



Compressed Air & Gas Treatment On-Site Gas Generation Process Cooling

2024

Warranty Guide | Rev 00





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Technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or call 704.897.2182.

nano-purification solutions is continually expanding its products and policies to better assist you with your compressed air and gas treatment needs. For assistance, please contact support@n-psi.com or call 704-897-2182. n-psi reserves the right to update this document at any time. If this revision is more than 90 days old, please contact us to ensure you have the latest copy.

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introduction

nano-purification solutions is pleased to provide you the following comprehensive warranty policy. This document outlines our standard product warranty for all products we offer and an understanding of our warranty procedures, coverage and time allowances. The goal is to better serve you by ensuring accuracy and consistency on warranty claims filed with us to provide fast resolution of claims and high customer satisfaction. Our sincere thanks for your support of nano products and we hope this manual provides the appropriate support for you, our valued distributor and your customers.

general guidelines

Proper use of the warranty policy procedure is intended to ensure timely processing of any product claims to nano.

- the customer should understand the policy to ensure proper coverage. if there are extenuating circumstances, please contact nano for approval prior to performing any work
- when the customer needs to use a local service company (due to unavailability of qualified technicians locally, through an nano distributor, contractor or through nano direct), the customer needs to be informed that nano will reimburse only to our policy time allowances and \$/hr as stated in the “reimbursement rates for service” section below
- if the true root cause of the issue is due to misapplication, abuse, changed settings, lack of appropriate maintenance, etc., the customer will need to bear the cost of repair
- nano does not offer recommendations on facility hook up of our units (piping type, piping layout, electrical hook ups, etc.). this is the responsibility of the customer or their general contractor
- nano requires a review of any claim which will result in a claim greater than \$2,000 prior to any work performed or product replaced. this will allow all parties the opportunity to make the best decision for the customer
- nano recommends not to repair units where the cost to do so exceeds 70% of the cost of a new unit
- nano requires customers to submit freight damage claims with the carrier as that is the responsibility of the customer. this is the last opportunity to ensure the carrier is held responsible for any loss or damage that occurred during transportation. the type of notation placed on the carrier's freight bill may well determine if the customer is able to recover the full actual loss. the customer must take the time to make a full and complete inspection at the time of delivery. nano will not be held responsible for freight damage

By following these guidelines we can provide consistency in application of our policy, reduce customer costs and provide a positive warranty experience for our customers.

claim process

- proper installation procedures should be followed and all required maintenance performed on the purchased unit. improper installation and inadequate maintenance will void any warranty on the product
- in the event that a product under warranty requires service, a trip can be made by the qualified technician of your staff. if you do not have qualified technicians on staff, the nano technical support department can be reached at +65 67487988 so that a nano contracted technician can be utilized or assist on the phone to resolve the issue
- if it is found that a replacement component is required to complete the repair, a standard parts order must be placed with nano. prior authorization is required for any part purchased locally and will only be authorized if the part is not available through nano. any part purchased locally without authorization will not be reimbursed on the warranty claim and will void any future warranty. do not discard the defective part after the repair
- within 60 days of completion of the job, a warranty claim must be filed using a completed nano warranty claim form along with the associated service report. the amount of labor claimed must match the nano rate schedule and the allowable time allotments based on the type of repair. if any parts were required in the repair, they will also need to be included on the claim form referencing the sales order the part was purchased under. in the event the parts used were from your stock please note as such. any special circumstances requiring labor or travel (i.e. multiple trips or exceeding mileage and/or travel time) above and beyond the time allowance must be authorized in writing by nano prior to the repair. any additional labor used beyond the rate schedule will be the responsibility of the distributor/customer
- upon receipt of the claim, nano will review and determine if the parts replaced need to be returned. if a part is required to be returned, a return authorization (RA) packing slip will be provided with an associated ra number. the part will then need to be returned to nano within 45 days accompanied by the RA packing slip placed on the package. if the repaired part does not need to be returned you will be advised to field scrap it and the claim will be processed. proof of the defect (written description and pictures of the parts/units in question) is required
- on claims that require repaired parts return, the claim will be processed after the part has been evaluated by the nano technical support team. the claims will be paid in the form of a credit to the customer's account
- on claims that require unit removal (including rental units), nano will reimburse 3 hours labor maximum removal and replacement time. due to application variances, this does not include any other associated costs with removal
- on claims involving part or unit repair/removal, reimbursement will only cover the labor (in accordance with allowable service times) to perform such acts. it does not include any miscellaneous parts, disposal, equipment rentals, etc.
- THESE WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, OR CONDITIONS, WRITTEN OR ORAL, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ALL WARRANTIES, OR CONDITIONS, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE DISCLAIMED. Correction of non-conformities as set forth herein this Warranty Guide shall be Buyer's exclusive remedy and shall constitute fulfillment of all liabilities of Seller whether in warranty, strict liability, contract, tort, negligence, or otherwise with respect to the quality of or any defect in products or associated services delivered or performed hereunder.

