

INSTRUCTION MANUAL

NPS Series

Mini-Puller



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Instruction Manual: NPS Mini Puller IM 15 AUG 2019
<u>Model #:</u> _____
<u>Serial #</u> _____

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1.0 PURPOSE OF THIS MANUAL

This manual describes the installation and operation of the NOVATEC NPC Series Mini Puller-Cutter. Before installing this product, please read this guide and any additional guides associated with the system's auxiliary equipment.

1.1 Explanation of Symbols

This manual includes both general and task-specific safety precautions. These precautions are highlighted in the manual by the following categories:



WARNING: This symbol identifies situations that are potentially hazardous to personnel or equipment.

NOTE

Highlights information provided in text or procedures. This information may or may not be related to safety.

2.0 SAFETY PRECAUTIONS AND WARNINGS

These operating instructions must be read, understood, and implemented by all personnel responsible for this system.

- ❑ All mechanical and electrical work must be performed by qualified personnel only.
- ❑ NEVER disable or remove safety features. Doing so can result in severe injury.
- ❑ Always disconnect power before servicing.
- ❑ Refer to the machine serial number nameplate and drawings supplied with this system for actual power requirements.
- ❑ Be sure to install the equipment with the proper electrical connections according to all national and local regulations.
- ❑ Electric power supply should be through a separate disconnect switch with properly sized overload/fuse protection.
- ❑ The customer is required to operate the equipment with all safety features in proper working condition.
- ❑ NOVATEC shall provide no further guarantee for function and safety in the event of unauthorized modifications.

3.0 GENERAL DESCRIPTION

The NOVATEC NPC Series Mini Puller pulls extruded products through sizing and/or cooling tanks and feeds them to a cutter or to a coiling machine. The puller controls line speed via precision, servo driven belt traction assemblies and the manually adjustable compression force ensures consistent pulling traction. Multi-V drive pulleys provide excellent product tracking capabilities. Belt widths range from 2" to 4" and from 12" to 20" long.

1. The extrusion enters the puller from the upstream side of the puller.
2. Guide rollers position the extrusion entering the traction belts.
3. The clamping force is set manually using a hand wheel
4. The clamping force can be locked in place using a clamp collar
5. Upper and lower traction belts move the extrusion through the puller

3.1 The Control

A single, Siemens 7" high resolution color touch screen PLC with connectivity controls the puller. The control includes 4 levels of logon security as well as recipe screens.

3.2 Mini Puller

- 55 Durometer 2", 3" or 4" wide Multi-V traction belts are standard. Multiple belt durometers and materials are available.
- Helical Bevel Gear Reducer with 90% operating efficiency for reduced energy and heat plus 60% more torque than a typical worm gear reducer.
- Full range of compression force and speeds from 1-400 FPM for pipe, profile and tubing.

4.0 SPECIFICATIONS

4.1 Mini-Puller Specifications

Model Number	NPS-MINI-3X12
	NPS-MINI-3X20
Gear ratio	7.5:1
Speed range FPM (Feet Per Minute)	7 to 325
Power - Hp	2.46
Approximate pull force - pounds	138

Standard voltage: 460V/3ph/60Hz

Electrical Requirements (full load Amps):
460/3/60: 5 Amps

Belt Cover Material:

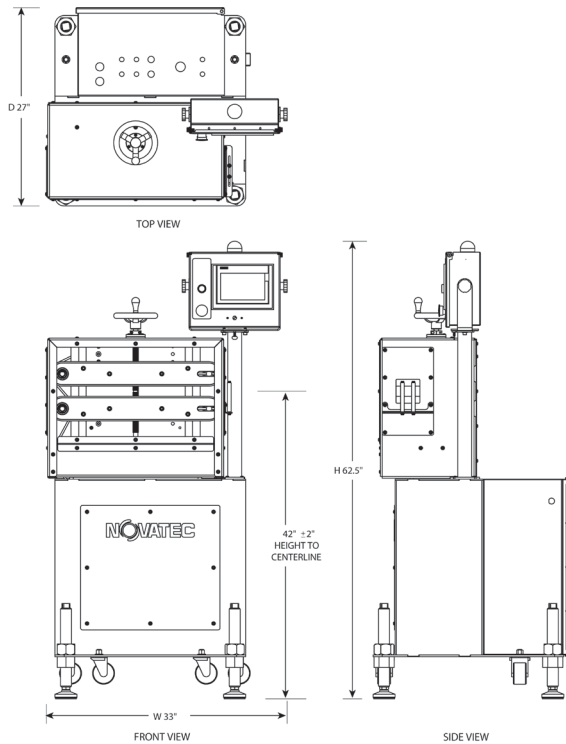
- 9.5 mm [3/8"] thick 55 durometer shore A Urethane, standard.

Options:

- Alternate belt materials/durometers available
- Remote touch-screen control at extruder
- Left-to-right operation
- Belt gap indicator
- Alternate gear box ratios

Note: Some additional options are available - contact factory.

4.4 Dimensions of NPS Mini



5.0 INSTALLATION

1. Carefully unpack the puller and any other components delivered with it. Check all packaging for loose parts, documentation, and other included items. Carefully inspect the unit. Ensure that no wires, bolts, screws, terminals, or other connections have come loose during shipping. Check to ensure that all moving parts are not obstructed by debris or excess packing material.
2. You may require the following tools to complete the installation:
 - a. 16" or 18" adjustable wrench
 - b. Metric and Imperial hex wrenches
3. All national and local electrical, building, and safety codes need to be followed. Proper grounding of all equipment is important. Check the electrical wiring schematic for wiring numbers and details. The following paragraphs describe installation of typical system components. Some of them are optional and may not be required for your system.

5.1 Mechanical Installation

1. **Determine the position of the puller.** The puller should be positioned at the exit end of the cooling tank.

WARNING: Pullers are unidirectional and should only be placed in the product flow direction for which they are designed. Pullers are designed to pull in the direction from the non-motor end toward the motor end of the machine.

Right to left material flow is the standard machine configuration. Machines designed for right to left material flow will have motors on the left when facing the machine's touch screen control when properly oriented. The non-motor end of the puller should be closer to the extruder than the motor end of the machine when properly oriented.

Observe all compliance and legal requirements for safety and guarding relating to the machinery installation. Allow at least 300 – 600 mm (12 to 24 inches) between the downstream end of the sizing tank and the input end of the puller so the tank/sizing table can be moved away from the extruder for startup and maintenance. Allow at least 925 mm (36 inches) of clearance in front and back of the puller for user and maintenance access.

The puller should be as close as possible to the cutter for flexible products.

