SECTION 40 13 00

INDUSTRIAL DUCTWORK AND ACCESSORIES

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\*\* NOTE TO SPECIFIER \*\* Nordfab Ducting; industrial ducting.  
This section is based on the products of Nordfab Ducting, which is located at:150 Transit Ave.Thomasville, NC 27361-0190Toll Free Tel: 800-532-0830Fax: 336-889-7873Email: [request info (info@nordfab.com )](https://arcat.com/rfi?action=email&company=Nordfab%252BDucting&message=RE%253A%2520Spec%2520Question%2520(15250nfb)%253A%2520&coid=40768&spec=15250nfb&rep=&fax=336-889-7873)  
Web: <http://www.nordfab.com/en-us>   
 [ [Click Here](https://arcat.com/company/nordfab-ducting-40768) ] for additional information.  
Ducting from Nordfab Ducting is an integral part of dust, mist, and fume collection systems around the world.  
Nordfab Ducting introduced Quick-Fit clamp-together ductwork, with its unique rolled edge ends and easy-to-use clamps, in 1990. As well as being the originator, Nordfab Ducting is the industry leader, and the world's largest supplier of clamp-together ducting for dust, mist, and smoke collection / process ventilation.  
Nordfab Ducting Americas was incorporated in February 1979 and is celebrating over 40 years of providing quality products and service to the air filtration market. We are proud of our role in helping to provide solutions for cleaner environments and safer workplaces.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Flanged industrial ductwork.
    2. Industrial ductwork, clamp together. (Quick-Fit).
    3. Sealed industrial ductwork, clamp together. (QFS).
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 07 62 00 - Sheet Metal Flashing and Trim.
    2. Section 07 91 23 - Backer Rods.
    3. Section 22 05 00 - Common Work Results for Plumbing.
    4. Section 23 05 29 - Hangers and Supports for HVAC Piping and Equipment.
    5. Section 23 31 00 - HVAC Ducts and Casings.
    6. Division 16 - Electrical.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Iron and Steel Institute (AISI).
    2. ASTM International (ASTM):
       1. ASTM A240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
       2. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
       3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
       4. ASTM D1056 - Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
       5. ASTM D2000 - Standard Classification System for Rubber Products in Automotive Applications.
    3. Canadian General Standards Board (CGSB):
    4. Code of Federal Regulations (CFR):
       1. CFR 117.2600 - Rubber articles intended for repeated use.
    5. Federal Specifications and Standards (FED):
       1. TT-S001543A - Interim Federal Specification - Sealing Compound: Silicone Rubber Base (For Calking, Sealing, And Glazing In Buildings And Other Structures).
       2. TT-S-00230C - Interim Federal Specification - Sealing Compound: Elastomeric Type, Single Component (For Calking, Sealing, And Glazing In Buildings And Other Structures).
    6. Fenestration and Glazing Industry Alliance (FGIA):
       1. AAMA 800 - Voluntary Specification and Test Methods For Sealants.
    7. Food and Drug Administration (FDA).
    8. German Institute for Standardization (DIN):
       1. DIN 18540 - Sealing Of Exterior Wall Joints In Building Construction Using Joint Sealants - Design Of Joints.
    9. National Fire Protection Association (NFPA):
       1. NFPA 77 - Recommended Practice on Static Electricity.
    10. SAE International (SAE).
    11. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA):
        1. HVAC Air Duct Leakage Test Manual.
    12. United States Military Standard (MIL-STD):
        1. MIL-A-46106A - Military Specification: Adhesive-Sealants, Silicone, RTV, One-Component
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
  2. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  3. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  4. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  5. WARRANTY
     1. Manufacturer's Warranty: Provide manufacturer's standard limited warranty against defects in materials and workmanship which become apparent under normal use; applies to the original buyer only and is non-transferable.
        1. Warranty Period: Refer to Nordfab Ducting Terms and Conditions.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Nordfab Ducting, which is located at:150 Transit Ave.Thomasville, NC 27361-0190Toll Free Tel: 800-532-0830Fax: 336-889-7873Email: [request info (info@nordfab.com )](https://arcat.com/rfi?action=email&company=Nordfab%252BDucting&message=RE%253A%2520Spec%2520Question%2520(15250nfb)%253A%2520&coid=40768&spec=15250nfb&rep=&fax=336-889-7873);Web: <http://www.nordfab.com/en-us>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. INDUSTRIAL DUCTWORK - GENERAL

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs for materials not required.

* + 1. System Requirements:

\*\* NOTE TO SPECIFIER \*\* Typical design range for application ranges from minus 2 to minus 28 inches (minus 51 to minus 711 mm) wg. However, manufacturer has approved systems operating at vacuums of minus 32 to minus 42 inches (minus 813 mm to minus 1067 mm) wg under normal operating parameters.

* + - 1. Air Leakage Performance: Overall system.
         1. Rate: Determined in accordance with SMACNA Class 3.
         2. Test Results: Manufacturer published data obtained with standard components in accordance with SMACNA HVAC Air Duct Leakage Test Manual.

\*\* NOTE TO SPECIFIER \*\* Each size of duct piping is third party tested for strength against collapsing.

* + - 1. Structural Integrity: Complying with SMACNA requirements, rolled and flanged ends can be interpreted as a stiffener, at minimum intervals of 60 inches (1524 mm).
      2. Welded Seams:
         1. Factory Testing: Light test for voids and imperfections.
         2. Maximum Length: 60 inches (1524 mm) for laser welded seams.
      3. Conductivity:
         1. NFPA 77: Continuous metal systems resistance levels not to exceed 10 ohms.
         2. Joint Connections: Metal-to-metal contact.

\*\* NOTE TO SPECIFIER \*\* Delete if flanged ductwork specified. Applies only to QF and QFS systems.

* + - * 1. Clamps: Ears of clamps contact component edges.

\*\* NOTE TO SPECIFIER \*\* If air flow directional products required, state on PO; additional cost applies.

* + - 1. Labeling: Factory applied label indicating air flow direction sensitive components.
    1. Materials:

\*\* NOTE TO SPECIFIER \*\* Delete materials and associated options not required.

* + - 1. Metals:
         1. Type: Galvanized steel.

Compliance: Requirements of ASTM A653 with G90 rating.

\*\* NOTE TO SPECIFIER \*\* At temperatures from 390 to 480 degrees F (199 to 249 degrees C), the zinc-iron alloy layers in galvanized steel will continue to provide a level of protection from corrosion. However, there may be some peeling, changes in mechanical properties, and reduction in the corrosion protection.

Operating Temperature: Minus 65 to 390 degrees F (minus 54 to 199 degrees C).

