

ABBREVIATIONS UTILISÉES
ABBREVIATIONS USED

PRESSION / PRESSURE		
PI	Indicateur de pression	Pressure indicator
PT	Transmetteur de pression	Pressure transmitter
PIT	Transm. et indi. de pression	Indicating pressure
PC	Contrôle de pression	Pressure control
PIC	Contrôle et indi. de pression	Indicating pressure control
PS	Interrupteur de pression	Pressure switch
PSL	Interrupteur de basse pression	Low pressure switch
PSLL	Inter. limite de basse	Low limit pressure switch
PSH	Interupteur de haute pression	High pressure switch
PSHH	Inter. limite de haute	High limit pressure switch
DPSL	Inter. de basse pression diff.	Low diff. pressure switch
DPSH	Inter. de haute pression diff.	High diff. pressure switch

TEMPÉRATURE / TEMPERATURE		
TI	Indicateur de température	Temperature indicator
TT	Transmetteur de température	Temperature transmitter
TIT	Transm. et indi. de niveau	Indicating level transmitter
TC	Contrôle de température	Temperature control
TIC	Contrôle et indi. de temp.	Indicating temperature control
TS	Interrupteur de température	Temperature switch
TSL	Inter. de basse température	Low temperature switch
TSLL	Inter. limite de basse temp.	Low limit temperature switch
TSH	Inter. de haute température	High temperature switch
TSHH	Inter. limite de haute temp.	High limit temperature switch
TW	Puit pour thermocouple	Thermowell
T/C	Thermocouple	Thermocouple
THERM	Thermistor	Thermistor


















































NIVEAU / LEVEL		
LI	Indicateur de niveau	Level indicator
LT	Transmetteur de niveau	Level transmitter
LIT	Transm. et indi. de niveau	Indicating level transmitter
LC	Contrôle de niveau	Level control
LIC	Contrôle et indi. de niveau	Indicating level control
LS	Interrupteur de niveau	Level switch
LSL	Interrupteur de bas niveau	Low level switch
LSLL	Interr. limite de bas niveau	Low limit level switch
LSH	Interrupteur de haut niveau	High level switch
LSHH	Interr. limite de haut niveau	Low limit level switch


CONTROL PANEL COMPONENTS / COMPOSANTES DE PANNEAU DE CONTRÔLE		
BRK	Disjoncteur	Breaker
BMS	Dispositif de surveillance de flamme	Burner management system
C	Contacteur	Contacteur
ESTOP	Arrêt d'urgence	Emergency Stop
DISC	Sectionneur	Disconnect
FDISC	Sectionneur à fusible	Fusible Disconnect
FU	Fusible	Fuse
LT	Lumière indicatrice	Pilot light
M	Moteur	Motor
O/L	Relais de surcharge	Overload
PB	Bouton poussoir	Push Button
R	Relais	Relay
SEL	Sélecteur	Selector
T	Minuterie	Timer
XFO	Transformateur	Transformer