2. **Once the general position has been determined, carefully align the puller with the extrusion line.** It is easiest to adjust the position on the floor before adjusting to the proper height.
3. **Measure centerline height of extruded product centerline.** Use a laser or liquid level to ensure all equipment is aligned to this height.
4. **Align the puller with the centerline height of this equipment.**

To adjust the centerline height of the puller, adjust each foot pad at the corners of the base of the puller with a 400-460 mm (16" or 18") adjustable wrench. Ensure that the puller is level. The bottom of the puller base plate should be positioned 110 mm (4-1/4") from the floor for a 1067 mm (42") centerline height.

! CAUTION: Never operate puller/cutter while on casters. Always set Foot Pads. Puller MUST be Securely Anchored to Floor Before Operation.

5. **Ensure that the centerline height of the machine allows proper vertical travel for the upper traction assembly.**
6. **Install puller belt suitable to application.**

Ensure the recommended belt is installed before start up. Refer to the “Replacing Belts” section of instruction manual if required. Typically soft belts are used for thinner walled more fragile parts and hard belts are used for parts that are less prone to deformation due to greater compression force. 40 or 55 durometer belts are typically used for general use where machines are not dedicated to particular extrudate geometry. 55 durometer belts are offered as standard for NPS pullers.

7. Guarding and product guides

Fully enclosed see-through guarding is provided for mini-pullers. It is designed to prevent access to the in-running nip point hazard zones.

CAUTION: Never use equipment without properly installed guarding which is appropriate to its location of use and compliant with local law and compliance guidelines.

Adjust the belt puller guide roller or product guide so that the product is positioned in the center of the belt.

5.2 Electrical Installation

Always disconnect and lock out the main power supply before wiring power. Refer to the wiring diagram and general arrangement drawings supplied with this system before making electrical connections.

- ❑ Use shielded cable for communications wiring.
- ❑ Keep communication cables and control wiring as far as possible from high voltage equipment. If you must run cable across power lines, run the cable at right angles to the line.
- ❑ Ensure the equipment grounding is properly connected. Shielded cable should be grounded at one end only and is typically grounded in the main I/O enclosure.

WARNING: Do not install communication cable where it will come into contact with any buildup of electrical charge!



It may be tempting to run the wire next to the material conveying lines, but a substantial buildup of electrical charge can and will occur, especially with certain types of plastic resins and, if the conveying lines are not grounded, they can arc to the cable disrupting communications and/or possibly causing damage.

Open the puller electrical enclosure and insert the main power through a knockout in the wall of the enclosure. Connect the power wire as indicated on the included wiring diagram. Check that all terminal screws are secure. Close electrical enclosure. Before testing the machine, confirm that the placement and wiring of the puller conforms to all applicable national and local regulations. When ready, turn on the main disconnect. Make sure that the E-Stop button is in the “OUT” position. Press the reset button.

All national and local electrical, building, and safety codes need to be followed. Proper grounding of all equipment is important. Check the electrical wiring schematic for wiring numbers and details. The following paragraphs describe installation of typical system components. Some of them are optional and may not be required for your system.



CAUTION: *All machines must be grounded to prevent "shocks" from static electricity that is generated by some materials as they are moved. This is an extremely important step.*

All electronics are susceptible (to varying degrees) to electrostatic damage and, although as much protection as possible has been designed into the system; this cannot completely eliminate upsets due to electrostatic voltage being accidentally introduced into the electronic circuitry.

6.0 PLC OVERVIEW

6.1 General

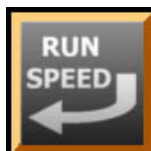
The NOVATEC NPC Series mini puller use a Siemens PLC controller to control all functions including recipe management, user settings, user display and process monitoring. A high resolution touch screen provides the human to machine interface to the PLC.

6.2 Startup and Power Loss

When power is first applied to the NPC following a power loss, the Puller will return to the Home screen. The last active recipe will remain loaded and can be accessed by pressing the picture of the machine or the button with the puller belts.

7.0 PLC ICONS

The icons used on the touch screen of the PLC are meant to be self-explanatory but the following explanations may be helpful. Touching them will result in the action described.



Return to Line Speed Set Point



Reset Speed Trim when in slave run



To Next Screen



Back to Last Screen



View Alarms



To Home Screen



To HELP Screen



Start/Pause Footage Counter for This Run



Start/Pause Footage Counter for Combined Runs



Shortcut to dedicated
Footage Counters screen



To System Diagnostics Screen



Backup and Restore Setup Parameters
to/from the SD card



To User Management Screen



Terminate HMI Application & Open System Control Panel



Copy & Paste (Edit Recipe Screen)



Activate, Acknowledge or Commit Change

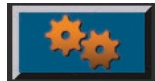


Cancel / Change

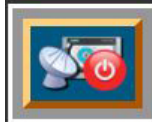


Saves Change to Recipe

To Setup 1 Screen



Smart Access Visibility Enabled



Smart Server Enabled



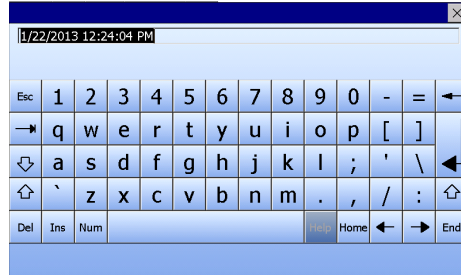
Opens Dashboard

8.0 LOGIN, PASSWORD LEVELS & ENTERING NUMERIC VALUES

These procedures are common to all NOVATEC Pullers and Cutters.
Press in upper RH corner of the screen.

An alpha/numeric screen will appear.

NOTE: If the proper level of password protection has not been entered prior to attempting changes, the alpha/numeric password entry keypad will appear, prompting the user to input the proper user name and password before changes can be made.



User name and Password factory defaults:

- level1 : 1111 (Operator)
- level2 : 2222 (Production Supervisor)
- level3 : 3333 (Maintenance)
- setup : 4444 (Factory Presets – Setup Group)

Enter 4444 then touch to return to the HOME Screen.

You may want to create your own passwords for various levels of access.

Press on the HOME screen, then to access USERS MANAGEMENT SCREEN shown below.

USERS MANAGEMENT			
User	Password	Group	Logoff time
Level1	*****	Users	0
Level2	*****	Production	5
Level3	*****	Maintenance	5
PLC User	*****	Unauthoriz...	5
Setup	*****	Setup group	5

12/19/2013
4:26:26 PM


To replace Level 1, 2, or 3 with an individual's name, double-tap that button and enter the name on the alpha/numeric screen that will appear. A minimum of 4 and a maximum of 9 letters can be used. Touch the arrow after your entry to return to the User Management screen.