* + - * 1. Type: Stainless steel.

Compliance: Requirements of ASTM A240.

Operating Temperature: Minus 65 to 1100 degrees F (Minus 54 to 593 degrees C).

Alloy: Type 304.

Alloy: Type 316.

Alloy: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Manufacturer's Black Metal options available for diverter valves.

* + - * 1. Type: Manufacturer's Black Metal; operating temperature from minus 65 to 2600 degrees F (minus 54 to 1427 degrees C).
        2. Type: Manufacturer's Black Metal Painted; operating temperature from negative 82 to 2600 degrees F (negative 63 to 1427 degrees C).

\*\* NOTE TO SPECIFIER \*\* Delete if not required. Available for suction nozzle assembly in QF systems.

* + - * 1. Type: AISI Grade 1018 carbon steel for handles on suction nozzle assemblies.
      1. Hoses:
         1. Type: Black thermoplastic flexible rubber reinforced with spring steel wire helix.

Operating Temperature: Minus 65 to 275 degrees F (Minus 54 to 135 degrees C).

* + - * 1. Type: Clear polyurethane flexible rubber reinforced with bronze coated spring steel wire helix.

Compliance: Conforms to FDA requirements for food safety.

Operating Temperature: Minus 65 to 225 degrees F (Minus 54 to 107 degrees C).

* + - * 1. Type: Clear, static dissipative polyurethane, medium weight, reinforced with bronze coated spring steel wire helix.

Compliance: Conforms to FDA requirements for food safety.

Operating Temperature: Minus 65 to 225 degrees F (Minus 54 to 107 degrees C).

* + - * 1. Type: Galvanized steel.

Operating Temperature: Maximum 390 degrees F (199 degrees C).

* + - * 1. Type: Stainless steel.

Operating Temperature: Maximum 1100 degrees F (593 degrees C).

\*\* NOTE TO SPECIFIER \*\* Delete clamp seals for flanged ducting. Retain for QF and QFS systems.

* + - 1. Clamp Seals:
         1. Type: Nitrile rubber.

Compliance: Meets or exceeds ASTM D1056.

Temperature Rating: 158 degrees F (70 degrees C) maximum constant temperature, intermittent temperature of 194 degrees F (90 degrees C).

* + - * 1. Type: Silicone rubber.

Compliance: Meets or exceeds ASTM D1056.

Maximum Service Temperature: 400 degrees F (204 degrees C).

* + - * 1. Type: ePTFE, expanded polytetrafluoroethylene.

Application: For industrial use only; not for use in food, drug, cosmetic or medical device manufacturing, processing, or packaging operations.

Maximum Service Temperature: 600 degrees F (316 degrees C).

Chemical Resistance: Not degraded by common chemicals, PH 0-14.

\*\* NOTE TO SPECIFIER \*\* Delete rubber O-rings for flanged ducting. Retain for QF and QFS systems.

* + - 1. Rubber O-Rings:
         1. Type: Buna-N, nitrile rubber, black.

Shore Hardness: ASTM D2000, 60 durometer.

Operating Temperature: Minus 40 to 250 degrees F (Minus 40 to 121 degrees C).

* + - * 1. Type: Silicone rubber, red.

Compliance:

Shore Hardness: ASTM D2000, 70 durometer.

Food Safety: Conforms to FDA requirements.

Operating Temperature: Minus 75 to 450 degrees F (Minus 59 to 232 degrees C).

\*\* NOTE TO SPECIFIER \*\* Delete flange gaskets for QF and QFS systems. Retain for flanged ducting.

* + - 1. Flange Gaskets:
         1. Type: Nitrile rubber, black.

Tensile Strength: 900 psi (6205 kPa).

Elongation: 200 percent.

Shore Hardness: 60 durometer.

Operating Temperature: Minus 20 to 250 degrees F (Minus 34 to 77 degrees C).

* + - * 1. Type: Silicone rubber, red.

Tensile Strength: 725 psi (4999 kPa).

Elongation: 250 percent.

Shore Hardness: 50 durometer.

Operating Temperature: Minus 65 to 450 degrees F (Minus 54 to 232 degrees C).

\*\* NOTE TO SPECIFIER \*\* Delete QFS sealed ducting systems application paragraph if not required. Sponge O-rings work in conjunction with rubber O-rings; they do not replace them.

* + - 1. QFS Sealed ducting Systems Applications:
         1. Sponge O-Rings:

Compliance: Meets material classification of ASTM D1056.

Temperature Rating: 250 degrees F (121 degree C) maximum.

Operating Temperature: Minus 30 to 225 degrees F (Minus 34 to 107 degrees C).

* + - * 1. Molded Gaskets: Conductive, general purpose oil resistant polymer, black.

Compliance: Meets material classification of ASTM D2000.

Operating Temperature: Minus 30 to 225 degrees F (Minus 34 to 107 degrees C).

* + - * 1. Joint Sealants: Leak free caulking.

\*\* NOTE TO SPECIFIER \*\* Delete non-QFS applications paragraph if not required.

* + - 1. Non-QFS Applications
         1. Joint Sealants: Suitable temperature rating for required for intended application.

Product: 3M Scotch Seal Metal Sealant 2084.

Compliance: AAMA Specification 801.1.

Maximum Service Temperature: 250 degrees F (121 degrees C).

Product: 3M Polyurethane Adhesive Sealant 540.

Maximum Service Temperature: 250 degrees F (121 degrees C).

Product: Rock River Silicone Sealant.

Compliance:

ASTM C920: Class 25.

TT-S-00230C, TT-S001543A, CFR 117.2600: Class A.

FDA No 421: Conforms to FDA requirements.

Maximum Service Temperature: 400 degrees F (204 degrees C).

Product: Red Devil HVAC/R High Temperature Silicone Sealant, red color.

Compliance:

ASTM C920: Class 25.

TT-S-00230C, TT-S001543A, CEBTP 432.6 140-2, Mil Spec 46106A, CGSB 19C9-9B, DIN 18540, OREX 150031-2: Class A.

Maximum Service Temperature: 500 degrees F (260 degrees C).

Product: As scheduled and indicated on Drawings.

* 1. COMPONENTS AND ACCESSORIES

\*\* NOTE TO SPECIFIER \*\* Delete industrial ductwork option not required. Retain and edit options in first paragraph for flanged ducting systems or second paragraph for either QF or QFS systems.

* + 1. Industrial Ductwork: Bolt together.
       1. Basis of Design: Flanged Ducting Systems as manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete airflow options not required. If air flow directional product is required, it must be stated on the PO and an additional cost may be incurred. Consult manufacturer for details.