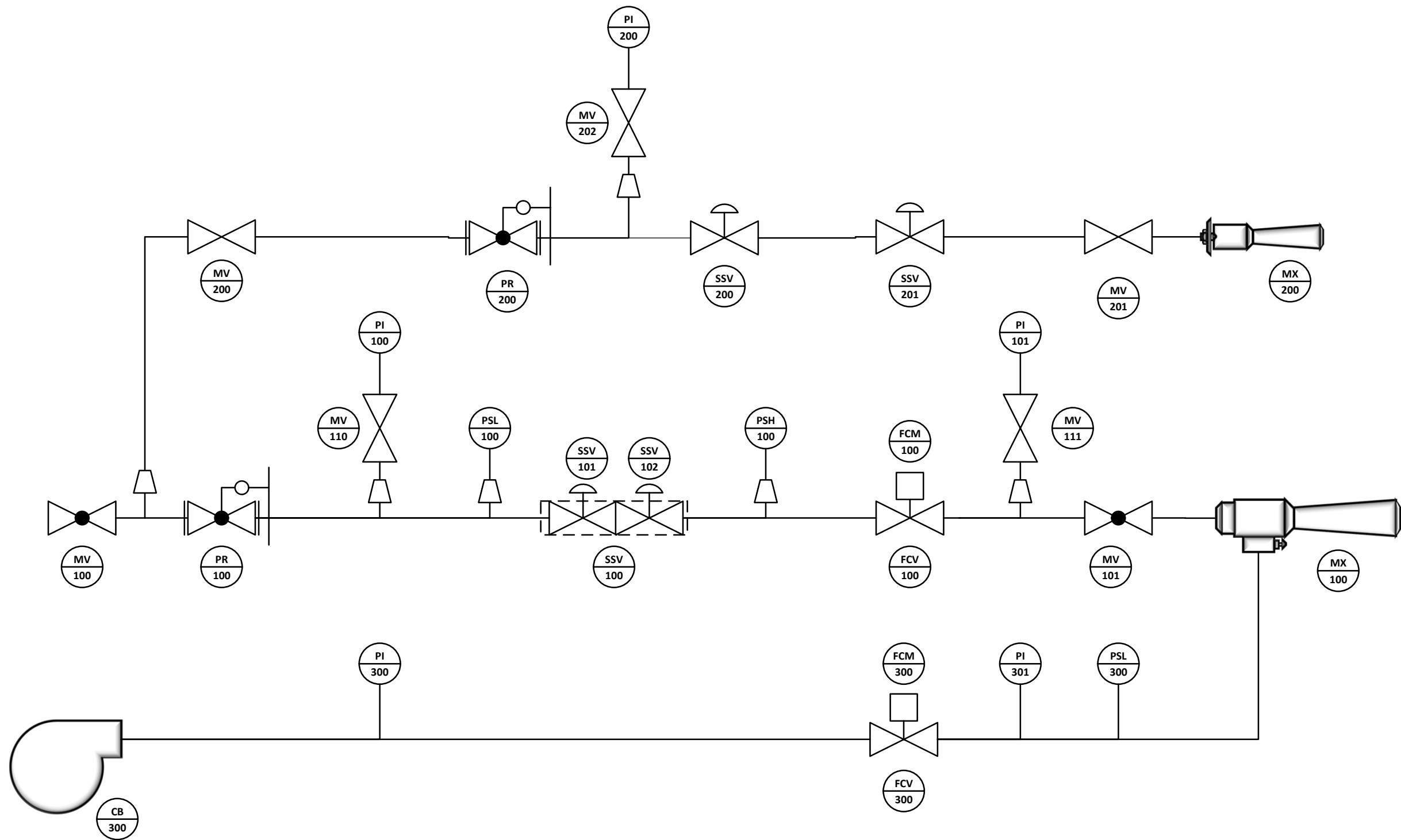
DÉBIT / FLOW		
FI	Indicateur de débit	Flow indicator
FT	Transmetteur de débit	Flow transmitter
FIT	Transm. et indi. de débit	Indicating flow transmitter
FC	Contrôle de débit	Level control
FIC	Contrôle et indi. de débit	Indicating flow control
FS	Interrupteur de débit	Flow switch
FSL	Interrupteur de bas débit	Low flow switch
FSLL	Inter. limite de bas débit	Low limit flow switch
FSH	Interrupteur de haut débit	High flow switch
FSHH	Inter. limite de haut débit	High limit flow switch


DIVERS / MISCELLANEOUS		
AFCV	Valve de contrôle de débit automatique	Automatic flow control valve
MFCV	Valve de contrôle de débit manuelle (ex: valve à	Manual Flow control valve (ex: needle valve)
AFCM	Moteur de contrôle de débit automatique	Automatic flow control motor
MFCM	Moteur de contrôle de débit manuel	Manual flow control motor
BURN	Brûleur	Burner
CV	Clapet anti-retour	Check valve
CT	Beigne courant (transformateur de courant)	Current donut (Current transformer)
DM	Moteur volet (ON-OFF ou modulant)	Damper motor (ON/OFF or modulating)
FAD	Volet air frais	Fresh air damper
FLX	Boyau flexible	Flexible hose
FR	Tige de détection de flamme à rectification	Flame rod
HV	Valve manuelle	Hand valve
IGN	Transformateur d'ignition	Ignition transformer
MX	Mélangeur air/gaz	Air/gas mixer
PR	Régulateur de pression	Pressure regulator
PRV	Soupape de détente	Pressure relief valve
SSV	Valve de sûreté	Safety shutoff valve
SSVR	Valve de sûreté régulatrice	Regulating safety shutoff
SPRK	Bougie/tige d'allumage	Spark plug/rod
UV	Détecteur UV	UV Detector
VV	Soupape d'évent	Vent valve
ZSO	Inter. de fin de course, NO	Limit switch, NO
ZSC	Inter. de fin de course, NF	Limit switch, NC
ZSL	Interrupteur de position BAS (ex: Preuve de bas feu)	Limit switch LOW (ex: low fire switch)
ZSH	Interrupteur de position HAUT (ex: Preuve de haut feu)	Limit switch HIGH (ex: high fire switch)
ZG	Régulateur ratio/proportionnel	Zero/ratio/proportional governor