To set User Passwords, double tap in the password block and you will be prompted to enter the new password twice. **NOTE:** Whenever the user name is changed, logoff and logon with the new user name is required for the system to backup the new user name.

ENTERING NUMERIC VALUES: Instead of an alpha/numeric screen, a numeric screen will appear. Enter desired value and press



9.0 INITIAL STARTUP

Please follow ALL installation and safety procedures described in this instruction manual.

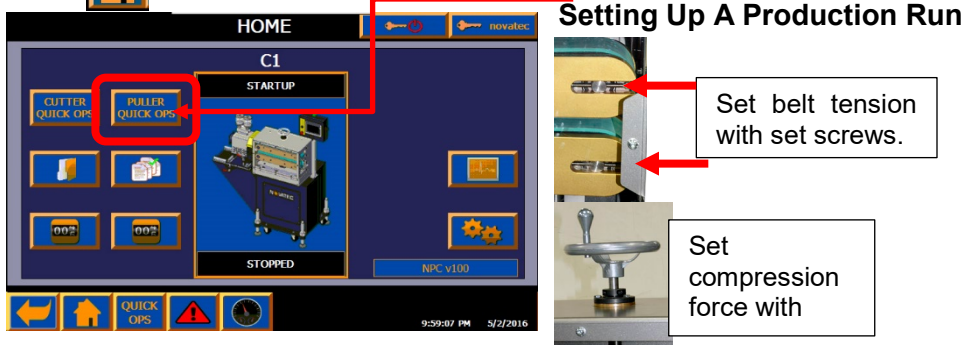
Turn the Main Power Disconnect  to "ON" 12 O'clock) position. The red light on top of the control panel will illuminate.

10.0 SETUP PAGES - NPC MINI-PULLER

Please follow ALL installation and safety procedures described in the instruction manual.

After Cutter Safety procedures and Cutter setup completed:
Press  to access HOME screen. Then press  to access PULLER Quick ops.

Setting Up A Production Run

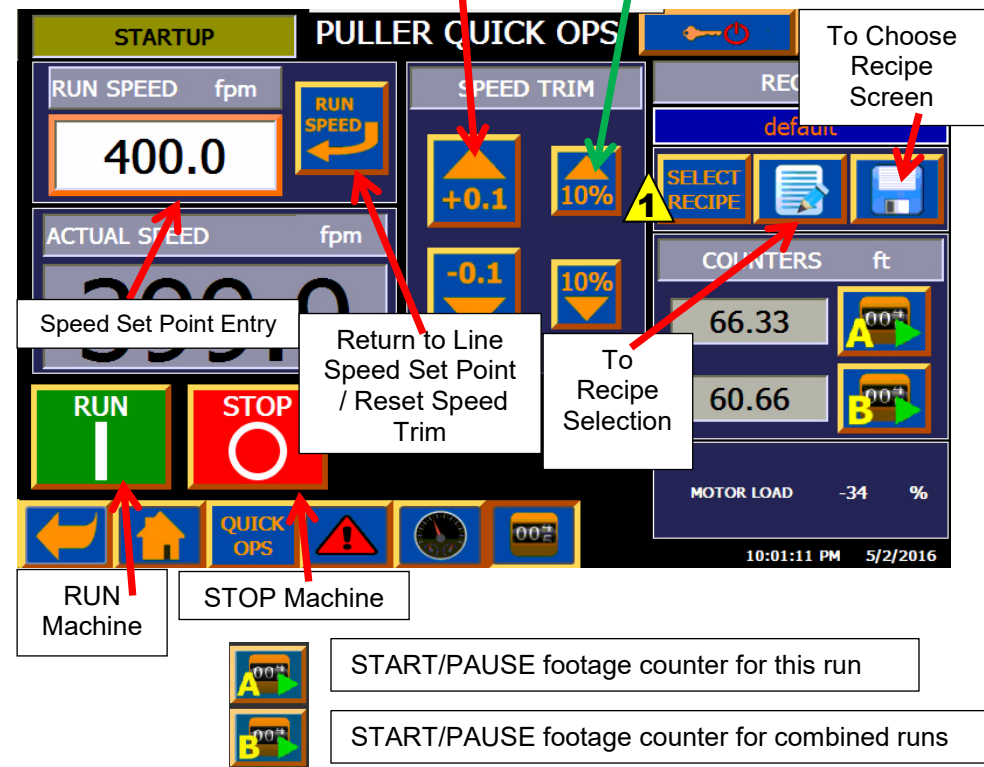


Set belt tension with set screws.

Set compression force with

Speed can be increased or decreased in small increments of 0.1 fpm by pressing the UP or DOWN arrows.

Speed is increased or decreased in 10% increments by pressing +10% or -10%.



STARTUP | **PULLER QUICK OPS**

RUN SPEED fpm: 400.0

ACTUAL SPEED fpm: 300.0

SPEED TRIM: +0.1, -0.1, 10%, 10%

RECIPES: default, SELECT RECIPE, To Choose Recipe Screen

COUNTERS ft: 66.33 (A), 60.66 (B)

MOTOR LOAD: -34 %

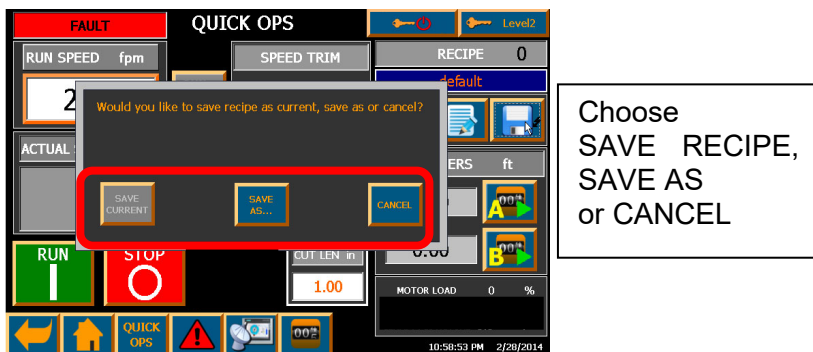
10:01:11 PM 5/2/2016

Annotations:

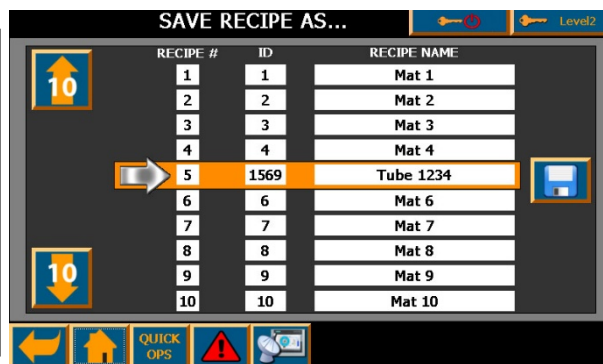
- Speed Set Point Entry
- Return to Line Speed Set Point / Reset Speed Trim
- To Recipe Selection
- RUN Machine
- STOP Machine
- START/PAUSE footage counter for this run
- START/PAUSE footage counter for combined runs