* + - 1. Airflow: Standard, non-directional, collars located on exterior side of each port.
      2. Airflow: Directional, factory labeled.
      3. Airflow: As scheduled and indicated on Drawings.
      4. Hardware for Connecting Flanges: Not supplied with flanges.

\*\* NOTE TO SPECIFIER \*\* Delete flange options not required. Clocked location for hole patterns must be indicated on drawings if ' Welded' option is selected below.

* + - 1. Flanges: Rotational.
      2. Flanges: Welded, clocked hole pattern as indicated on Drawings.
      3. Flanges: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ductwork diameter options not required. Available in 1 inch (25 mm) increments from 3 to 72 inches (76 to 1829 mm) for flanged systems.

* + - 1. Ductwork Diameter: \_\_\_\_ inches (\_\_\_\_ mm).
      2. Ductwork Diameter: As required for complete installation of ductwork.
      3. Ductwork Diameter: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ductwork material options not required.

* + - 1. Ductwork Materials: Galvanized steel.
      2. Ductwork Materials: Stainless steel.
      3. Ductwork Materials: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ductwork thickness options not required. Confirm diameter, materials above are available in thicknesses required.

* + - 1. Ductwork Thickness: 22 gauge.
      2. Ductwork Thickness: 20 gauge.
      3. Ductwork Thickness: 18 gauge.
      4. Ductwork Thickness: 16 gauge.
      5. Ductwork Thickness: 14 gauge.
      6. Ductwork Thickness: 12 gauge.
      7. Ductwork Thickness: 10 gauge.
      8. Ductwork Thickness: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      2. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete hole pattern options not required. Retain ' Standard' option below if angle flange (AFL) selected above. If no hole pattern drawing provided, flat flange (FFL) will be blank.

* + - 1. Hole Patterns: Standard.
      2. Hole Patterns: None.
      3. Hole Patterns: Custom, as scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete flange gaskets if not required.

* + - 1. Flange Gaskets: As manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete type options not required.

* + - * 1. Type: Standard, nitrile rubber, black.
        2. Type: Silicone rubber, red.
        3. Type: Custom.
        4. Type: None.
        5. Type: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end plates if not required.

* + - 1. End Plates: As manufactured by Nordfab Ducting.
    1. Industrial Ductwork: Clamp together.

\*\* NOTE TO SPECIFIER \*\* Delete basis of design options not required. QF not sold as airtight system. QFS includes gaskets, sponge O-rings and caulking to create a sealed system.

* + - 1. Basis of Design: QF Quick-Fit Ducting Systems as manufactured by Nordfab Ducting.
      2. Basis of Design: QFS Sealed Ducting Systems as manufactured by Nordfab Ducting.
         1. Sealed Ducting System Accessories: QFS gaskets, sponge O-rings and joint sealants as specified herein and as required for complete installation.
         2. Seams: Sealed with solid welds, gaskets, sponge O-rings or joint sealants.

\*\* NOTE TO SPECIFIER \*\* Delete airflow options not required. If air flow directional product is required, it must be stated on the PO and an additional cost may be incurred. Consult manufacturer for details.

* + - 1. Airflow: Standard, non-directional, collars located on exterior side of each port.
      2. Airflow: Directional, factory labeled.
      3. Airflow: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ductwork diameter options not required. Available in 1 inch (25 mm) increments from 3 to inches (76 to 610 mm) for QF and QFS systems.

* + - 1. Ductwork Diameter: \_\_\_\_ inches (\_\_\_\_ mm).
      2. Ductwork Diameter: As required for complete installation of ductwork.
      3. Ductwork Diameter: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ductwork material options not required.

* + - 1. Ductwork Materials: Galvanized steel.
      2. Ductwork Materials: Stainless steel.
      3. Ductwork Materials: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ductwork thickness options not required. Confirm ductwork diameter, materials above are available in thicknesses required.

* + - 1. Ductwork Thickness: 22 gauge.
      2. Ductwork Thickness: 20 gauge.
      3. Ductwork Thickness: 18 gauge.
      4. Ductwork Thickness: 16 gauge.
      5. Ductwork Thickness: 14 gauge.
      6. Ductwork Thickness: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Clamps required for both QF and QFS systems. When quoting or ordering, the manufacturer's online tool will automatically add the correct quantity of clamps to order.

* + - 1. Clamps: Quick-Fit Clamps with Locking Pin as manufactured by Nordfab Ducting.
         1. Design: Closing clamp with bridge pin; compresses internal 360 degree seal to cover rolled beads on adjacent components with QF end styles.
         2. Operation: Over center, spring-lever action; retaining pin for handle and clamp.

\*\* NOTE TO SPECIFIER \*\* Available in 1 inch (25 increments, 3 to 24 inches (76 to 610 mm). Small pins for 3 to 6 inches (76 to 152 mm) diameter. Large pins for 7 to 24 inches (178 to 610 mm) diameter.

* + - * 1. Diameter and Pin Size: As required for complete installation of ductwork.

\*\* NOTE TO SPECIFIER \*\* Delete clamp and pin options not required. Clamp and pin in same material.

* + - * 1. Clamp and Pin Materials: Galvanized steel.
        2. Clamp and Pin Materials: Stainless steel.
        3. Clamp and Pin Materials: As scheduled and indicated on Drawings.
        4. Seal Width: Manufacturer's standard based on duct port diameter.

Diameter 3 to 6 inches (76 to 152 mm): 3/8 inch (10 mm).

Diameter 7 to 11 inches (178 to 279 mm): 1/2 inch (13 mm).

Diameter 12 to 24 inches (305 to 610 mm): 5/8 inch (16 mm).

\*\* NOTE TO SPECIFIER \*\* Delete seal type options not required.

* + - * 1. Seal Type: Standard, nitrile rubber.
        2. Seal Type: Silicone rubber.
        3. Seal Type: ePTFE.
        4. Seal Type: None.
        5. Seal Type: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph for sleeves if not required. For adjustment where straight sections shorter than 5 ft (1524 mm) are needed. Pipe is cut to length and sleeve secures pipe.

* + - 1. Sleeves: Quick-Fit Sleeves with O-Rings as manufactured by Nordfab Ducting.
         1. Longitudinal Seams: Laser welded, solid.
         2. End Style: QF End Type; die formed-rolled ends with uniform circumference.

\*\* NOTE TO SPECIFIER \*\* Delete sleeve length options not required. 22 and 20 gauge sleeves available in nominal 11 inches (279 mm) lengths. 18 gauge galvanized sleeves available in nominal 11 inches (279 mm). 18 gauge stainless and 14 gauge galvanized available in nominal 8-1/2 inches (216 mm) lengths.