exceptions

- consumable components (filter elements, drains, etc.)
- defects due to *force majeure*
- any component that was added and/or modified by personnel not authorized by the seller
- defects arising from incorrect installation and/or from insufficient maintenance or cleaning
- defects and/or malfunctions arising from improper use
- defects arising from faults, excess or lack of distribution of electric power, water and air
- defects arising from malfunction of auxiliary or subsidiary devices supplied by a third party
- defects caused during transportation or unloading (nano customers will verify the state of all incoming stock and will immediately report any damage caused by transport or movement. nano will not be held responsible for materials which have suffered unreported damage)
- lost time or production due to equipment failure
- damage caused by accident
- damage caused by fire, theft, freezing or vandalism
- damage caused by operation outside the rated conditions
 - operation of the unit in ambient temperature over rated temperature
 - operation of the unit with the inlet air temperature over rated temperature
 - operation in excess of rated scfm
 - operation in excess of rated psig
 - operation of the unit in excess of any other rated parameters relevant to the product
- damage caused by corrosion due to environment and/or chemical treatments
- economic loss - this warranty does not cover any consequential damage, economic loss, extra expense including payment for the loss of time, pay, inconvenience, storage, removal, reinstallation, loss of dryer use, dryer rental expense, lodging, meals or other travel

international shipments

our full warranty policy covers equipment within the Asia Pacific. Equipment shipped to or sold outside the Asia Pacific will only be covered under the parts section of our standard policy and at local labor rates or labor rates up to our standard policy rates. Any travel related costs or reimbursement for time traveled for equipment sold outside Asia Pacific must be pre-approved by nano purification solutions Asia Pacific

reimbursement rates

- 70% of distributor published standard labor rates + current IRS mileage (USD0.30 cents/km), maximum 200 km round trip coverage

coverage



F1 thru F6 filters:

period

- F1 housing: 10 years from date of shipment
- all other components: 18 months from date of shipment (from the factory) or 12 months from date of installation / start up, whichever occurs first

coverage

- 100% parts only



P1 process filters:

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts only
- does not include element - which can vary depending on type and application



R1 cycling refrigerated dryers:

period

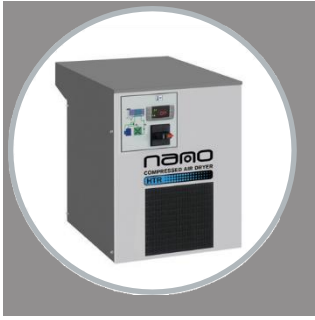
- 30 months from date of shipment from the factory or 24 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter & non-corrosive upstream piping required



R2 high temperature refrigerated dryers:

period

- 30 months from date of shipment from the factory or 24 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter or non-corrosive upstream piping required



R4 direct expansion refrigerated dryers:

period

- 30 months from date of shipment from the factory or 24 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter or non-corrosive upstream piping required



R6 variable speed refrigerated dryers:

Contact us prior to performing warranty

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter or non-corrosive upstream piping required



C1 process chillers:

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

- 100% parts and labor per defined service time allowances

requirements

- if start-up is completed by nano technical team, start-up checklist must be completed and on file at nano prior to start-up



D1|2|3 modular dryers:

period

- 30 months from date of shipment from the factory or 24 months from date of installation/start up, whichever occurs first. Warranty extends an additional 36 months from date of installation/start up with addition of -ES (energy saving dew point control) option, -40°F pdp dryers only

coverage

- 100% parts and labor per defined service time allowances; 100% parts only with addition of -ES (energy saving dew point control) option, -40°F pdp dryer only

requirements

- pre-filter & non-corrosive upstream piping required



D2|3 pneumatic desiccant dryers:

period

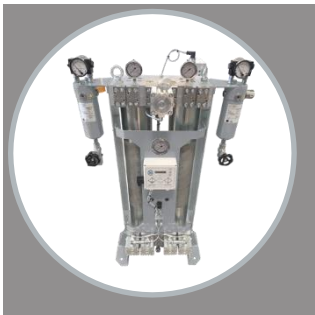
- 30 months from date of shipment from the factory or 24 months from date of installation/start up, whichever occurs first.