10.1 Saving, Selecting and Editing Recipes

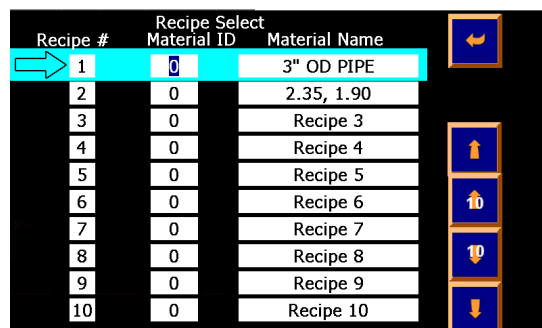
1 Saving, Selecting and Editing recipes is same for NCP Cutter as for NCP Puller. Tapping SELECT RECIPE adds an overlay to the Quick Ops screen.



Click a recipe number and add ID and/or Name using alpha/numeric keyboard. Navigate through recipes with UP and DOWN arrows. Click to save.



Pressing **1** SELECT RECIPE **1** accesses this screen where up to 30 recipes can be stored and recalled.



10.2 Mini-Puller Setup Page 1

Level 3 or Setup user login is required to make changes to this page.

SETUP PAGE

Belt Thickness Factor (3+) Pre-set at factory.

PULLER BELT PARAMETERS

BELT PITCH DIST. +0.0250 in

10.1
62.2

Recipes Can Be Saved To/From SD

5/2/2016 9:57:13 PM

To Previous Page

To USERS MANAGEMENT screen (3+)

USERS MANAGEMENT

User	Password	Group	Logoff time
Level1	*****	Users	0
Level2	*****	Production	5
Level3	*****	Maintenance	5
PLC User	*****	Unauthoriz...	5
Setup	*****	Setup group	5

12/19/2013 4:26:26 PM

It is important that time and date are correct. If they are not press either button and the entry screen will appear. Enter date as xx/xx/xx and time as: xx:xx:xx am or pm. Press [down arrow] after each entry.

You may want to create your own passwords for various levels of access. Press USERS MANAGEMENT icon and follow Instructions below.

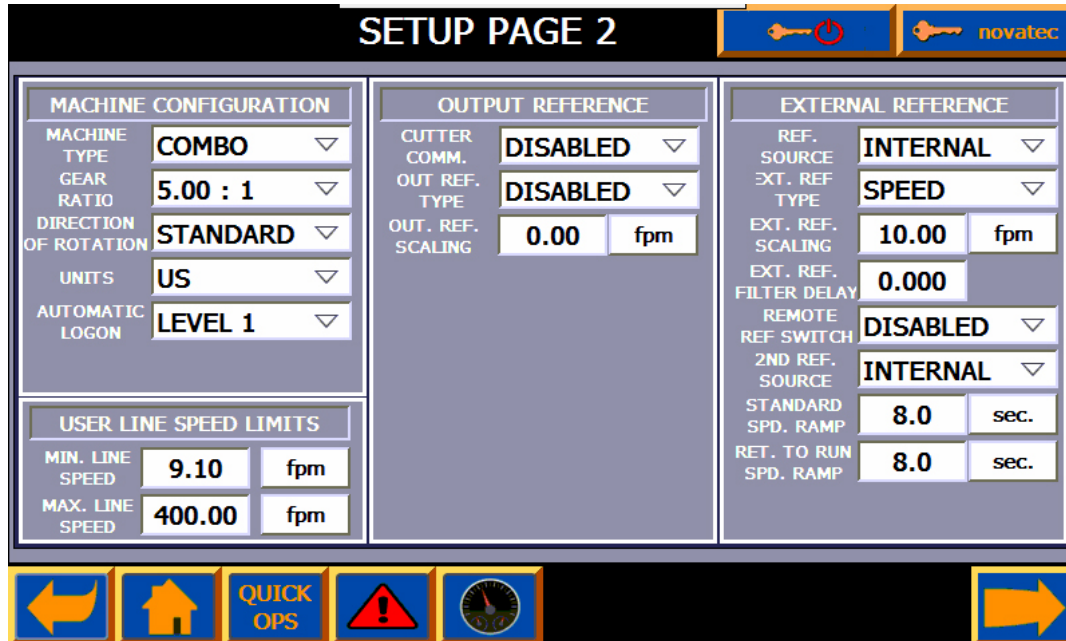
To replace Level 1, 2, or 3 with an individual's name, press that button and enter the name on the alpha/numeric screen that will appear. A minimum of 4 and a maximum of 9 letters can be used. Touch the [down arrow] arrow after your entry to return to the User Management screen.

To set User Passwords, double tap in the password block and you will be prompted to enter the new password twice.

NOTE: whenever user name is changed, logoff and logon with the new user name is required for the system to backup a new user name.

5 Press [Previous Page] to return to SETUP PAGE 1 and then [QUICK OPS] button. 6

10.3 Mini-Puller Setup Page 2



MACHINE CONFIGURATION PARAMETERS:

MACHINE TYPE - COMBO – Puller/Cutter

GEAR RATIO – Pertains to installed gearboxes.

DIRECTION OF ROTATION –

STANDARD = RIGHT HAND = (Material Flow from Right to Left

LEFT HAND = Material Flow from Left to Right)

UNITS – US or METRIC

AUTOMATIC LOGON – When enabled, basic machine operation is allowed without a LOGON. (Level 1 User always logged in.)

USER LINE SPEED LIMITS

MIN. LINE SPEED – Minimum Line Speed

MAX. LINE SPEED – Maximum Line Speed

NOTE: User defined speed limits can't be lesser or greater than system speed limits (those depend on the gear reducer size – refer to page 6).

OUTPUT REFERENCE:

CUTTER COM. – Enable/Disable Ethernet communication with NOVATEC cutter.
When enabled, actual line speed will be transmitted to the cutter via network.

OUT REF. TYPE –

Selection of speed or torque for optional analog output signal.

OUT REF. SCALING – Filter for optional analog out signal

EXTERNAL REFERENCE

This parameter set is used whenever there's a requirement to control Puller speed from an external source (e.g. from extruder). Usually, these parameters may require adjustment at the plant.