* + - * 1. Sleeve Length: Nominal 11 inches (279 mm).
        2. Sleeve Length: Nominal 8-1/2 inches (216 mm).
        3. Sleeve Length: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete O-ring options not required.

* + - * 1. O-Rings: Standard, nitrile rubber, black.
        2. O-Rings: Silicone rubber, red.
        3. O-Rings: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs in remainder of this article for components not required.

* + 1. Duct Pipes: As manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete longitudinal seams options not required. 22 to 18 gauge duct pipes are laser welded. 16 to 10 gauge duct pipes are plasma welded.

* + - 1. Longitudinal Seams: Laser welded; duct pipes 22 to 18 gauge.
      2. Longitudinal Seams: Plasma welded; duct pipes 16 to 10 gauge.

\*\* NOTE TO SPECIFIER \*\* Delete length options not required.

* + - 1. Lengths: Standard, nominal 5 ft (1524 mm).
      2. Lengths: Custom, \_\_\_\_ inches (\_\_\_\_ mm).
      3. Lengths: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required. Select FFL or AFL end styles for flanged systems. Select QF end style for QF and QFS systems.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.
    1. Elbows: As manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete interior treatment options not required. Upcharge for interior buffing.

* + - 1. Interior Treatment: No Factory buffing.
      2. Interior Treatment: Factory buffing.
      3. Interior Treatment: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete construction options not required. Galvanized steel elbows with 3 to 7 inches (76 to 178 mm) diameter are press-formed and with 8 to 24 inches (203 to 610 mm) diameter are segmented. 16 gauge elbows are constructed of gores lapped over one another and spot welded. 14 gauge galvanized elbow are constructed of butt-welded gores. A link to our website product page should be added here

* + - 1. Construction: Press-formed halves stitch welded together with rolled ends.
      2. Construction: Segmented, spot welded and caulked gores with a lock form standing seam every 15 degrees.
      3. Construction: Segmented, butt welded gores with a lock form standing seam every 15 degrees.
      4. Construction: As scheduled and indicated on Drawings.
      5. Seams: Longitudinal Seams on Collars: Laser welded.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

* + - * 1. Caulking: Required.
        2. Caulking: None.
        3. Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete angle options not required. Addition angle can be supplied by request.

* + - 1. Angle: 30 degrees.
      2. Angle: 45 degrees.
      3. Angle: 60 degrees.
      4. Angle: 90 degrees.
      5. Angle: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit QF; die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete center line radius options not required. Addition center line radius can be supplied by request. Minimum CLR 0.75.

* + - 1. Center Line Radius (CLR): Standard.
         1. Galvanized Steel Elbow Diameter 3 to 7 inches (76 to 178 mm): 1.0.
         2. Galvanized Steel Elbow Diameter 8 to 24 inches (203 to 610 mm): 1.5.
         3. Stainless Steel Elbows: 1.5.
      2. Center Line Radius (CLR): Long Radius (LR).
         1. Galvanized Steel Elbow Diameter 3 to 7 inches (76 to 178 mm): 1.5.
         2. Galvanized Steel Elbow Diameter 8 to 24 inches (203 to 610 mm): 2.5.
         3. Stainless Steel Elbows: 2.5.
      3. Center Line Radius (CLR): As scheduled and indicated on Drawings.
    1. Tubed Elbows: As manufactured by Nordfab Ducting.
       1. Construction: Tubed.
       2. Seams: Longitudinal Seams on Collars: Laser welded.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

* + - * 1. Caulking: Required.
        2. Caulking: None.
        3. Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete angle options not required. Additional angle can be supplied by request.

* + - 1. Angle: 30 degrees.
      2. Angle: 45 degrees.
      3. Angle: 60 degrees.
      4. Angle: 90 degrees.
      5. Angle: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit QF; die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete center line radius options not required.

* + - 1. Center Line Radius (CLR): Standard, 1.5.
      2. Center Line Radius (CLR): Long Radius (LR), 2.5.
      3. Center Line Radius (CLR): As scheduled and indicated on Drawings.
    1. Branches:
       1. Double Branches: As manufactured by Nordfab Ducting.
          1. Seams:

Longitudinal Seams:

\*\* NOTE TO SPECIFIER \*\* Delete straight and branch leg options not required. Solid butt welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge legs only.

Straight and Branch Legs: Lapped, spot welded, caulked.

Straight and Branch Legs: Solid butt welded.

Straight and Branch Legs: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete collar options not required. Plasma welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge collars only.

Collars: Laser welded.

Collars: Plasma welded.

Collars: As scheduled and indicated on Drawings.

Seams Between Collars and Legs:

Collars: Attached to legs with raised lap seam, spot welded.

Collars: Attached to legs with solid weld.

Collars: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

Caulking: Required.

Caulking: None.

Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete length option not required. Product page for full explanation of length calculations: https://www.nordfab.com/en-us/products/qf-ducting/branches/us-qf-double-branch-30deg

* + - * 1. Length: \_\_\_\_ inches (\_\_\_ mm).
        2. Length: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete port diameter options not required. For quoting or ordering purposes. See https://www.nordfab.com/en-us/products/qf-ducting/branches For calculation of A, B, C, and D dimensions.

* + - * 1. Port Diameter:

Ports on Straight Leg, Single End (A): \_\_\_\_ inches (\_\_\_ mm).

Ports on Straight Leg, Triple End (B): \_\_\_\_ inches (\_\_\_ mm).

Branch Ports (C): \_\_\_\_ inches (\_\_\_ mm).

Branch Ports (D): \_\_\_\_ inches (\_\_\_ mm).

* + - * 1. Port Diameter: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete angle options not required.

* + - * 1. Angle: Standard, 30 degrees.
        2. Angle: 45 degrees.
        3. Angle: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - * 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. End Style: Van Stone (VS).
        5. End Style: No Fitting (NF).
        6. End Style: Hose Adapter (RF).
        7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. End Style: As scheduled and indicated on Drawings.
      1. Y Branches: As manufactured by Nordfab Ducting.
         1. Seams:

Longitudinal Seams:

\*\* NOTE TO SPECIFIER \*\* Delete straight and branch leg options not required. Solid butt welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge legs only.

Straight and Branch Legs: Lapped, spot welded, caulked.

Straight and Branch Legs: Solid butt welded.

Straight and Branch Legs: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete collar options not required. Plasma welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge collars only.

Collars: Laser welded.

Collars: Plasma welded.