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter & non-corrosive upstream piping required



D4 high pressure dryers:

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter & non-corrosive upstream piping required



D5 HLA, EHA & BPA twin tower dryers:

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

extended coverage

- inlet & purge exhaust valves: 5 years from date of shipment (parts only)
- heater: 3 years from date of shipment (parts only)

requirements

- pre-filter & non-corrosive upstream piping required



D5 HLX twin tower dryers:

period

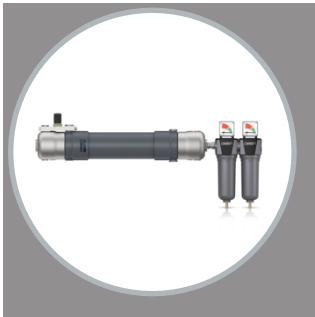
- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter & non-corrosive upstream piping required



M1 membrane air dryers:

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts only

requirements

- supplied pre-filters must be installed at dryer inlet



L1 lab gas CO₂ removal modules:

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter required



ECOGEN2 & GEN2/i4.0 nitrogen generators:

period

- 30 months from date of shipment from the factory or 24 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter & non-corrosive upstream piping required
- completed start-up checklist required



GEN2 MAX nitrogen generators:

Contact us prior to performing warranty

period

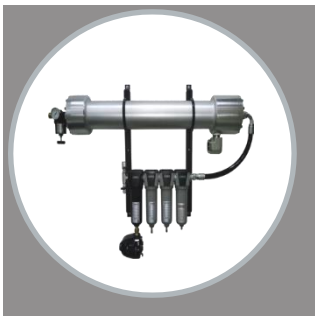
- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- inlet air must be treated to ISO Class 1.4.1 or better
- installation per supplied installation instructions and completed start-up checklist required



NMG nitrogen generators:

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- pre-filter & non-corrosive upstream piping required



O2 oxygen generators:

Contact us prior to performing warranty

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances

requirements

- inlet air must be treated to ISO Class 1.4.1 or better
- installation per supplied installation instructions and completed start-up checklist required



B1 breathing air purifiers (BAP & BAC):

period

- 18 months from date of shipment from the factory or 12 months from date of installation/start up, whichever occurs first

coverage

- 100% parts only

B1 modular breathing air purifiers (NBM & NBA):

period

- 30 months from date of shipment from the factory or 24 months from date of installation/start up, whichever occurs first

coverage

- 100% parts and labor per defined service time allowances (excluding consumables)

requirements

- pre-filter & non-corrosive upstream piping required
- completed start up check-list required



V1 oil vapor removal systems

period

- 24 months from date of installation/start up against manufacturing defects

coverage

- 100% parts only (no labor). Warranty does not cover wearing parts



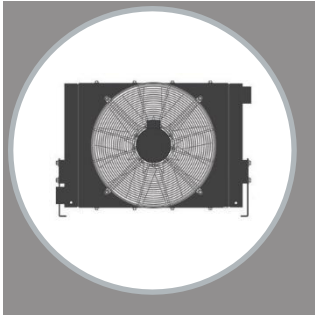
S1 oil water separators:

period

- SEP 60 ST: 12 months
- SEP 120 to 2500 ST: Housing: 10 years from date of shipment. Wearing parts: 12 months
- SEP 3500 to 7000 ST: 24 months

coverage

- 100% parts only excluding wearing parts (no labor)



X1 after cooler products:

period

- 18 months from date of shipment from the factory or 2000 hours service, whichever occurs first

coverage

- 100% parts only (no labor)
- warranty for components such as fans, motors and other components will be provided by the component manufacturer



spare parts:

period

- 90 days from date of purchase

coverage

- 100% parts only (no labor)