SYMBLES UTILISÉS
SYMBOLS USED

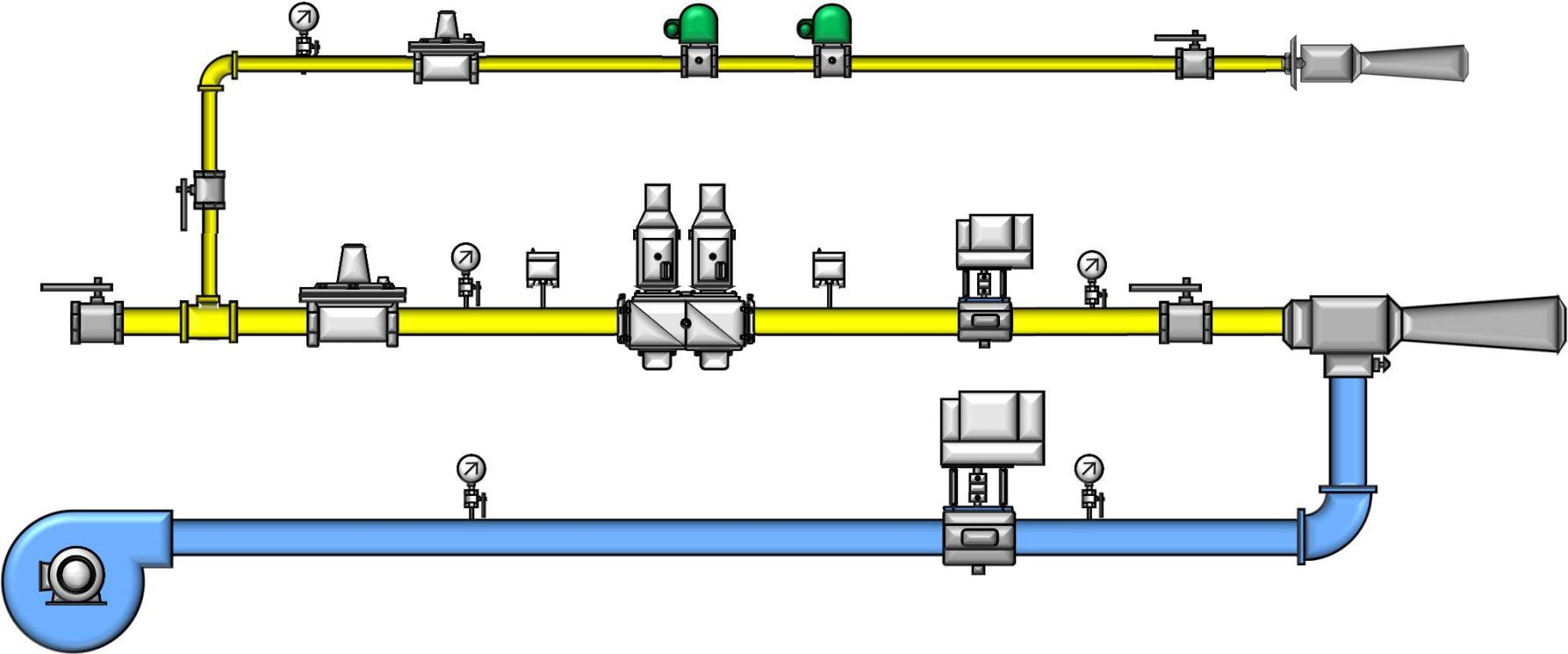
 ID DESCRIPTION	Bobine de relais/minuterie Relay/timer coil	 ID DESCRIPTION	Interrupteur de pression Ferme sur augmentation de pression Pressure switch Closes on pressure increase	 ID DESCRIPTION	Bornier Terminal
 ID-y DESCRIPTION	Contact de relais NO, où y = le # du contact NO relay contact, where y = contact #	 ID DESCRIPTION	Interrupteur de pression Ouvre sur augmentation de pression Pressure switch Opens on pressure increase	 ID DESCRIPTION	Mise à la terre Ground connection
 ID-y DESCRIPTION	Contact de relais NF, où y = le # du contact NC relay contact, where y = contact #	 ID DESCRIPTION	Interrupteur de débit Ferme sur augmentation de débit Flow switch Closes on flow increase	 ID DESCRIPTION	Écran de câble Cable shield
 ID DESCRIPTION	Interrupteur générique SPDT SPDT generic interrupter	 ID DESCRIPTION	Interrupteur de débit Ouvre sur augmentation de pression Flow switch Opens on flow increase	 ID DESCRIPTION	Tige de détection de flamme à rectification Flame rod
 ID DESCRIPTION	Interrupteur générique NO NO generic interrupter	 ID DESCRIPTION	Interrupteur de niveau Ferme sur augmentation de niveau Level switch Closes on level increase	 ID DESCRIPTION	Détecteur de flamme UV UV flame detector
 ID DESCRIPTION	Interrupteur générique NF NC generic interrupter	 ID DESCRIPTION	Interrupteur de niveau Ouvre sur augmentation de niveau Level switch Opens on level increase	 ID DESCRIPTION	Bougie d'allumage Ignition rod
 ID DESCRIPTION	Contact NO de bouton poussoir NO push button contact	 ID DESCRIPTION	Interrupteur de température Ferme sur augmentation de température Temperature switch Closes on temperature increase	 ID DESCRIPTION	Sectionneur triphasé 3-phases disconnect
