzle - 6” - 50L Ver. 2 | E80-026-X (Ver. 2) |
| E85-033-06TH | Reload Kit – Hygienic Telescopic Nozzle - 6” – 50L Ver. 1 | E80-018-X (Ver. 1) |
| E85-049 | Reload Kit – Hygienic Telescopic Nozzle - 6” - 50L Ver. 2 | E80-018-X (Ver. 2) |
| E85-054 | Reload Kit – Extended Duration Nozzle – 4” | E80-065-XX-X |
| E85-055* | Reload Kit – HRD Radial Nozzle – 4” | E80-068-X |

*Requires installation tool T01715-S