R1, R2 & R4 refrigerated dryers (NXC, HTR, DXR, NDX):

work	time allowance
compressor replacement ⁽¹⁾	6:00
condenser (air-cooled) replacement ⁽¹⁾	5:00
condenser (water-cooled) replacement ⁽¹⁾	5:00
fan	0:20
water press-static valve	0:20
evaporator heat exchanger ⁽¹⁾	6:00
refrigerant filter	0:20
hot gas valve ⁽³⁾	na
thermostatic valve	na
relief valve	0:10
main/high temp switch	0:15
electronic-solenoid drain valve	0:15
high / low pressure / fan switch	0:15
compressor motor switch	0:15
auxiliary auto switch	0:15
compressor / fan contactor	0:15
auxiliary transformer	0:15
control board	1:00
control panel/controller	0:15
temp sensor	0:15
pressure transducer	0:15
electrical repair (change coils, fuses, etc)	0:10
leak testing	1:00
repair leak (brazing)	0:30
repair leak (re-flare, tightening)	0:15
refrigerant evacuation/charge (per circuit)	3:00

notes

1. includes evacuation, refrigerant filter replacement, eventual refrigerant circuit cleaning, pressure test and refrigerant charge
2. a maximum diagnostic time of 30 minutes will be allowed per claim
3. hot gas bypass valve adjustment is not covered under warranty



C1 process chillers (NCS):

work	time allowance
compressor replacement ⁽¹⁾	6:00
condenser (air-cooled) replacement ⁽¹⁾	5:00
condenser (water-cooled) replacement ⁽¹⁾	5:00
fan	0:20
water press-static valve	0:20
circulating pump	1:00
evaporator heat exchanger ⁽¹⁾	6:00
refrigerant filter	0:20
hot gas valve ⁽³⁾	na
thermostatic valve	na
relief valve	0:10
main/high temp switch	0:15
electronic-solenoid drain valve	0:15
high / low pressure / fan switch	0:15
compressor motor switch	0:15
auxiliary auto switch	0:15
compressor / fan contactor	0:15
auxiliary transformer	0:15
control board	1:00
control panel/controller	0:15
water level sensor	0:30
temp sensor	0:15
pressure transducer	0:15
electrical repair (change coils, fuses, etc)	0:10
leak testing	1:00
repair leak (brazing)	0:30
repair leak (re-flare, tightening)	0:15
refrigerant evacuation/charge (per circuit)	3:00

notes

1. includes evacuation, refrigerant filter replacement, eventual refrigerant circuit cleaning, pressure test and refrigerant charge
2. a maximum diagnostic time of 30 minutes will be allowed per claim
3. hot gas bypass valve adjustment is not covered under warranty
4. dirty or clogged drains are not covered under warranty



D1|2 modular desiccant dryers (NDL):

work	time allowance
inlet/exhaust valve kit replacement	1:00
PLC replacement	1:00
solenoid replacement	0:20
complete control panel replacement	2:00
hygrometer probe replacement	1:00
desiccant replacement	1:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim

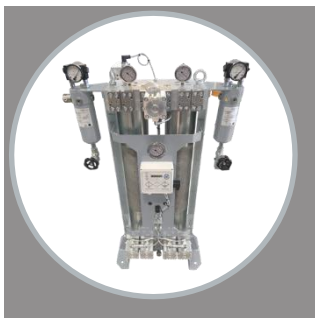


D3 modular desiccant dryers (NDL):

work	time allowance
inlet/exhaust valve kit replacement	2:00
PLC replacement	1:00
solenoid replacement	0:45
complete control panel replacement	2:00
hygrometer probe replacement	1:00
desiccant replacement	1:00
desiccant replacement	2:00
desiccant replacement	2:30
desiccant replacement	3:00
desiccant replacement	4:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



D4 high pressure dryers (DHP & DHC):

work	time allowance
inlet valve replacement	2:00
exhaust valve replacement	1:00
outlet check valve replacement	1:00
hygrometer probe replacement	0:30
control solenoid block replacement	0:30
C1 controller replacement	1:30
pressure (or differential pressure) gauge replacement	0:15
relief valve replacement	0:15
drain valve replacement	0:30
desiccant replacement (DHP 5 - 12)	1:00
desiccant replacement (DHP 24 - 58)	2:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



D5 heatless desiccant dryers (HLA):

work	time allowance
inlet valve replacement	2:00
exhaust valve replacement	1:00
outlet check valve replacement	1:00
hygrometer probe replacement	0:30
control solenoid block replacement	0:30
electronic controller replacement	1:30
pressure (or differential pressure) gauge replacement	0:15
relief valve replacement	0:15
drain valve replacement	0:30
desiccant replacement (HLA 50 to 650)	2:00
desiccant replacement (HLA 800 to 1500)	4:00
desiccant replacement (HLA 2000 to 3000)	8:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