Collars: As scheduled and indicated on Drawings.

Seams Between Collars and Legs:

Collars: Attached to legs with raised lap seam, spot welded.

Collars: Attached to legs with solid weld.

Collars: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

Caulking: Required.

Caulking: None.

Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete length option not required. See https://www.nordfab.com/en-US/Products/QF-Ducting/Branches for length calculations.

* + - * 1. Length: \_\_\_\_ inches (\_\_\_ mm).
        2. Length: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete port diameter options not required. For quoting or ordering purposes, see https://www.nordfab.com/en-us/products/qf-ducting/branches for explanation of sizing parameters.

* + - * 1. Port Diameter:

Body Ports (A): \_\_\_\_ inches (\_\_\_ mm).

Branch Ports (B): \_\_\_\_ inches (\_\_\_ mm).

Branch Ports (C): \_\_\_\_ inches (\_\_\_ mm).

* + - * 1. Port Diameter: As scheduled and indicated on Drawings.
        2. Angle: Standard, 60 degrees between branch ports.
        3. Angle: 90 degrees between branch ports.
        4. Angle: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - * 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. End Style: Van Stone (VS).
        5. End Style: No Fitting (NF).
        6. End Style: Hose Adapter (RF).
        7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. End Style: As scheduled and indicated on Drawings.
      1. Tee Branches: As manufactured by Nordfab Ducting.
         1. Seams:

Longitudinal Seams:

\*\* NOTE TO SPECIFIER \*\* Delete straight and branch leg options not required. Solid butt welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge legs only.

Straight and Branch Legs: Lapped, spot welded, caulked.

Straight and Branch Legs: Solid butt welded.

Straight and Branch Legs: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete collar options not required. Plasma welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge collars only.

Collars: Laser welded.

Collars: Plasma welded.

Collars: As scheduled and indicated on Drawings.

Seams Between Collars and Legs:

Collars: Attached to legs with raised lap seam, spot welded.

Collars: Attached to legs with solid weld.

Collars: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

Caulking: Required.

Caulking: None.

Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete port diameter options not required. See en-us/products/qf-ducting/branches for full explanation of sizing parameters.

* + - * 1. Port Diameter:

Straight Leg Ports (A): \_\_\_\_ inches (\_\_\_ mm).

Branch Ports (C): \_\_\_\_ inches (\_\_\_ mm).

* + - * 1. Port Diameter: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete length option not required. See <https://www.nordfab.com/en-us/products/qf-ducting/branches> for full explanation of length calculations.

* + - * 1. Length: \_\_\_\_ inches (\_\_\_ mm).
        2. Length: As scheduled and indicated on Drawings.
        3. Angle: Standard, 90 degrees.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - * 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. End Style: Van Stone (VS).
        5. End Style: No Fitting (NF).
        6. End Style: Hose Adapter (RF).
        7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete basis of design options not required.

* + - 1. Branches: As manufactured by Nordfab Ducting.
         1. Seams:

Longitudinal Seams:

\*\* NOTE TO SPECIFIER \*\* Delete straight and branch leg options not required. Solid butt welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge legs only.

Straight and Branch Legs: Lapped, spot welded, caulked.

Straight and Branch Legs: Solid butt welded.

Straight and Branch Legs: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete collar options not required. Plasma welded longitudinal seams standard for 14 gauge collars, 12 gauge, 10 gauge only.

Collars: Laser welded.

Collars: Plasma welded.

Collars: As scheduled and indicated on Drawings.

Seams Between Collars and Legs:

Collars: Attached to legs with raised lap seam, spot welded.

Collars: Attached to legs with solid weld.

Collars: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

Caulking: Required.

Caulking: None.

Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete straight leg length option not required. Product Page for full explanation of length calculations: https://www.nordfab.com/en-us/products/qf-ducting/branches/us-qf-branch-30-degree.

* + - * 1. Straight Leg Length: \_\_\_\_ inches (\_\_\_ mm).
        2. Straight Leg Length: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete port diameter options not required. For quoting or ordering purposes, Product Page: https://www.nordfab.com/en-us/products/qf-ducting/branches/us-qf-branch-30-degree for full explanation of sizing parameters.

* + - * 1. Port Diameter:

Ports on Straight Leg, Obtuse End (A): \_\_\_\_ inches (\_\_\_ mm).

Ports on Straight Leg, Acute End (B): \_\_\_\_ inches (\_\_\_ mm).

Ports on Branch Leg (C): \_\_\_\_ inches (\_\_\_ mm).

* + - * 1. Port Diameter: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete angle options not required.

* + - * 1. Angle: Standard, 30 degrees.
        2. Angle: 45 degrees.
        3. Angle: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - * 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. End Style: Van Stone (VS).
        5. End Style: No Fitting (NF).
        6. End Style: Hose Adapter (RF).
        7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. End Style: As scheduled and indicated on Drawings.
    1. In-Cuts: As manufactured by Nordfab Ducting.
       1. Seams:
          1. Longitudinal Seams:

Branch Legs: Lapped, spot welded, caulked.

Branch Legs: Solid butt welded.

Branch Legs: As scheduled and indicated on Drawings.

Collars: Laser welded.

Collars: Plasma welded.

Collars: As scheduled and indicated on Drawings.

* + - * 1. Seams Between Collar and Legs:

Collars: Attached to legs with raised lap seam, spot welded.

Collars: Attached to legs with solid butt weld.

Collars: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

Caulking: Required.

Caulking: None.

Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete saddle length and width option not required. Length and width are a minimum of 3 inches (76 mm) from branch tube. See https://www.nordfab.com/en-us/products/qf-ducting/branches for full explanation of length calculations.

* + - 1. Saddle Length and Width: \_\_\_\_ inches (\_\_\_ mm).
      2. Saddle Length and Width: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete branch port options not required. For quoting or ordering purposes, Add link to website Product Page https://www.nordfab.com/en-us/products/qf-ducting/branches for full explanation of sizing parameters.

* + - 1. Branch Port Diameter (C): \_\_\_\_ inches (\_\_\_ mm).
      2. Branch Port Diameter (C): As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete main pipe options not required.

* + - 1. Main Pipe Diameter (A): \_\_\_\_ inches (\_\_\_ mm).
      2. Main Pipe Diameter (A): As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete angle options not required.

* + - 1. Angle: Standard, 30 degrees.
      2. Angle: 45 degrees.
      3. Angle: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.
    1. Tap-Ins: As manufactured by Nordfab Ducting.
       1. Seams:
          1. Longitudinal Seams:

Branch Legs: Lapped, spot welded, caulked.

