## Hypertherm Automatic Gas Console (AGC)

The X1366P-AGC profile for the myCNC software is presented below:



The Automatic Gas Console panel allows to set the preflow and cutflow gas pressures, as well as run the testing procedures on both of those states. The testing software PLCs are available:

## \_\_HT\_TEST\_PREFLOW

```
main()
{
    a=gvarget(7473);
    if (a==0) { gvarset(7473, 1); }
    else {gvarset(7473, 0); };
    exit(99);
};
```

```
__HT_TEST_CUTFLOW
```

```
main()
{
    a=gvarget(7472);
    if (a==0) { gvarset(7472, 1); }
    else {gvarset(7472, 0); };
    exit(99);
```

};

 To enable AGC functionality, first navigate over to Settings > Config > Technology > Plasma Cutting > Plasma Settings and enable the Hypertherm Serial Interface and Host PC to Hypertherm Interface options:

SSS       PLC       Nurpext       Catchier       Config         AverAldoors       Inputs/Outputs/Sensors       Inputs/Outputs/Sensors       Inputs/Outputs/Sensors         • PpLC       Control through PWM       PWM ratio         Code settings       Modbus control       Inputs/Outputs/Sensors         • PCL       Geode settings       Modbus control         • Porting Wardd       Modbus value ON       Inputs/Outputs/Sensors         • Probing Wardd       Modbus value OFF       Inputs/Outputs/Sensors         • Proteing Wardd       Power Source connected to       Main Controller         • Pasma Cutting       Power Source connected to       Main Controller         • Pypertherm Diagnostics       Process Current, Amps       Inputs/Outputs/Sensors         • Pypertherm Communication       Gas Console       Inputs/Outputs/Sensors         • Spindle       Control       Inputs/Outputs/Sensors       Inputs/Outputs/Sensors         • Protess       Cutting       Process Current, Amps       Inputs/Outputs/Sensors         • Protess       Cutting       Auto Gas connected to       Main Controller         • Protess       Cutting       Process Current, Amps       Inputs/Outputs/Sensors         • Policy       Matro Baser Console       Enabled       Inputs/Outputs/Sensole </th <th>μ *</th> <th>(16:27:10) myCNC control software</th> <th>2. Ver:1.88.5121- [/home/sk/DNC/LIBS/lib-shape-001.nc]</th> <th>~ 😣</th>	μ *	(16:27:10) myCNC control software	2. Ver:1.88.5121- [/home/sk/DNC/LIBS/lib-shape-001.nc]	~ 😣
CNC Stellings       Jowe I auto         Axes/Motors       .         Inputs/Outputs/Sensors       Control through PWM         Network       PWM ratio         Occodes settings       Modbus control         Cocodes settings       Modbus Address         DXF Import settings       Modbus Register         Modbus Register       Modbus Address         Problem Ward       Modbus Value ON         • Proferences       Import Settings         • Screen       Modbus Value OFF         Ør Parking Coordinates       1.0         • Parking Coordinates       Power Source connected to         • Parking Coordinates       Hypertherm Diagnostics         Hypertherm Diagnostics       Hypertherm Interface         Hypertherm Seital Interface       Import Settings         • Reconstruction       Main Controller         • Plasma Settings       Need Settings         • Poster Source Connected to       Main Controller         • Plasma Settings       Process Current, Amps         • Or Cutcharts       Imple         THC       Auto Gas Console         Enabled       Imple         Tools       Auto Gas connected to         Multi Head       Laber Control         Multi	SYS PLC Report	t Info Support Cutchart Confi	s K	SAVE CFG
Axes Motors         Inputs/outputs/sensors         Network         Network         Meton         PLC         G-codes settings         DXF import settings         Marco List         Macro List         Modbus Address         Modbus Register         Modbus Value ON         0         Proferences         Shape Library Settings         Modbus ratio         Nodous ratio         Power Source connected to         Main Controller         Plasma Settings         Hypertherm Diagnostics         Hypertherm Communication         Gas/Oxyfuel         Cutcharts         THC         Spindle         Tobis         Auto Gas Console         Enabled         Auto Gas console	CNC Settings			
PLC   G-codes settings   DXF import settings   Macro Uist   Macro Wizard   Probing Wizard   Modbus Register   Ox914   Modbus Value ON   O   Proteing Wizard   Modbus Value ON   O   Proteing Wizard   Modbus Value ON   O   Proteing Vizard   Modbus Value ON   O   Parking Coordinates   Parking Coordinates   Technology   Plasma Settings   Hypertherm Diagnostics   Hypertherm Communication   Gas/Oxytiel   Cutharts   THC   Spindle   Tools   Auto Gas console   Enabled   Auto Gas connected to   Main Controller   Process Current, Amps   Kerf Compensation method   #2   Cutharts   THC   Spindle   Tools   Auto Gas console   Enabled   Auto Gas connected to   Main Controller   Pic Variable Address   1   Multi Head   Laser control   Tangential Knife	Axes/Motors > Inputs/Outputs/Sensors Network Motion	Control through PWM PWM ratio		
Macro Ust       Modbus Register       0x914         Macro Wizard       Modbus Register       0x914         Probing Wizard       Modbus Value ON       0         Preferences       Modbus Value OFF       0         Screen       Modbus Value OFF       0         Work Offsets       Power Source connected to       Main Controller         Plasma Cutting       Hypertherm Serial Interface       ✓         Plasma Settings       Hypertherm Communication       G60         Gas/Oxyfuel       Cutcharts       ✓         Tube Cutting       Frocess Current, Amps       60         Spindle       Fnabled       Fnabled         Tools       Auto Gas Console       Enabled         AttC Pots       Latthe       PLC Variable Address       1         Multi Head       Laser control       Mode PID# Gas Torch channel Flow Type Value Time Min Max Step Comment       ✓	PLC G-codes settings DXF import settings	Modbus control Modbus Address	0x25	
Preterintes         Shape Library Settings         Shape Library Settings         Screen         Work Offsets         Parking Coordinates         Technology         Plasma Settings         Tube Cutting         Hypertherm Diagnostics         Hypertherm Diagnostics         Hypertherm Diagnostics         Hypertherm Communication         Gas/Oxyfuel         Cutcharts         THC         Spindle         Tools         Auto Gas Console         Enabled         Multi Head         Laser control         Mode PID# Gas Torch channel Flow Type Value Time Min Max Step Comment	Macro List Macro Wizard Probing Wizard	Modbus Register Modbus Value ON	0x914 0 <b>‡</b>	
Parking Coordinates          Power Source connected to         Main Controller          • Technology           Plasma Sutting          Plasma Sutting           Hypertherm Serial Interface          Phypertherm Diagnostics           Hypertherm Communication         Gas/Oxyfuel          Cutcharts           Frocess Current, Amps          THC           Spindle          Spindle           Cutcharts          Auto Gas Console            Enabled            Auto Gas connected to           Main Controller          Vible Address           Process Current, Amps          Multi Head           Auto Gas connected to          Multi Head           PLC Variable Address          Laser control           Gas Torch channel Flow Type Value Time Min Max Step Comment	<ul> <li>Preferences</li> <li>Shape Library Settings</li> <li>Screen</li> <li>Work Offsets</li> </ul>	Modbus Value OFF Modbus ratio		
Plasma Settings Plasma Settings Plasma Settings Tube Cutting Hypertherm Diagnostics Hypertherm Communication Gas/Oxyfuel Cutcharts THC Spindle Tools ATC Pots Lathe Multi Head Laser control Tangential Knife Hypertherm Serial Interface Hypertherm Interface Host PC to Hypertherm PC to Hypertherm Interface Host PC	Parking Coordinates	Power Source connected to	Main Controller -	
Hypertherm Diagnostics       Process Current, Amps       60 +         Hypertherm Communication       Gas/Oxyfuel       Kerf Compensation method       #2 -         Cutcharts       Auto Gas Console       Enabled       Image: Console       Image: Console         Spindle       Enabled       Image: Console       Image: Console       Image: Console       Image: Console         Tools       Auto Gas connected to       Main Controller       Image: Console       Image: Console       Image: Console         Lathe       PLC Variable Address       Image: Console       Image: Console </td <td><ul> <li>Plasma Cutting</li> <li>Plasma Settings</li> <li>Tube Cutting</li> </ul></td> <td>Hypertherm Serial Interface Host PC to Hypertherm Interface</td> <td></td> <td></td>	<ul> <li>Plasma Cutting</li> <li>Plasma Settings</li> <li>Tube Cutting</li> </ul>	Hypertherm Serial Interface Host PC to Hypertherm Interface		
THC     Auto Gas Console       Spindle     Enabled       Tools     Auto Gas connected to       Atto Gas connected to     Main Controller       Lathe     PLC Variable Address       Multi Head     1       Laser control     Mode PID# Gas Torch channel Flow Type Value Time Min Max Step Comment	Hypertherm Diagnostics Hypertherm Communication Gas/Oxyfuel Cutcharts	Process Current, Amps Kerf Compensation method	60 ÷ #2 ·	
Lathe     PLC Variable Address       Multi Head       Laser control       Tangential Knife	THC Spindle Tools	Auto Gas Console Enabled		
Tangential Knife	Lathe Multi Head Laser control	PLC Variable Address Mode PID# Gas Torch channel Flow Type V	alue Time Min Max Step Comment	
→ Special Purpose	Tangential Knife → Special Purpose  □			

 Next, head over to Config > Panel/Pendant > Operator Panel. Here, you can configure the connection parameters by setting the Enable checkbox to ON, as well as selecting the Serial Port number and Serial connection speed with the Hypertherrm console. Note that a UART-RS422/485 or a USB-RS422/485 adapter is required for physical communication with the AGC.

SYS PLC Report	(18:03:06) myCNC control software. Ver:1.8	8.5121- [/home/sk/DNC/LIBS/lib-shape-00	)1.nc] ~ • •
NC Settings	Serial communication		
Shape Library Settings Screen Work Offsets	Enable Serial Port		
Parking Coordinates Technology	Serial Speed	9600	
Plasma Cutting Plasma Settings Tube Cutting	Serial Debug		Load Default Keys #1 Load Default Keys #2
Hypertherm Diagnostics Hypertherm Communication Gas/Oxyfuel		Send	Load Eco Keys
THC THC Spindle Tools ATC Pots Lathe Multi Head Laser control Tangential Knife , Special Purpose Camera	Re-Open: OK Closed: Re-Open: OK	Controller)>	Export Keys to file
5 axes RTCP Panel/Pendant Wireless Pendant/XHC	Key Number Pressed Released Shift	Slot	Parameters
Gamepad Hotkeys Hardkeys Hard Pendant			
Advanced			

• Writing 999999 to the following global variable registers will initiate a request to the console to obtain the appropriate information which will then be written to the same registers (in the case of Firmware, the information will be recorded as an SVariable rather than a GVariable):

Name	Global variable	Comment
GVAR_HT_GAS_MIXING_SETPOINT	7467	Mixing setpoint
GVAR_HT_SYSTEM_ERROR	7468	System error code
GVAR_HT_SYSTEM_STATUS	7469	System status code
GVAR_HT_FIRMWARE_VERSION	7471	Firmware version (as a string variable)

• Writing a 1 or a 0 in the following global variable registers will turn cutflow/preflow testing ON and OFF:

GVAR\_HT\_TEST\_CUTFLOW\_GASES 7472 Cutflow testing on/off GVAR\_HT\_TEST\_PREFLOW\_GASES 7473 Preflow testing on/off

• The following global variables are used to display the pressure values:

7660	Plasma preflow pressure
7661	Shield preflow pressure
7662	Plasma cutflow pressure
7663	Shield cutflow pressure

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