 ID DESCRIPTION	Contact NF de bouton poussoir NC push button contact	 ID DESCRIPTION	Interrupteur de température Ouvre sur augmentation de température Temperature switch Opens on temperature increase	 ID DESCRIPTION	Sectionneur à fusible triphasé 3-phases fusible disconnect
 ID DESCRIPTION	Sélecteur OFF-ON OFF-ON selector	 ID DESCRIPTION	Interrupteur de position Normalement ouvert Position switch Normally open	 ID DESCRIPTION	Sectionneur à fusible triphasé 3-phases fusible disconnect
 ID DESCRIPTION	Sélecteur à position multiple Multiple position selector	 ID DESCRIPTION	Interrupteur de position Normalement fermé Position switch Normally closed	 ID DESCRIPTION	
 ID DESCRIPTION	Bouton champignon d'arrêt d'urgence Mushroom emergency stop button	 ID DESCRIPTION	Contact de minuterie; ferme XX secondes après énérgisation de la bobine Timer contact; closes XX seconds after coil energization	 ID DESCRIPTION	
 ID DESCRIPTION	Lumière indicatrice; A-Ambre/Jaune, B-Bleu, G-Vert, R-Rouge, W-Blanc Pilot light; A-Amber/Yellow, B-Blue, G-Green, R-Red, W-White	 ID DESCRIPTION	Contact de minuterie; ouvre XX secondes après énérgisation de la bobine Timer contact; opens XX seconds after coil energization	 ID DESCRIPTION	
 ID TYPE & AMP	Fusible Fuse	 ID DESCRIPTION	Contact de minuterie; ferme XX secondes après dé-énérgisation de la bobine Timer contact; closes XX seconds after coil de-energization	 ID DESCRIPTION	
 ID TYPE & AMP	Disjoncteur thermique-magnétique Thermal-magnetic breaker	 ID DESCRIPTION	Contact de minuterie; ouvre XX secondes après dé-énérgisation de la bobine Timer contact; opens XX seconds after coil de-energization	 ID DESCRIPTION	
 ID VA	Transformateur Transformer	 ID xxA DESCR.	Interrupteur de courant (beigne) Current switch (donut)	 ID DESCRIPTION	Moteur triphasé 3-phase motor
 ID DESCRIPTION	Solénoïde Solenoid	 ID xxkΩ DESCRIPTION	Thermistance Thermistor	 ID TYPE DESCRIPTION	
 ID HP VOLTAGE FLA	Moteur monophasé 1-phase motor				