EXTERNAL REFERENCE	
REF. SOURCE	INTERNAL ▾
EXT. REF. TYPE	SPEED ▾
EXT. REF. SCALING	10.00 fpm
EXT. REF. FILTER DELAY	0.000
REMOTE REF SWITCH	DISABLED ▾
2ND REF. SOURCE	INTERNAL ▾
STANDARD SPD. RAMP	15.0 sec.
RET. TO RUN SPD. RAMP	15.0 sec.

REF. SOURCE – Possible choices are:

INTERNAL - reference is controlled from Puller's HMI)

ANALOG IN - 0-10 VDC analog signal from external device is Used to provide reference

COMMS - reference is received through Ethernet.

(Option currently available for Novatec equipment only).

EXT.REF.TYPE – External reference type with possible SPEED or TORQUE selections (TORQUE reference currently possible with NOVATEC equipment only).

EXT.REF.MAX LINE SPD. – Scaling factor for speed reference. Number entered corresponds to maximum requested line speed at 10 VDC analog signal value.

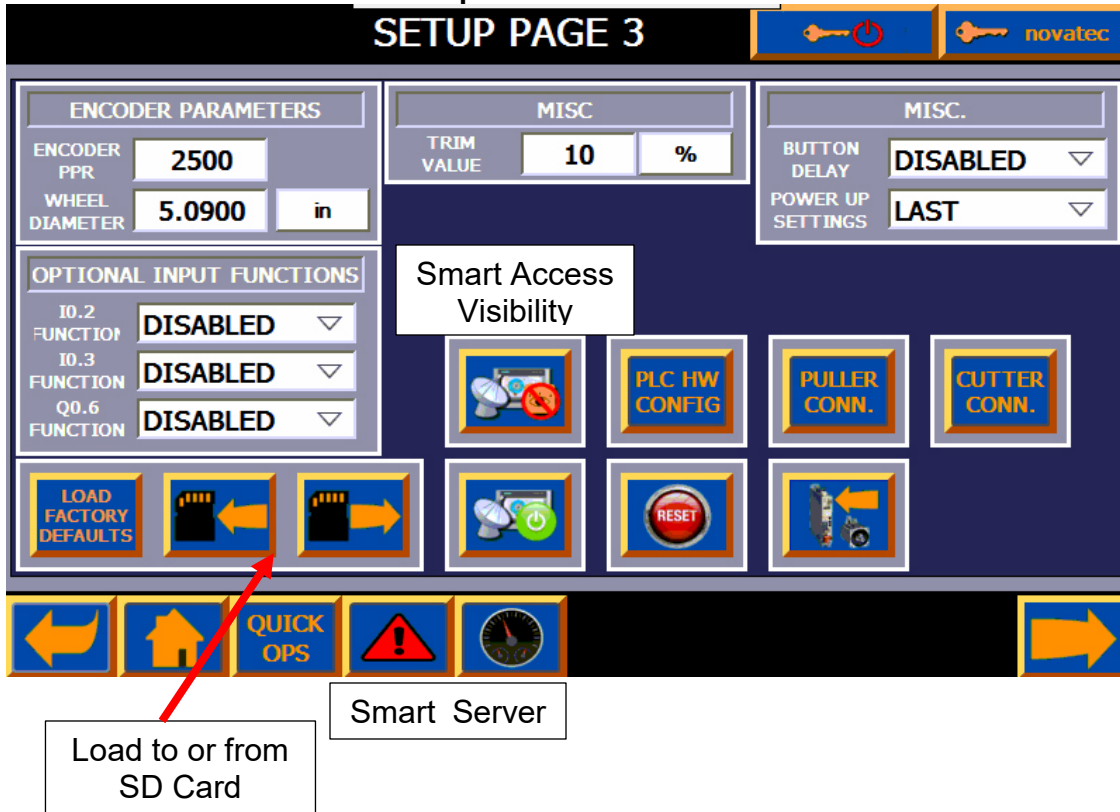
EXT.REF.FILTER DELAY – time value in seconds for analog signal smoothing. When set to 0, analog signal smoothing is disabled.

REMOTE REF. SWITCH – optional setting. When ENABLED, second reference source can be used. An selector switch or external discrete signal has to be wired to the Puller. With this discrete signal reference sources can be switched (e.g. between internal and external speed reference).

REMOTE REF. SOURCE – second external reference source. Like in the case of REF.SOURCE it can be selected between INTERNAL, ANALOG IN or COMMS (Novatec equipment only). This is valid only when REM. REF. SWITCH is enabled.

SPEED RAMP RATE – Puller's acceleration/deceleration rate (in seconds). Specifies time required to achieve maximum line speed (maximum machine speed depending on the gear ratio, not user limited speed).

10.4 NPC Mini-Puller Setup



ENCODER PARAMETERS - ENCODER PPR (encoder pulse/rev.) WHEEL DIAMETER (encoder wheel diameter [in])

OPTIONAL INPUT FUNCTIONS - For commands & status bits to external system (i.e. extruder). Where I0.2 FUNCTION can be set to DISABLED/REMOTE START, I0.3 FUNCTION can be set as DISABLED/REMOTE STOP, Q0.6 FUNCTION can be set as DISABLED/STATUS RUN;

11.0 PULLER RECIPE MANAGEMENT

NOVATEC NPS Pullers can be programmed with up to 30 recipes. After recipes are entered, the Level 1 operator can select and load a recipe and the startup speed, run speed as well as the clamp set point will be entered automatically so production startup time will be greatly reduced. Level 2 personnel can save new recipes or modify existing recipes.

11.1 Saving Recipe From Production Run (Quick Ops)

Once your production parameters for a job are finalized, LOGON as Level 2.

Click the SAVE  icon and a pop-up will appear. You can choose


SAVE CURRENT, SAVE AS... or CANCEL.

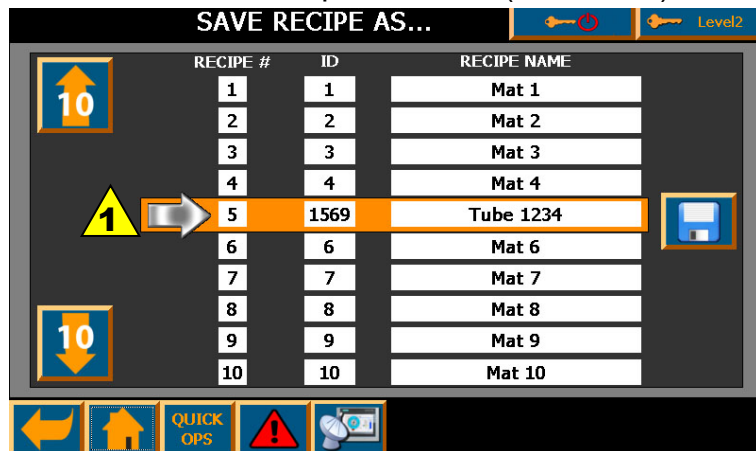


NOTE:

SAVE CURRENT button is unavailable when default recipe is loaded (RECIPE 0).

If you are saving a new recipe... click SAVE AS and the SELECT RECIPE MENU will appear.

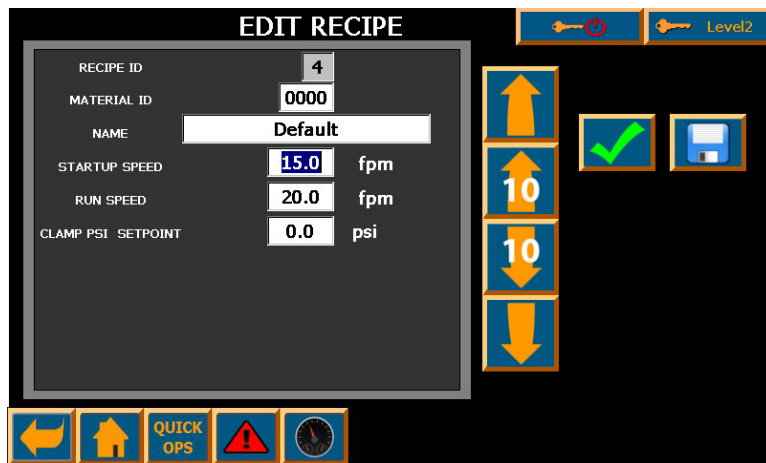
 Click on a Recipe ID (up to 4 characters) and or RECIPE NAME (up to 10 characters) to select location where recipe will be saved then click and the recipe is saved. Edit Recipe screen will be open and recipe can be re-named.



11.2 Editing An Existing Recipe

To edit an existing recipe, select the recipe by pressing the recipe #. note that you can scroll through the recipes, 10 at a time, by pressing the or buttons.

Then press the EDIT icon and the EDIT RECIPE screen (below) will appear. Simply enter the new material ID and/or recipe NAME along with the new parameters. If you press the icon, the recipe will be simply saved for future use. If you press the icon, the recipe will be saved and start to RUN immediately.



NOTE: A Default recipe is installed in each NOVATEC NPC Mini-Puller. It is intended as a default startup recipe for any production run. It can be changed.

11.3 Editing A Current Recipe

You can make changes to the recipe of a product during the RUN mode by pressing The EDIT WORKING RECIPE icon on the Quick Ops screen and modifying parameters in the usual manner. You can then save the changes as a DEFAULT Recipe or press and SAVE AS or CANCEL on the pop-up screen that will appear.



NOTE: Pressing SAVE also automatically activates changes made on the screen.

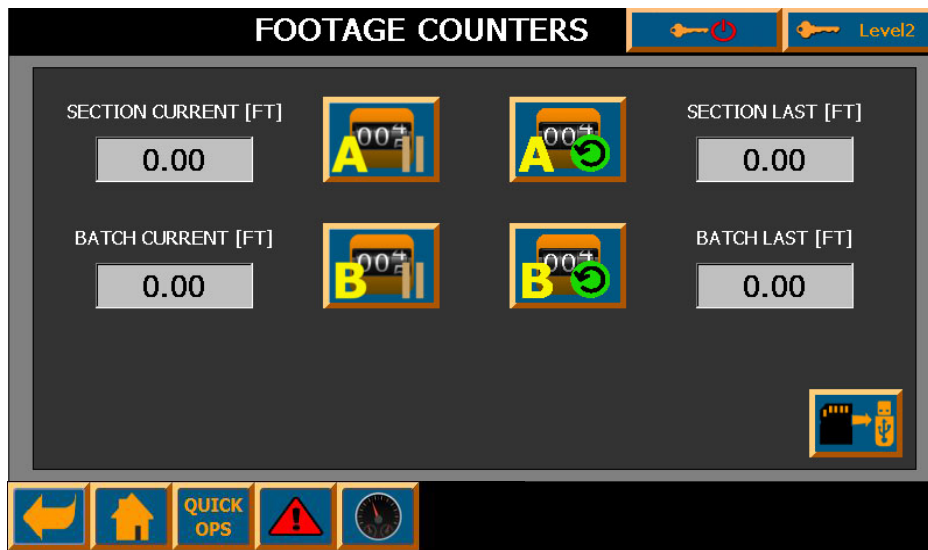
NOTE: SAVE CURRENT button is unavailable when default recipe is loaded.

When saving as a default recipe a pop-up will appear prompting user to activate recipe as well.

Check mark symbol can be used to activate modified recipe.

12.0 FOOTAGE COUNTER PAGE

Press Footage Counter  button at bottom of HOME page.



The footage counters start automatically when the NPC Mini-Puller is in the RUN mode.

The footage counter readings from the Quick Ops page also appear on the main Footage Counters page (above).

SECTION CURRENT records the footage run during the current shift (or until the counter is re-set).

BATCH CURRENT records the combined totals from the SECTION CURRENT readings.

Either of the above can be paused and resumed or re-set to ZERO by pressing respective A or B counter PLAY/PAUSE or reset buttons.

Any time the SECTION CURRENT or the BATCH CURRENT is re-set, those values are transferred as the SECTION LAST and the BATCH LAST readings. These can also be re-set to ZERO by pressing and holding the respective buttons.

This information can be helpful in determining the total footage being produced by each shift and from one day to another. These footages can also be compared to the useable product produced to calculate the amount of scrap being produced at any given time.

13.0 SYSTEM DIAGNOSTICS SCREENS

Press System Diagnostics icon  on HOME page to access this page.

This screen has three different views that can be changed by pressing tabs in the upper part of the screen (System Info, I/O Status and Actual Values).

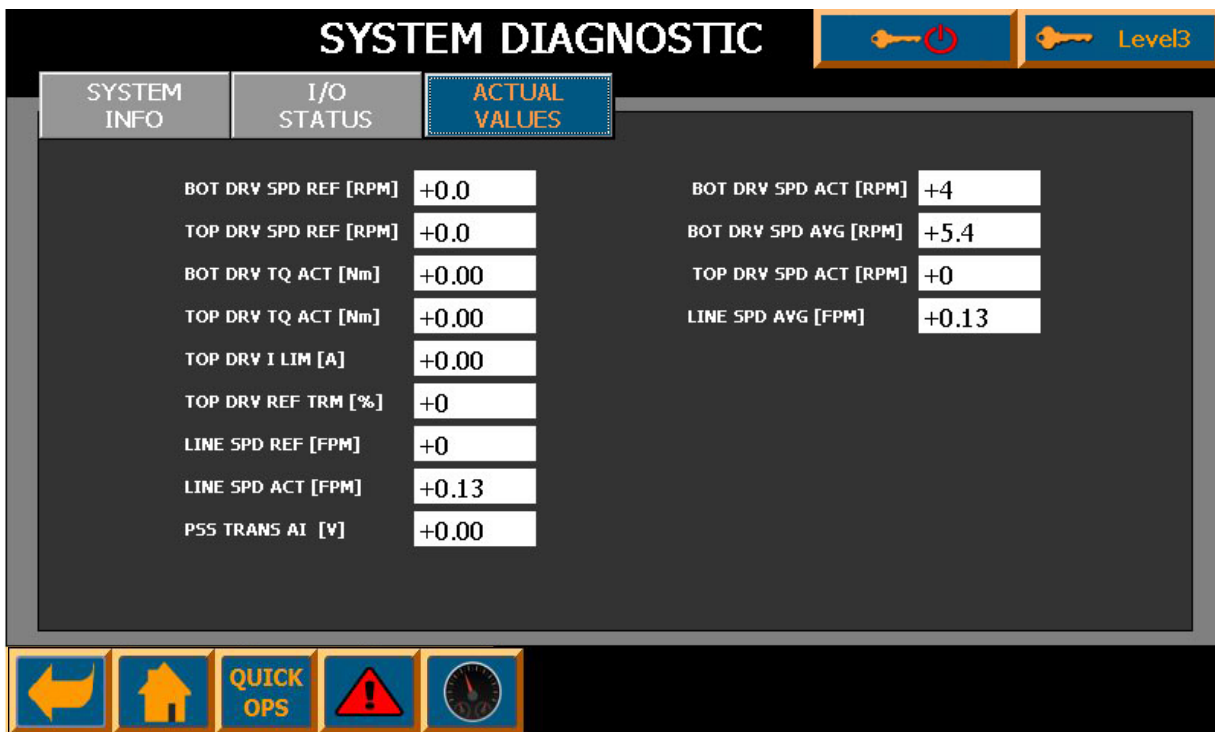
The screenshot shows the 'SYSTEM DIAGNOSTIC' interface with the 'SYSTEM INFO' tab selected. The interface includes a title bar with a key icon and 'Level3' access level. Below the title bar are three tabs: 'SYSTEM INFO', 'I/O STATUS', and 'ACTUAL VALUES'. The main content area is divided into three columns: 'MACHINE CONFIGURATION', 'OUTPUT REFERENCE', and 'EXTERNAL REFERENCE'. At the bottom, there are navigation icons for back, home, quick ops, warning, and a gauge.

SYSTEM DIAGNOSTIC																													
SYSTEM INFO	I/O STATUS	ACTUAL VALUES																											
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System Info view shows all machine setup parameters.



I/O Status view shows current LED status of PLC discrete inputs and outputs as well as current voltages read at analog inputs AI0 and AI1.




Actual Values view shows most actual machine values (e.g. motor speeds, torques etc.).

A full range of diagnostics can be accessed including:

- BOT DRV SPD REF – is commanded speed of bottom drive
- TOP DRV SPD REF – is commanded speed of top drive
- BOT DRV TQ ACT – actual torque of the bottom belt motor [%]
- TOP DRV TQ ACT – actual torque of the top belt motor [%]
- TOP DRV U TQ LIM – maximum torque limit of upper drive
- TOP DRV REF TRM[%] – additional torque trim applied to factory settings increase to provide additional torque assist, decrease to reduce torque assist from top belt
- LINE SPD REF [ft./min] – set line speed
- LINE SPD ACTUAL [ft./min] – calculated line speed based on the current motor rpm, pulley diameter, belt thickness and gear ratio
- PSS TRANS AI [V] – actual voltage read at analog input AI0 (voltage of the pressure transducer)
- BOT DRV SPD ACT – is instantaneous speed of bottom drive [rpm]
- TOP DRV SPD ACT – is instantaneous speed of top drive [rpm]
- BOT DRV SPD AVG – is moving average speed of bottom drive [rpm]
- TOP DRV SPD AVG DRV – is moving average speed of top drive [rpm]
- LINE SPD AVG – aggregate average of top and bottom drive averages [rpm]

14.0 ALARM SCREENS

If the alarm light flashes, pressing the  button or VIEW ALARM button whenever New Alarm Present pop-up window is present on the Quick Ops screen, displays Current Alarms screen. All current alarms are shown in the table together with short alarm descriptions.



Pressing View Alarm button on the New Alarm Present pop-up window will close pop-up and open Current Alarm screen. Pressing IGNORE will close pop-up only.

3/11/2014
8:17:18 PM

CURRENT ALARM

Level 1

No.	Time	Date	Status	Text	GR
110	8:02:36 PM	3/11/2014	I	Belt tension air pressure too low.	0
107	8:02:36 PM	3/11/2014	I	EStop / Safetys are not OK. Check EStop, safety switch,...	0
104	8:02:36 PM	3/11/2014	I	Top drive Profinet fault. Check connection between the d...	0
101	8:02:36 PM	3/11/2014	I	Bottom drive fault No. 5200 See drive manual.	0

QUICK OPS

ALARM HISTORY

Pressing alarm name selects it. To acknowledge and reset selected alarm, press button.



To get more information on the selected alarm, press button. A small pop up window will show up with more detailed alarm description and suggested actions to clear it.

Pressing ALARM HISTORY button located in the right bottom corner of the alarm screen will change view from Current Alarm to the Alarm History.

3/11/2014 8:18:20 PM		ALARM HISTORY				Level3
No.	Time	Date	Status	Text	GR	
\$ 260000	8:12:38 PM	3/11/2014	I	Invalid password or user name. Logon has failed.	0	
\$ 80029	8:02:51 PM	3/11/2014	I	Log initialization ended. 1 logs reported errors.	0	
\$ 80015	8:02:50 PM	3/11/2014	I	Alarm_log_10 - The system cannot find the drive specifie...	0	
I 110	8:02:36 PM	3/11/2014	I	Belt tension air pressure too low.	0	
I 107	8:02:36 PM	3/11/2014	I	EStop / Safetys are not OK. Check EStop, safety switch,...	0	
I 104	8:02:36 PM	3/11/2014	I	Top drive Profinet fault. Check connection between the d...	0	
I 101	8:02:36 PM	3/11/2014	I	Bottom drive fault No. 5200 See drive manual.	0	
\$ 140000	8:02:36 PM	3/11/2014	I	Connection established: HMI_connection_1, Station 192....	0	
\$ 70018	8:02:34 PM	3/11/2014	I	User administration imported successfully.	0	
\$ 110001	8:02:34 PM	3/11/2014	I	Change to operating mode 'online'.	0	
\$ 70022	8:02:34 PM	3/11/2014	I	User administration import started.	0	
\$ 80028	8:02:33 PM	3/11/2014	I	Log initialization started.	0	
\$ 270006	8:02:32 PM	3/11/2014	I	Project modified: Alarms cannot be restored from the pe...	0	

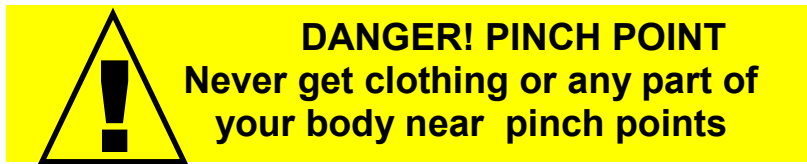
Alarm History view shows more detailed information like time and date when alarm, when alarm was acknowledged, when alarm condition was cleared (alarm is gone) as well as system alarms and events (like when user tried to logon but entered wrong username or password).

Alarm History buffer can be cleared by the user by pressing CLEAR ALARM HISTORY button (this action requires Level3 authorization).

Symbols in column Status represent status of the alarm event:

- I - means alarm occurred
- A – means alarm was acknowledged
- O – means alarm condition was cleared (alarm is no longer present)

15.0 MINI-PULLER OPERATION



DANGER: Never remove or disable safety devices to sustain production. Operating without these safety devices could lead to hazardous conditions that can cause severe injury. Take all necessary precautions when working around moving parts to prevent body parts and clothing from being pulled into the machine.

1. Make sure all components properly installed and hardware is tight.
2. Check that puller is firmly anchored with floor locks.
3. Ensure machine is properly wired and all enclosure doors are closed.
4. Push E-Stop pushbutton.
5. Power on the machine.
6. The following **System Overview** screen will appear on the control panel.



16.0 MINI-PULLER MAINTENANCE

It is recommended that maintenance and inspection be performed on a scheduled basis. Maintenance requirements may vary widely for each installation and specific operating conditions. It is suggested that a complete inspection be performed with necessary maintenance at the end of the first month, the first three months, and the first six months. These inspections will indicate how often future maintenance will be necessary.

- ❑ All electrical, mechanical repairs and tests are to be performed by qualified personnel only.
- ❑ Disconnect electric power from control box before opening panel for maintenance.
- ❑ Do not disable or bypass equipment safety features.
- ❑ Refer to system component manuals for additional information.



WARNING: Before beginning repair work, disconnect all power sources and secure against inadvertent reconnection.



WARNING: Auxiliary equipment may contain moving parts that may cut, crush, or otherwise injure personnel when safety/access covers are removed. Do not place hands or limbs in equipment during operation.

At Startup

- ❑ Verify all guards are in place and able to be fully closed.
- ❑ Ensure belt tension is set properly
- ❑ Record equipment Serial Numbers and the NPC Controller program revision level.

Every Belt Change

- ❑ Inspect condition of line pace encoder if used.

Daily

- ❑ Inspect belts for wear and tear
- ❑ Check belt tension
- ❑ Verify puller alignment
- ❑ Verify full travel available in traction assemblies
- ❑ Every 3 Months
- ❑ Check all electrical connections to make sure that they have not become loose, especially those connections at contactors, like motor starters.
- ❑ Monitor gear reducer temperature. Gear reducer temperature should not exceed 200°F (93°C) at any time or operating condition. See gear reducer manual for further maintenance instructions.

17.0 WARRANTY – NOVATEC, INC. - Effective Date 1 APRIL 2019

NOVATEC, INC. offers comprehensive product warranties on all of our plastics auxiliary equipment. We warrant each NOVATEC manufactured product to be free from defects in materials and workmanship, under normal use and service for the periods listed under “warranty periods”. The obligation of NOVATEC, under this warranty, is limited to repairing or furnishing, without charge, a similar part to replace any part which fails under normal use due to a material or workmanship defect, within its respective warranty period. It is the purchaser’s responsibility to provide NOVATEC with immediate written notice of any such suspected defect. Warranted replacement parts are billed and shipped freight pre-paid. The purchaser must return the suspect defective part, freight prepaid and with identifying documentation to receive full credit for the part returned. NOVATEC shall not be held liable for damages or delay caused by defects. No allowance will be made for repairs or alterations without the written consent or approval of NOVATEC.

The provisions in equipment specifications are descriptive, unless expressly stated as warranties. The liability of NOVATEC to the purchaser, except as to title, arising out of the supplying of the said equipment, or its use, whether based upon warranty, contract or negligence, shall not in any case exceed the cost of correcting defects in the equipment as herein provided. All such liability shall terminate upon the expiration of said warranty periods. NOVATEC shall not in any event be held liable for any special, indirect or consequential damages. Commodities not manufactured by NOVATEC are warranted and guaranteed to NOVATEC by the original manufacturer and then only to the extent that NOVATEC is able to enforce such warranty or guaranty. NOVATEC, Inc. has not authorized anyone to make any warranty or representation other than the warranty contained here. Non-payment of invoice beyond 90 days will invalidate the warranty. A renewed warranty can be purchased directly from NOVATEC.

Please note that we always strive to satisfy our customers in whatever manner is deemed most expedient to overcome any issues in connection with our equipment.

Warranty Period:

Note: All warranty periods commence with the shipment of the equipment to the customer.

5 YEARS

NPS Bessemer Series Pullers
NCT Cooling Tanks
NPC Puller Cutters

NVT Vacuum Tanks
NC Bessemer Series Cutters

C Bessemer Series Cutters
NS Series Upcut Saws

1 YEAR

Custom Equipment

Exclusions:

Routine maintenance/replacement parts are excluded from the warranty. These include, but are not limited to: belts, rollers, bushings, knives, hoses, gaskets, seals, motors, internal solenoids, fuses and motor brushes. Use with abrasive materials will void the warranty of any standard product. NOVATEC reserves the right to limit the warranty if the customer installs replacement parts that do not meet the specifications of the original parts supplied by NOVATEC.

This warranty shall not apply to equipment:

1. Repaired or altered without written approval of NOVATEC unless such repair or alteration was, in our judgment, not responsible for the failure
2. Which has been subject to misuse, negligence, accident or incorrect wiring by others
3. Warranty is void if processing rates exceed manufacturer-recommended levels or if damage is caused by ineffective power isolation and/or power spikes/sags or incorrect installation.

NOTE: All conditions and content of this warranty are subject to changes without notice.

NOVATEC, Inc.
222 E. Thomas Ave.
Baltimore, MD 21225 www.novatec.com