D5 externally heated desiccant dryers (EHA):

work	time allowance
inlet valve replacement	2:00
exhaust valve replacement	1:30
outlet check valve replacement	1:00
purge check valve replacement	1:00
repress / dump valve replacement	1:00
hygrometer probe replacement	0:30
solenoid replacement	0:45
major electrical component replacement	0:45
plc replacement	1:30
pressure switch replacement	0:45
pressure (or differential pressure) gauge replacement	0:15
relief valve replacement	0:15
moisture indicator replacement	0:15
pilot air filter replacement	0:15
desiccant replacement (EHA 100 to 700)	2:00
desiccant replacement (EHA 800 to 1700)	6:00
desiccant replacement (EHA 2100 to 5000)	8:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



D5 blower purge desiccant dryers (BPA):

work	time allowance
blower intake filter replacement	0:30
inlet valve replacement	2:00
exhaust valve replacement	1:30
outlet check valve replacement	1:00
purge check valve replacement	1:00
repress / dump valve replacement	1:00
hygrometer probe replacement	0:30
solenoid replacement	0:45
major electrical component replacement	0:45
PLC replacement	1:30
pressure switch replacement	0:45
pressure (or differential pressure) gauge replacement	0:15
relief valve replacement	0:15
moisture indicator replacement	0:15
pilot air filter replacement	0:15
desiccant replacement (BPA 250 to 1700)	6:00
desiccant replacement (BPA 2100 to 5000)	8:00
desiccant replacement (BPA 6250 to 7750)	12:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



L1 lab gas CO₂ removal modules (NDC):

work	time allowance
inlet/exhaust valve kit replacement	1:00
PLC replacement	1:00
solenoid replacement	0:20
complete control panel replacement	2:00
hygrometer probe replacement	1:00
desiccant replacement	1:00

notes

2. a maximum diagnostic time of 30 minutes will be allowed per claim



ECOGEN2 nitrogen generators (ECOGEN2):

work	time allowance
inlet/exhaust valve kit replacement	1:00
PLC replacement	1:00
flow control solenoid replacement	0:20
CMS replacement (ECOGEN2 090)	0:40
CMS replacement (ECOGEN2 110)	0:50
CMS replacement (ECOGEN2 130)	1:00
CMS replacement (if column removed) (ECOGEN2 090)	2:40
CMS replacement (if column removed) (ECOGEN2 110)	2:50
CMS replacement (if column removed) (ECOGEN2 130)	3:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



GEN2/i4.0 nitrogen generators (GEN2/i4.0):

work	time allowance
inlet/exhaust valve kit replacement (GEN2/i4.0 1110 - 12130)	1:00 - 1:30
HMI replacement	0:15
O ₂ sensor replacement	0:30
flow control solenoid replacement	0:45
CMS/internal dryer (if applicable) replacement (GEN2/i4.0 1110 - 2130)	4:00
CMS/internal dryer (if applicable) replacement (GEN2/i4.0 3110 - 4130)	5:00
CMS/internal dryer (if applicable) replacement (GEN2/i4.0 6130)	6:00
CMS/internal dryer (if applicable) replacement (GEN2/i4.0 8130)	7:00
CMS/internal dryer (if applicable) replacement (GEN2/i4.0 10130 - 12130)	8:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



B1 modular breathing air purifiers (NBA):

work	time allowance
inlet/exhaust valve kit replacement (NBA 050 -120)	1:00
inlet/exhaust valve kit replacement (NBA 2120 - 6120)	2:00
PLC replacement	1:00
solenoid replacement (NBA 050 -120)	0:20
solenoid replacement (NBA 2120 - 6120)	0:45
complete control panel replacement	2:00
hygrometer probe replacement	1:00
cartridge replacement (1 set of columns)	1:00
cartridge replacement (2 sets of columns)	2:00
cartridge replacement (3 sets of columns)	2:30
cartridge replacement (4 sets of columns)	3:00
cartridge replacement (6 sets of columns)	4:00

notes

1. a maximum diagnostic time of 30 minutes will be allowed per claim



Experience. Customer. Service.



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