Branch Legs: Solid butt welded.

Branch Legs: As scheduled and indicated on Drawings.

Collars: Laser welded.

Collars: Plasma welded.

Collars: As scheduled and indicated on Drawings.

* + - * 1. Seams Between Collar and Legs:

Collars: Attached to legs with raised lap seam, spot welded.

Collars: Attached to legs with solid butt weld.

Collars: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

Caulking: Required.

Caulking: None.

Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete saddle length and width option not required. Length and width are a minimum of inches (51 mm) from branch tube. See https://www.nordfab.com/en-us/products/qf-ducting/branches for full explanation of length calculations.

* + - 1. Saddle Length and Width: \_\_\_\_ inches (\_\_\_ mm).
      2. Saddle Length and Width: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete branch port options not required. For quoting or ordering purposes, . See https://www.nordfab.com/en-us/products/qf-ducting/branches for full explanation of sizing parameters.

* + - 1. Branch Port Diameter (C): \_\_\_\_ inches (\_\_\_ mm).
      2. Branch Port Diameter (C): As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete main pipe options not required.

* + - 1. Main Pipe Diameter (A): \_\_\_\_ inches (\_\_\_ mm) diameter.
      2. Main Pipe Diameter (A): As scheduled and indicated on Drawings.
      3. Angle: Standard, 90 degrees.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.
    1. Adapters:

\*\* NOTE TO SPECIFIER \*\* Delete basis of design options not required. Plasma welded longitudinal seams standard for 14 gauge collars.

* + - 1. Flange Adapters: As manufactured by Nordfab Ducting.
         1. Longitudinal Seams: Laser welded.
         2. Longitudinal Seams: Plasma welded.
         3. Longitudinal Seams: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete length options not required. See https://www.nordfab.com/en-us/products/qf-ducting/adapters for full explanation of length calculations

* + - * 1. Length: Nominal 3-1/2 inches (89 mm).
        2. Length: Nominal 5 inches (127 mm).
        3. Length: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete flanged end style options if not required.

* + - * 1. Flanged End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        2. Flanged End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. Flanged End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete non-flanged end style options not required.

* + - * 1. Non-Flanged End Style: Standard. Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. Non-Flanged End Style: Van Stone (VS).
        3. Non-Flanged End Style: No Fitting (NF).
        4. Non-Flanged End Style: Hose Adapter (RF).
        5. Non-Flanged End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        6. Non-Flanged End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        7. Non-Flanged End Style: As scheduled and indicated on Drawings.
      1. Hose Adapters: For rubber or urethane hoses as manufactured by Nordfab Ducting.
         1. Longitudinal Seams: Solid laser welded.

\*\* NOTE TO SPECIFIER \*\* Delete length options not required. Confirm availability with diameter below. See https://www.nordfab.com/en-us/products/qf-ducting/adapters for full explanation of length calculations.

* + - * 1. Length: Nominal 4 inches (102 mm).
        2. Length: Nominal 5-1/2 inches (140 mm).
        3. Length: As scheduled and indicated on Drawings.
        4. Hose Connector End Style: Hose Adapter (RF) for rubber or urethane hoses.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - * 1. Non-Hose End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. Non-Hose End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. Non-Hose End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. Non-Hose End Style: Van Stone (VS).
        5. Non-Hose End Style: No Fitting (NF).
        6. Non-Hose End Style: Hose Adapter (RF).
        7. Non-Hose End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. Non-Hose End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. Non-Hose End Style: As scheduled and indicated on Drawings.
      1. Machine Adapters: As manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete length options not required. See https://www.nordfab.com/en-us/products/qf-ducting/adapters for full explanation of length calculations.

* + - * 1. Length: Nominal 4 inches (102 mm).
        2. Length: Nominal 5-1/2 inches (127 mm).
        3. Length: As scheduled and indicated on Drawings.
        4. Machine Connector End Style: No Fitting (NF).
        5. Machine Connector End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        6. Machine Connector End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        7. Machine Connector End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - * 1. Non-Machine End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. Non-Machine End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. Non-Machine End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. Non-Machine End Style: Van Stone (VS).
        5. Non-Machine End Style: No Fitting (NF).
        6. Non-Machine End Style: Hose Adapter (RF).
        7. Non-Machine End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. Non-Machine End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. Non-Machine End Style: As scheduled and indicated on Drawings.
    1. Reducers: As manufactured by Nordfab Ducting.
       1. Seams:

\*\* NOTE TO SPECIFIER \*\* Solid butt welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge only.

* + - * 1. Longitudinal Seams:

Body: Lapped, spot welded, caulked.

Body: solid butt welded.

Body: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete collar options not required. Plasma welded longitudinal seams standard for 14 gauge, 12 gauge, 10 gauge only.

Collars: Laser welded.

Collars: Plasma welded.

Collars: As scheduled and indicated on Drawings.

* + - * 1. Seams Between Collars and Body:

Collars: Attached to body with raised lap seam, spot welded.

Collars: Attached to body with solid butt weld.

Collars: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete caulking options not required. Additional cost may be incurred.

Caulking: Required.

Caulking: None.

Caulking: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete length options not required. See https://www.nordfab.com/en-us/products/qf-ducting/adapters for full explanation of length calculations.

* + - * 1. Lengths: Standard.
        2. Lengths: Custom, \_\_\_\_ inches (\_\_\_\_ mm).
        3. Lengths: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete larger end style options not required.

* + - * 1. Larger End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. Larger End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. Larger End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. Larger End Style: Van Stone (VS).
        5. Larger End Style: No Fitting (NF).
        6. Larger End Style: Hose Adapter (RF).
        7. Larger End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. Larger End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. Larger End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete smaller end style options not required.

* + - * 1. Smaller End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. Smaller End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. Smaller End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. Smaller End Style: Van Stone (VS).
        5. Smaller End Style: No Fitting (NF).
        6. Smaller End Style: Hose Adapter (RF).
        7. Smaller End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. Smaller End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. Smaller End Style: As scheduled and indicated on Drawings.
    1. Transitions: As manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete style options not required.

* + - 1. Style: Rectangular to round.
      2. Style: Square to square.
      3. Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete length options not required. See https://www.nordfab.com/en-us/products/qf-ducting/adapters for full explanation of length calculations.

* + - 1. Lengths: Standard.
      2. Lengths: Custom, \_\_\_\_ inches (\_\_\_\_ mm).
      3. Lengths: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete round end style options not required.

* + - 1. Round End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. Round End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. Round End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. Round End Style: Van Stone (VS).
      5. Round End Style: No Fitting (NF).
      6. Round End Style: Hose Adapter (RF).
      7. Round End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. Round End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. Round End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete four-sided end style options not required.

* + - 1. Four-Sided End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      2. Four-Sided End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. Four-Sided End Style: Sheet Metal Flange (SFL).
      4. Four-Sided End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      5. Four-Sided End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      6. Four-Sided End Style: As scheduled and indicated on Drawings.
    1. End Caps: As manufactured by Nordfab Ducting.

. \*\* NOTE TO SPECIFIER \*\* Plasma welded longitudinal seams standard for 14 gauge only.

* + - 1. Longitudinal Seams: Solid laser welded.
      2. Longitudinal Seams: Plasma weld.
      3. Lengths: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Delete end cap styles not required. Larger than 24 inches (610 mm) diameter will have expanded metal screen in lieu of mesh bird screen.

* + - 1. End Cap Style: Standard, solid flat plate, crimped in place.
      2. End Cap Style: Bird screen, 1/2 inch (13 mm) square wire mesh screen.
      3. End Cap Style: Expanded, perforated metal.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.
    1. Blast Gates:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required.

* + - 1. Type: Manual Blast Gates as manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required. See <https://www.nordfab.com/en-us/literature/product-data-sheets> for full details.

* + - * 1. Materials:

Body: Standard, cast aluminum.

Collars and Blades: Galvanized steel.

* + - * 1. Materials: Body, collars and blades in stainless steel.
        2. Materials: As scheduled and indicated on Drawings.
      1. Type: Manual NFMES Blast Gate as manufactured by Nordfab Ducting.
      2. Type Automatic NFES Blast Gates as manufactured by Nordfab Ducting.
         1. Polyurethane Tube: 0.25 inch (6 mm) OD x 0.04 inch (1 mm) wall, 120 psi (827 kPa), Grade E5.

\*\* NOTE TO SPECIFIER \*\* Delete solenoid options not required

* + - * 1. Solenoid: Single solenoid, 2 position, 110 VAC, 2.5 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        2. Solenoid: Single solenoid, 2 position, 24 VDC, 2.5 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        3. Solenoid: Single solenoid, 2 position, 24 VAC, 2.5 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        4. Solenoid: As scheduled and indicated on Drawings.
        5. Sensing Reed Switch Assemblies for Automatic Blast Gates, 1.06 inches (27 mm): As manufactured by Nordfab Ducting.

Switches: 2 D-B54 position sensing switches with indicator light per unit.

* + - 1. Type: Automatic SD Blast Gates as manufactured by Nordfab Ducting.
         1. Polyurethane Tube: 0.25 inch (6 mm) OD x 0.04 inch (1 mm) wall, 120 psi (827 kPa), Grade E5.

\*\* NOTE TO SPECIFIER \*\* Delete solenoid options not required

* + - * 1. Solenoid: Single solenoid, 2 position, 110 VAC, 2.5 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        2. Solenoid: Single solenoid, 2 position, 24 VDC, 2.5 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        3. Solenoid: Single solenoid, 2 position, 24 VAC, 2.5 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        4. Solenoid: As scheduled and indicated on Drawings.
        5. Sensing Reed Switch Assemblies for Automatic Blast Gates, 1.06 inches (27 mm): As manufactured by Nordfab Ducting.

Switches: 2 D-B54 position sensing switches with indicator light per unit.

* + - 1. Type: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete hose type and hose options not required. See https://www.nordfab.com/en-us/products/qf-ducting/hose-and-clamps for full details.

* + 1. Hoses:

\*\* NOTE TO SPECIFIER \*\* Delete hose type options not required.

* + - 1. Rubber Hoses:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required.

* + - * 1. Type: Black thermoplastic flexible rubber reinforced with spring steel wire helix.

Wall Thickness: 0.025 inch (0.6 mm).

* + - * 1. Type: Clear polyurethane flexible rubber reinforced with bronze coated spring steel wire helix.

Wall Thickness: 0.015 inch (0.4 mm).

* + - * 1. Type: As scheduled and indicated on Drawings.
      1. Static Dissipative Hoses: Clear. Wall Thickness: 0.030 inch (0.8 mm).
      2. Steel Hoses:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required.

* + - * 1. Type: Rigid Flex Steel Hoses.
        2. Type: Ultra Flex Steel Hoses.
        3. Type: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - * 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
        2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
        3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
        4. End Style: Van Stone (VS).
        5. End Style: No Fitting (NF).
        6. End Style: Hose Adapter (RF).
        7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
        8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
        9. End Style: As scheduled and indicated on Drawings.
    1. Hose Clamps:
       1. Bridge Clamps for Hoses: As manufactured by Nordfab Ducting.
          1. Application: Designed for use with clockwise wire helix hose.
          2. Materials: Stainless steel.
       2. Hose Clamps: As manufactured by Nordfab Ducting.
          1. Compliance: Meets or exceeds SAE torque specifications.
          2. Materials: Stainless steel.
    2. Hoods:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required. See https://www.nordfab.com/en-us/technical/nordfab-duct-hoods-and-transitions for full details.

* + - 1. Type: Barrel Hoods as manufactured by Nordfab Ducting.
      2. Type: Bell Mouth hoods as manufactured by Nordfab Ducting.
      3. Type: Canopy Hoods as manufactured by Nordfab Ducting.
      4. Type: Radial Arm Saw Hoods as manufactured by Nordfab Ducting.
      5. Type: Router Hoods as manufactured by Nordfab Ducting.
      6. Type: Router Hoods with Magnets as manufactured by Nordfab Ducting.
      7. Type: Suction Hoods as manufactured by Nordfab Ducting.
      8. Type: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.
    1. Diverter Valves:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required.

* + - 1. Type: Automatic Diverter Valves as manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required. See https://www.nordfab.com/en-us/products/qf-ducting/diverter-valves for full details.

* + - * 1. Materials: Manufacturer's standard Black Metal Painted.
        2. Materials: Stainless steel.
        3. Materials: As scheduled and indicated on Drawings.
        4. Polyurethane Tube: 0.25 inch (6 mm) OD x 0.04 inch (1 mm) wall, 120 psi (827 kPa), Grade E5.
        5. Sensing Reed Switch Assemblies for Automatic Blast Gates, 2.50 inches (39 mm): As manufactured by Nordfab Ducting.

Switches: 2 D-B54 position sensing switches with indicator light per unit.

\*\* NOTE TO SPECIFIER \*\* Delete solenoid options not required.

* + - * 1. Solenoid: Single solenoid, 2 position, 110 VAC, 0.35 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        2. Solenoid: Single solenoid, 2 position, 24 VDC, 0.86 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        3. Solenoid: As scheduled and indicated on Drawings.
      1. Type: Manual Diverter Valves as manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required. See https://www.nordfab.com/en-us/products/qf-ducting/diverter-valves for full details.

* + - * 1. Materials: Manufacturer's standard Black Metal Painted.
        2. Materials: Stainless steel.
        3. Materials: As scheduled and indicated on Drawings.
      1. Type: SD Automatic Diverter Valves as manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required. See https://www.nordfab.com/en-us/products/qf-ducting/diverter-valves for full details.

* + - * 1. Materials: Galvanized steel.
        2. Materials: Stainless steel.
        3. Materials: As scheduled and indicated on Drawings.
        4. Polyurethane Tube: 0.25 inch (6 mm) OD x 0.04 inch (1 mm) wall, 120 psi (827 kPa), Grade E5.
        5. Sensing Reed Switch Assemblies for Automatic Blast Gates, 2.50 inches (39 mm): As manufactured by Nordfab Ducting.

Switches: 2 D-B54 position sensing switches with indicator light per unit.

\*\* NOTE TO SPECIFIER \*\* Delete solenoid options not required.

* + - * 1. Solenoid: Single solenoid, 2 position, 110 VAC, 0.35 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        2. Solenoid: Single solenoid, 2 position, 24 VDC, 0.86 watts, 1/8 inch (3 mm) NPT; IP65 Rated, RoHS, CE.
        3. Solenoid: As scheduled and indicated on Drawings.
      1. Type: SD Manual Diverter Valves as manufactured by Nordfab Ducting.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required. See https://www.nordfab.com/en-us/products/qf-ducting/diverter-valves for full details.

* + - * 1. Materials: Galvanized steel.
        2. Materials: Stainless steel.
        3. Materials: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.
      10. Angle: 45 degrees.
    1. Hangers:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required. See https://www.nordfab.com/en-us/literature/product-data-sheets for full details.

* + - 1. Type: Clamp Hangers as manufactured by Nordfab Ducting.
      2. Type: Gripple Hangers.
      3. Type: Pipe Hangers HJ as manufactured by Nordfab Ducting.
      4. Type: Pipe Hangers as manufactured by Nordfab Ducting.
      5. Type: Strut Hangers as manufactured by Nordfab Ducting.
      6. Type: As scheduled and indicated on Drawings.
    1. Roof Skirts: As manufactured by Nordfab Ducting.
       1. Slope: Maximum 23 degrees.
       2. Seams: Bolted.
    2. Flashing:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required. Roof Flashing: See <https://www.nordfab.com/Products/QF-Ducting/Hangers-and-Installation/US-Roof-Flashing> .

* + 1. Wall Flashing: See https://www.nordfab.com/en-us/products/qf-ducting/hangers-and-installation/us-wall-flashing.
       1. Type: Roof Flashing as manufactured by Nordfab Ducting.
          1. Slope: Maximum 23 degrees.
          2. Description: Each unit provided with 1 outside flashing, 2 halves.
          3. Construction: Two halves, spot welded caulked.
       2. Type: Wall Flashing as manufactured by Nordfab Ducting.
          1. Description: Each unit provided with 1 inside and 1 outside flashing, 4 halves.
          2. Construction: Spot welded and caulked.
       3. Type: As scheduled and indicated on Drawings.
    2. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required. See https://www.nordfab.com/en-us/literature/product-data-sheets for full details.

* + - 1. Type: Drop Out Boxes as manufactured by Nordfab Ducting.
      2. Type: Ball Joints as manufactured by Nordfab Ducting.
      3. Type: Bleed In Valves as manufactured by Nordfab Ducting.
      4. Type: Butterfly Valves as manufactured by Nordfab Ducting.
      5. Type: Floor Sweeps as manufactured by Nordfab Ducting.
      6. Type: In Line Back Draft Dampers as manufactured by Nordfab Ducting.
      7. Type: Jet Caps as manufactured by Nordfab Ducting.
      8. Type: No-Loss Stackheads as manufactured by Nordfab Ducting.
      9. Type: Silencers as manufactured by Nordfab Ducting.
      10. Type: Sliding Access Panels as manufactured by Nordfab Ducting.
      11. Type: Suction Nozzle Assemblies as manufactured by Nordfab Ducting.
      12. Type: Vibration Isolators as manufactured by Nordfab Ducting.
      13. Type: Viewing Spools as manufactured by Nordfab Ducting.
      14. Type: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.

. \*\* NOTE TO SPECIFIER \*\* Delete type options not required. See https://www.nordfab.com/en-us/applications/sealed-duct-for-oil-mist-applications/oil-mist-recycler for full details.

* + 1. Oil Mist Recyclers: As manufactured by Nordfab Ducting.
       1. Description: Each unit consists of recycler unit, molded gasket, clamp, end cap, 5 ft (1524 mm) of clear PVC tubing and hose clamp for drain fitting.
       2. Application: Extracts oil to minimize amount of oil flowing through entire system; installs in vertical or horizontal applications.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete type options not required. See https://www.nordfab.com/en-us/products/qf-ducting/special-applications/us-qf-in-line-spark-trap for full details.

* + 1. In Line Spark Traps: As manufactured by Nordfab Ducting.
       1. Operation: No moving parts, no power required.
       2. Application: Horizontal mounting only; not an explosion isolation device.

\*\* NOTE TO SPECIFIER \*\* Delete end style options not required.

* + - 1. End Style: Quick-Fit (QF); die formed-rolled ends with uniform circumference.
      2. End Style: Flat Flange (FFL) retained by 3/8 inch (10 mm) Van Stone lip.
      3. End Style: Angle Flange (AFL) retained by 3/8 inch (10 mm) Van Stone lip.
      4. End Style: Van Stone (VS).
      5. End Style: No Fitting (NF).
      6. End Style: Hose Adapter (RF).
      7. End Style: Raw ID (RI) as scheduled and indicated on Drawings.
      8. End Style: Raw OD (RO) as scheduled and indicated on Drawings.
      9. End Style: As scheduled and indicated on Drawings.

1. EXECUTION
   1. EXAMINATION AND PREPARATION
      1. Prepare substrates using the methods recommended by the manufacturer for achieving best result for the substrates under project conditions.
      2. Do not proceed with installation until substrates have been prepared using the methods recommended by the manufacturer and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
      3. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.
   2. INSTALLATION
      1. Install in accordance with manufacturer's instructions approved submittals and in proper relationship with adjacent construction.
   3. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Testing for Conductivity: Responsibility of the Owner.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturer's recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION