



Starfire Industries LLC  
 2109 South Oak Street  
 Champaign, IL 61820  
 Phone: 217-721-4165  
[www.starfireindustries.com](http://www.starfireindustries.com)

Quote Number	NGEN220217-02
Date	17 FEB 2022
Sales Contact	Brian Jurczyk
Terms	NET 30
Valid Until	31 MAY 2022

**Customer Contact Info**

South Dakota School of Mines and Technology  
 Physics Department  
 501 E. Saint Joseph Street, Rapid City, SD 57701  
 Technical Contact: Prof. Jingbo Wang  
 Phone: +1 (605) 394-2728;  
 Email: Wang, Jingbo <Jingbo.Wang@sdsmt.edu>

**nGen®-310-FLEX  
 DD System Quote**

Line	Qty	Product/Service Description	Unit Price	Ext. Price
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**Fixed price quotation in USD.**

LINE A: Starfire to supply one (1) 2.5MeV Deuterium-Deuterium nGen®-310-DD sealed human-portable neutron generator system with -FLEX both continuous and pulse-gated operation. Neutron output up to 1E7 DD n/s for CW mode or derated for pulsed operation as % duty factor (e.g. 1E6 DD n/s time average for 10% duty factor). Accelerator head enclosure length is standardized 50cm nGen®-3xx form factor to accomodate pulse electronics and cable routing. Updated control box allows mounting directly under generator head for portability. Onboard TTL counter with single internal RDT Domino neutron sensor. Axial neutron emission from end-mounted target for high-flux on axis. Air cooled. Limited-quantity exception of pressurized UN1080 2.2 non-flammable, non-toxic gas for freight transport. Accelerator Head and Control Box have less than 10L volume fitting into one (1) air-shippable hardcase for transport. 8kg, 50cm long. Embedded microcontroller communicates with external Windows-based PC (not supplied) for remote operation over USB/Ethernet cabling and is adaptable to your communications interface. 500-hour operational limited warranty for accelerator head and 12-month control box warranty period. Pricing for single unit purchase. Starfire will provide factory acceptance test data for remote customer acceptance prior to shipment and final invoice. Shipping FCA Champaign, IL, USA. Non-UL listed.

LINE B: Pre-Pay & Add Domestic Ground Shipping With FedEx. Terms (FCA, Champaign, IL USA); UN1080 Div 2.2 Limited Quantity

<b>A</b>	<b>1</b>	<b>nGen®-310-DD, Sealed 2.5MeV Deuterium-Deuterium Neutron Generator</b> <i>Single internal RDT Domino Detector for internal neutron monitoring</i> <i>Accelerator head contains: DD neutron tube, high-voltage power supply, pulse plasma source, internal controls</i> <i>Detachable Power &amp; Communications (Control) Box under accelerator head for portability</i> <i>Includes: safety interlock for external EMO or facility integration, lighted on/off switch, cabling, manuals, power cord, hardcase</i> <i>Standard 12-month/500-hr operation limited warranty</i> <i>Production Lead Time: Approximately <b>4-6 Months</b> After Receipt of Order, Updated At Time Order/Scheduling (subject to COVID-19)</i> <i>Provide UID Label Includes: S/N, Model, Manufacturer For Irradiation Device Registration before travel</i>	<b>\$99,500.00</b>	<b>\$99,500.00</b>
<b>B</b>	<b>1</b>	<b>Shipping &amp; Handling; FCA, Pre-Pay and Add</b> <i>Ground shipping and handling to Rapid City, SD. Pre-paid &amp; add. INCOTERMS FCA Champaign, IL</i>	<b>\$850.00</b>	<b>\$850.00</b>

Notes	Estimated Total On This Page	\$100,350.00
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Standard terms and conditions may apply. Customer responsible for all customs duties, tariffs, taxes and fees.  
 Shipping Terms: FCA, Champaign IL (Incoterms 2020); Delivery: See above for production lead time + shipping TBD.  
 For order and billing questions, contact accounting: [accounting@starfireindustries.com](mailto:accounting@starfireindustries.com); reference quotation number for purchase order  
 ACH/Fedwire/SWIFT instructions available upon request.  
 CAGE: 3ECK7, registered in WAWF; DUNS: 119289051, Business Size: Small; Country of Origin: United States



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**nGen®-400-DD-ES  
 Portable System Formal Quote**

Line	Qty	Product/Service Description	Unit Price	Ext. Price
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**Fixed price quotation in USD.**

LINE A: Starfire will supply a high-output Deuterium-Deuterium (-DD) 2.5MeV nGen-400-DD sealed human-portable neutron generator system in the 15-cm extended snout (-ES) for close moderator coupling. The system is available in pulsed operation (-P) 0--10% duty factor or continuous wave (-CW)--customer to select at time of order. Standard configuration / specification: >1E8 DD n/s continuous (derated for pulsed operation by duty factor) in nominal ~100mm OD x 550mm length/10kg enclosure with integrated HVPS. Hand-portable ~125mm x 125mm x 400mm external control box with embedded microcontroller plus external computer with USB cable. Nominal neutron emission spot size is approximately 5-mm for the -ES configuration. Closed-loop Fluorinert liquid-to-air heat exchanger and tubing provided (nominal dimensions 200mm x 200mm x 100mm, 4kg). Standard 12-month/500-hour operation limited warranty included in base price. See data sheet for additional information. Non-UL listed.

LINE B: Pre-Pay & Add Domestic Ground Shipping With FedEx. Terms (FCA, Champaign, IL USA)

<b>F</b>	<b>1</b>	<b>nGen®-400-DD, Pulsed Sealed 2.5MeV Deuterium-Deuterium Neutron Generator</b> <i>Extended Snout -ES configuration</i> <i>Customer Select Continuous-Wave (-CW) or Pulsed (-P) configuration</i> <i>Accelerator head contains: DD neutron tube, high-voltage power supply, pulse plasma source, internal controls</i> <i>Accessories: Portable Control Box, Closed-loop Fluorinert heat exchanger, cables and tubing</i> <i>Includes: EMO, safety interlock, PC software, Fluorinert liquid charge, input for neutron counter, transport hard case</i> <i>Standard 12-month/500-hr operation limited warranty</i> <i>Production Lead Time: Approximately 4-6 Months After Receipt of Order, Updated At Time Order/Scheduling (subject to COVID-19)</i> <i>Provide UID Label Includes: S/N, Model, Manufacturer For Irradiation Device Registration before travel</i>	<b>\$175,000.00</b>	<b>\$175,000.00</b>
<b>B</b>	<b>1</b>	<b>Shipping &amp; Handling; FCA, Pre-Pay and Add</b> <i>Ground shipping and handling to Rapid City, SD. Pre-paid &amp; add. INCOTERMS FCA Champaign, IL</i>	<b>\$850.00</b>	<b>\$850.00</b>

Notes	Estimated Total On This Page	\$175,850.00
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Standard terms and conditions may apply. Customer responsible for customers duties, tariffs, taxes and fees.  
 Shipping Terms: FCA, Champaign IL (Incoterms 2010) with Freight Pre-Paid/Add; Delivery: See above for production lead time + shipping TBD.  
 For order and billing questions, contact Accounting: [accounting@starfireindustries.com](mailto:accounting@starfireindustries.com); reference quotation number for purchase order  
 ACH/Fedwire/SWIFT instructions available upon request.  
 CAGE: 3ECK7, registered in WAWF; DUNS: 119289051, Business Size: Small; Country of Origin: United States