Energitech Project # C242634	 Title Légende	Customer: BGIS	Preparation date: 2025-09-04	Revision: 1					
Document #			Prepared by - electrical: FRANK DUCHESNE						
			Prepared by - gas: FRANK DUCHESNE						
Page		Project name: AIRGAS REACTOR UPDATE	Revised by: ANDREW HAZELDEAN						
						1	2025/09/04	As per panel Manufacturing	YB
						0	2025/08/12	For Panel Manufacturing	FD
						No.	Date	Version	By:

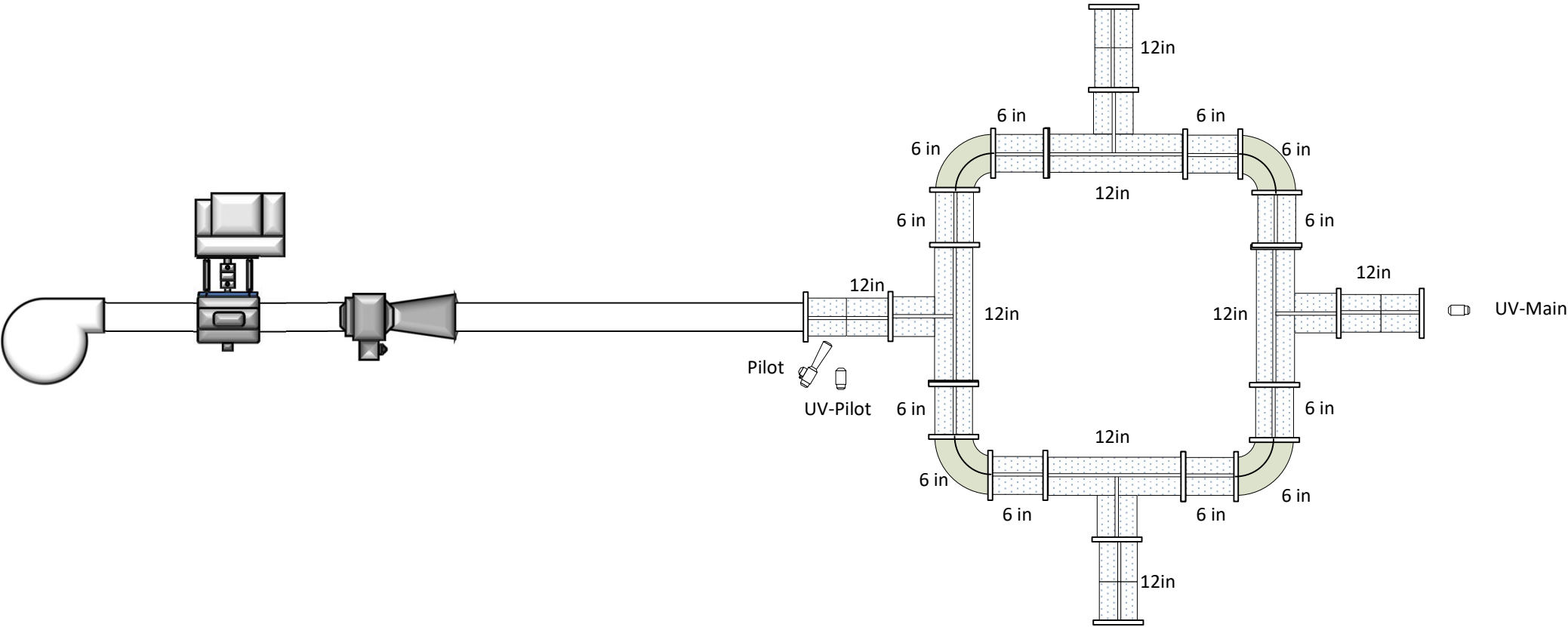



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				Prepared by - gas:	FRANK DUCHESNE							
				Revised by:	ANDREW HAZELDEAN							
Page 1/1	<u>Title</u> PID								1	2025/09/04	As per panel Manufacturing	YB
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									No.	Date	Version	By:

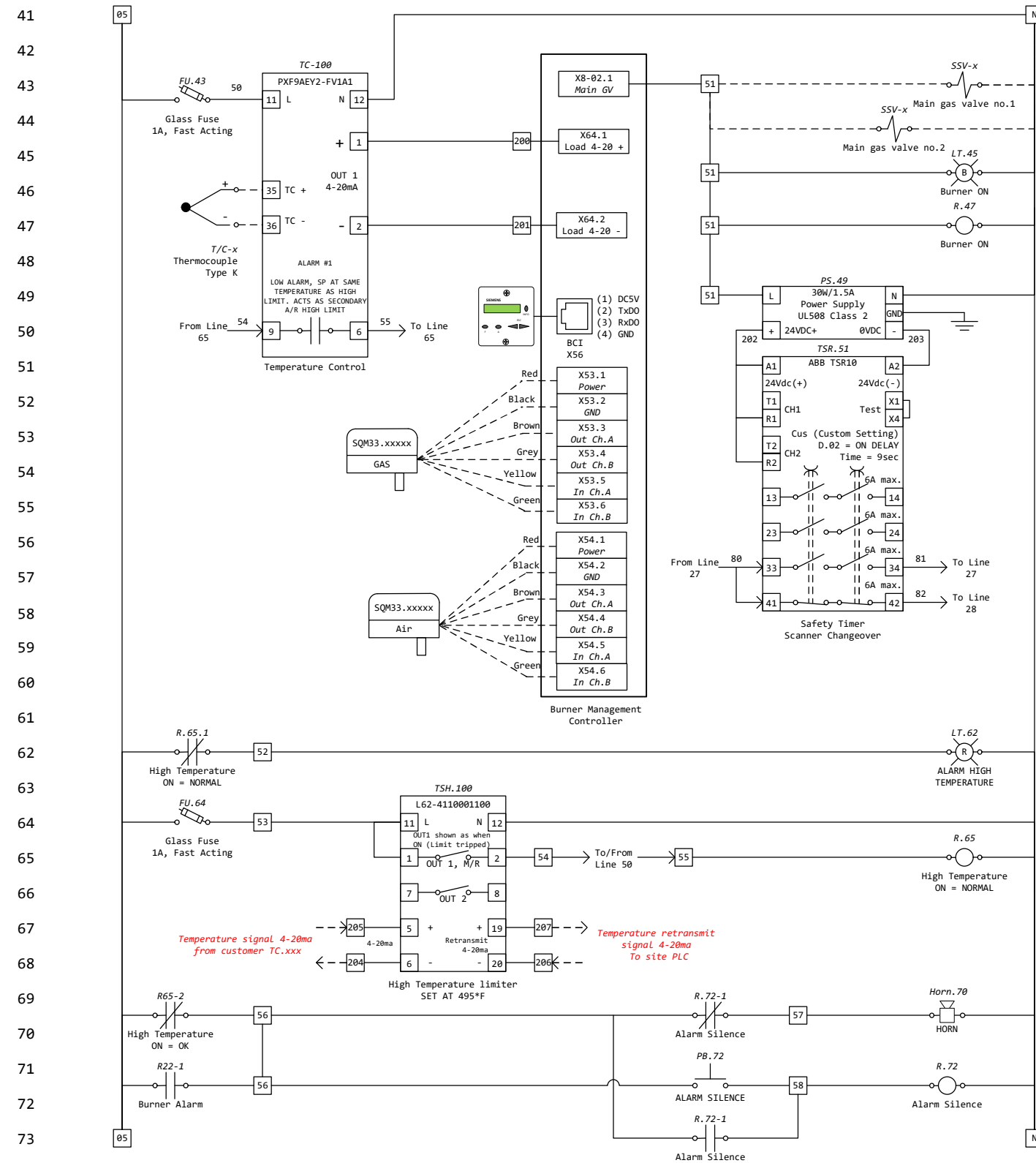
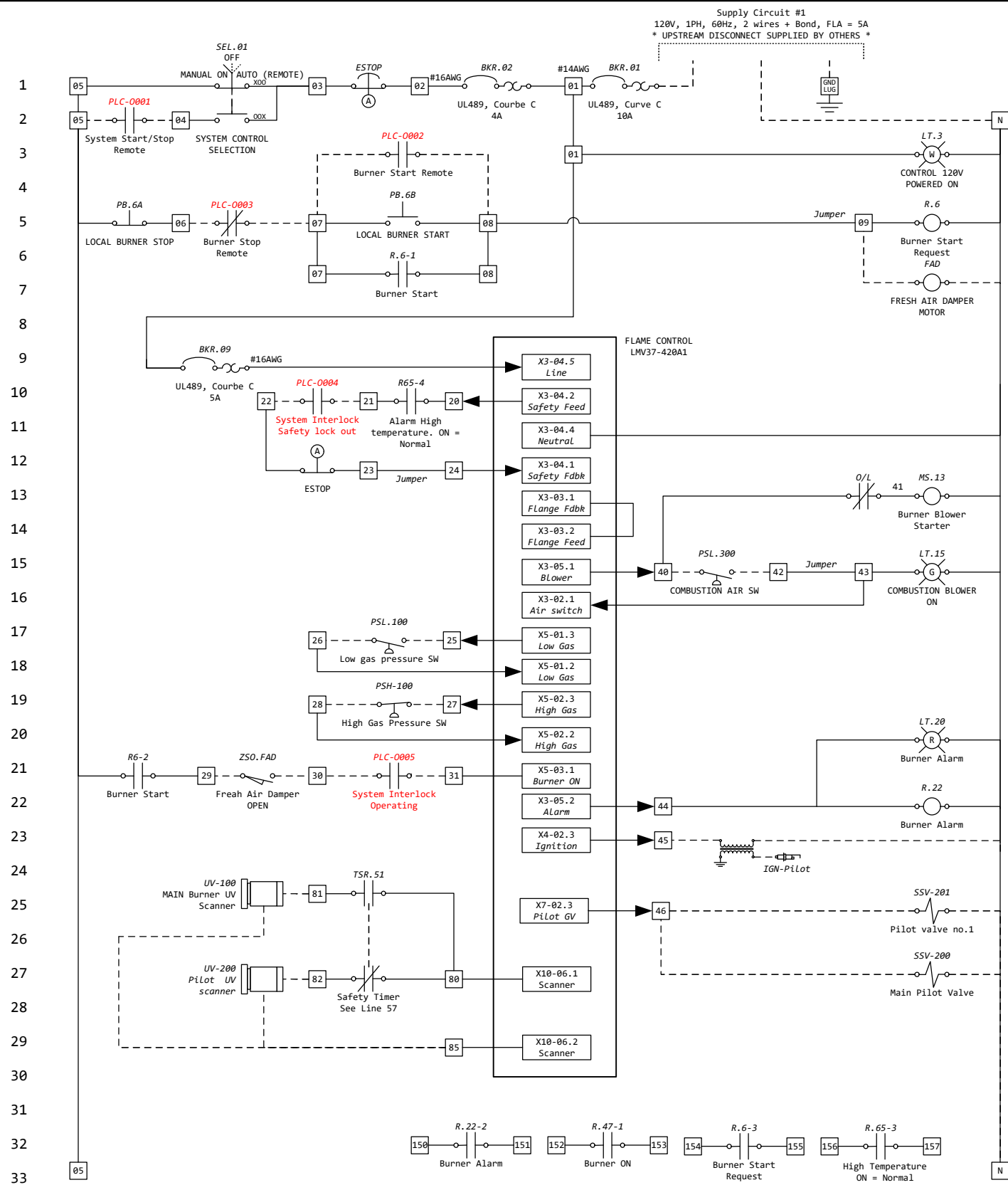
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reference only




Energitech Project # C242634		Customer:	BGIS	Preparation date:	2025-09-04	Revision:	1					
Document # C242634-GAS-01		<u>Title</u> GAS TRAIN	Project name:	AIRGAS REACTOR UPDATE	Prepared by - electrical:	FRANK DUCHESNE						
Page 1/1	Prepared by - gas:				FRANK DUCHESNE							
	Revised by:				ANDREW HAZELDEAN							
									1	2025/09/04	As per panel Manufacturing	YB
									0	2025/08/12	For Panel Manufacturing	FD
									No.	Date	Version	By:



Energitech Project # C242634		Customer:	BGIS	Preparation date:	2025-09-04	Revision:	1					
Document #		Project name:	AIRGAS REACTOR UPDATE	Prepared by - electrical:	FRANK DUCHESNE							
Page 1/1				Prepared by - gas:	FRANK DUCHESNE							
				Revised by:	ANDREW HAZELDEAN							
<u>Title</u> BURNER DIMENSIONS									1	2025/09/04	As per panel Manufacturing	YB
									0	2025/08/12	For Panel Manufacturing	FD
									No.	Date	Version	By:



Energitech Project # C242634		Customer:	BGIS	Preparation date:	2025-09-04	Revision:	1					
Document # C242634-ELE-01		<u>Title</u> ELECTRICAL - 120V Control	Project name:	AIRGAS REACTOR UPDATE	Prepared by - electrical:	FRANK DUCHESNE						
Page 3/3	Prepared by - gas:				FRANK DUCHESNE							
	Revised by:				ANDREW HAZELDEAN							
				1	2025/09/04	As per panel Manufacturing			YB			
				Ø	2025/08/12	For Panel Manufacturing		FD				
				No.	Date	Version		By:				

Supply Circuit #2
600V, 3PH, 60 HZ, 3-Wire + Bond
FLA = 2.89A

FDISC.101

L1

L2

L3

Type J

15A, Time Delay

GND LUG

#14 AWG

MS.13

O/L

#14 AWG

COMBUSTION BLOWER

COMBUSTION BLOWER

3 HP
600V, 3ph
2.89 FLA

Depending on overload relay manufacturer's instructions, adjust dial:
- To motor FLA, or
- According to Section 28 of the Canadian Electrical code (max 1.15x or 1.25x motor FLA)

Parameters associated to retransmit output for the L62 must be adjusted on site according to the site requirements. RETY, RELO et REHI au bon endroit (bon ordre)

General notes for the panel

Panel is not ventilated. Wiring is sized accordingly.

Unless otherwise mentionned, internal panel wiring is AWG #16.

Unless otherwise mentionned, internal panel wiring is TEW 105°C.

Internal panel wiring

External panel component (field) wiring

Panel is to be certified by Energitech according to CSA C22.2 No.286.

Panel and connected field components are to be installed in a general, non-hazardous location.

PXF4/9 Minimal Parameter List

TC-100

Channel	Parameter		Parameter description	Value Programmed by Energitech	Note
	#	Name			
Operatio n control param. (ch0)	9	AL1	Alarm 1Setpoint Value	495	(1)
	10	A1-L	Alarm 1Setpoint Value - High	0	(1)
	11	A1-H	Alarm 1Setpoint Value - Low	1000	(1)
	12	AL2	Alarm 2 Setpoint Value	N/A	
	13	A2-L	Alarm 2 Setpoint Value - High	N/A	
	14	A2-H	Alarm 2 Setpoint Value - Low	N/A	
ch1PID (control param.)	50	P	Proportional band (%)	5%	(1)
	51	I	integration time (sec.)	240 sec	(1)
	52	D	Differential time (sec.)	60.0 sec	(1)
	53	HYS	ON/OFF control hysteresis	N/A	(1)
	58	REV	Control action (normal or reverse)	rv-- (reverse acting)	
ch5 ALM (alarm param.)	470	A1tP	Alarm 1type	2 (Low alarm)	(1)
	471	A1tHY	Alarm 1hysteresis	1	(1)
	472	dLY1	Alarm 1delay	0	(1)
	473	dL1U	Alarm 1delay time unit	sec	(1)
	474	AoP1	Alarm 1option	0000	(1)
	475	A2tP	Alarm 2 type	0 (no alarm)	1
	476	A2HY	Alarm 2 hysteresis	1	(1)
	477	dLY2	Alarm 2 delay	0	(1)
	478	dL2U	Alarm 2 delay time unit	sec	(1)
	479	AoP2	Alarm 2 option	0000	(1)
ch6 SET (setup param.)	530	PVt	PV input type	K4 (TC Type K)	
	531	PVb	PV input lower limit	-328	
	532	PVf	PV input upper limit	2372	
	533	PVd	Decimal point position	1	
	534	Unit	PV Unit	degF	
	536	Pvof	PV input shift	0	(1)
	538	tF	Pv input filter (sec)	1	(1)
	566	RYCB	Upper limit of relay operation	0 (alarm disabled)	
ch7 SYS (system param.)	567	oPtM	Upper limit of operating days	0 (alarm disabled)	
	622	CtRL	Select the control method	Pid (PID control)	

(1): To be adjusted at commissioning according to process needs

L22 / L42 / L62 Parameter List

TSH.100

Sub Menu	Param. Name	Parameter description	Value Programmed by Energitech	Note
UserAccess	HSP1	High limit setpoint 1(OUT1)	475	(1)
	LSP1	Low limit sepoint1(OUT1)	-50	(1)
Setup, Base	INPT	Input sensor selection	4-20mA	
	UNIT	Input unit selection	degF	
	DP	Display decimal point	1	
	INLO	Input low scale value	0	
	INHI	Input high scale value	2000	
	DISP	Normal display format	HSP1	
	Setup, CoMM	ADDR	Modbus RS-485 address #	N/A (Unused)
BAUD		Modbus RS-485 baud Rate	N/A (Unused)	
PARI		Modbus RS-485 parity	N/A (Unused)	
Setup, EI	E1fN	Input1function	N/A	
Setup, ALRM	A1fN	Alarm 1function	None (Unused)	
	A1fMD	Alarm 1operation mode	NORM	
	A1tHY	Output 1hysteresis	0.2	(1)
	A1fT	Alarm 1Fault Behaviour	OFF	
	A1SP	Alarm 1setpoint	N/A (Unused)	(1)
Setup, OUT	OUT1	Output 1function	Hi/LOW	
	O1tHY	Output 1hysteresis	0.2	
	HSP.L	Max allowable value for HSP1	0	
	HSP.H	Min allowable value for HSP1	2000	
	LSP.L	Max allowable value for LSP1	0	
	LSP.H	Min allowable value for LSP1	2000	
	OUT2	Output 2 function	None (Unused)	

(1): To be adjusted at commissioning according to process needs

Note: When using a 4-20mA or 0-10V input, OUT1must be be programmed as a High/Low Limit, with the LSP1programmed at a value corresponding to 3mA, so that OUT1trips on a Sensor Break.

Energitech Project # C242634	<div><div><div></div><div>ProKontrol ENERGITECH</div></div><div><div>Title</div><div>ELECTRICAL - 600V Blower</div></div></div>	Customer:	BGIS	Preparation date:	2025-09-04	Revision:	1					
Document # C242634-ELE-01		Project name:	AIRGAS REACTOR UPDATE	Prepared by - electrical:	FRANK DUCHESNE							
Prepared by - gas:				FRANK DUCHESNE								
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Page 1/3									1	2025/09/04	As per panel Manufacturing	YB
									0	2025/08/12	For Panel Manufacturing	FD
									No.	Date	Version	By: