



CUSTOMER:

Customer Name: ALINVEST

PROJECT:

Project Code: E2558

Project Name: ALFAGEN

DOCUMENT INFORMATION:


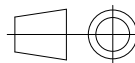
Document Title: Equipment Spider Diagram

Contractor File Name: 2558-3324-TMT-E-DWG-SPD

Contractor Revision Number: A

Customer File Name: -

Customer Revision Number: -

						CONTRACTOR		CONTRACTOR dwg number	Rev. A	Project Code E2558	Project Name ALFAGEN																										
								2558-3324-TMT-E-DWG-SPD		Document Title Equipment Spider Diagram			Scale 1:1																								
A	29/11/2025	INITIAL VERSION			RORI			RORI		RORI	CLIENT			CLIENT dwg number -			Rev. -	DESIGNED: RORI	DRAWN: RORI	APPROVED: RORI	Format A3																
Rev.	Date	Revisions description			Designed	Draw	Approved	DATE: 18/11/2025				DATE: 18/11/2025		DATE: 18/11/2025	Sheet 1 OF x																						
1					2			3						4					5			6			7			8			9			10			11

POWER AND CONTROL PANEL



r46.31-3324-TMT-GEN01-PCP01

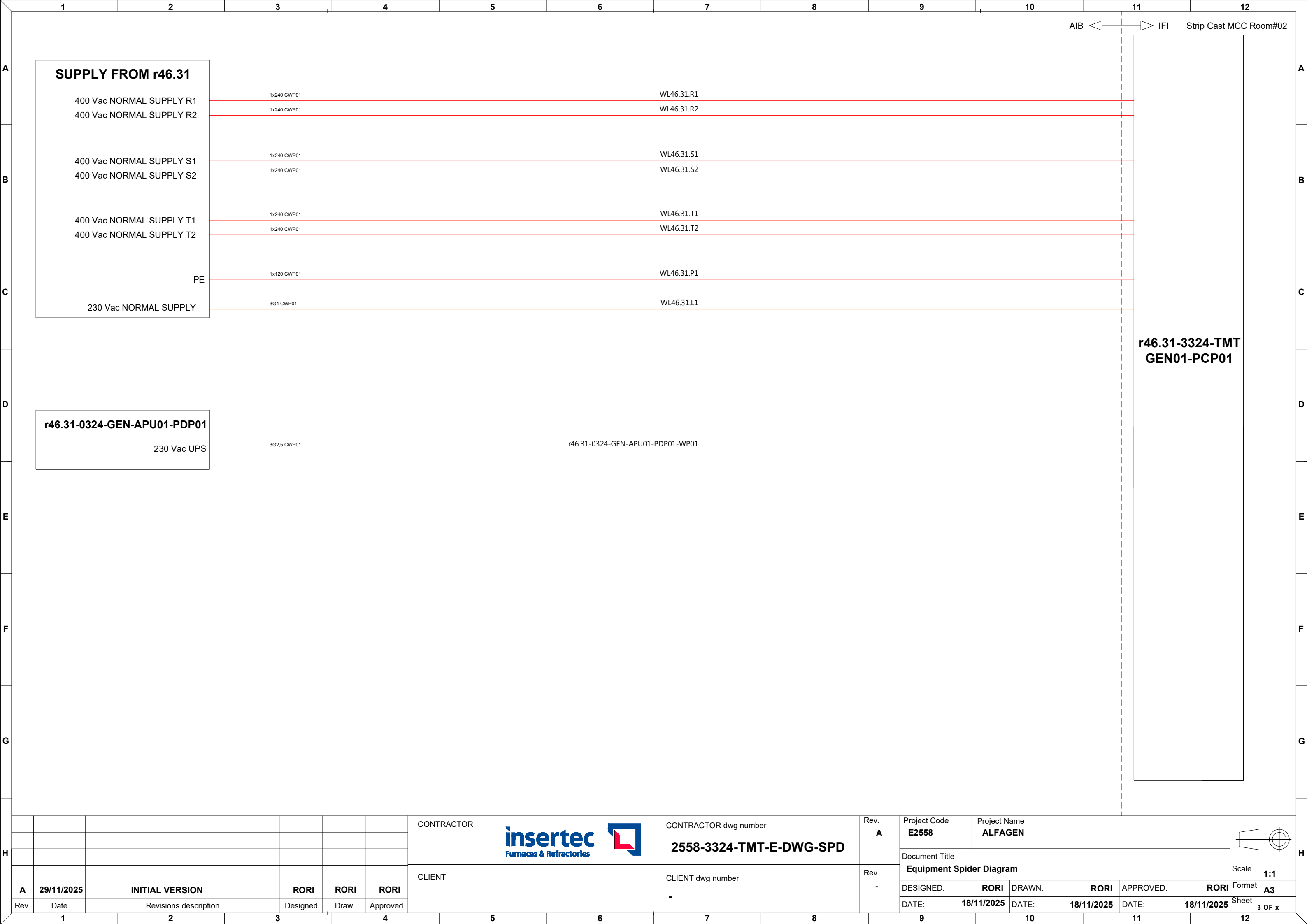
LEGEND

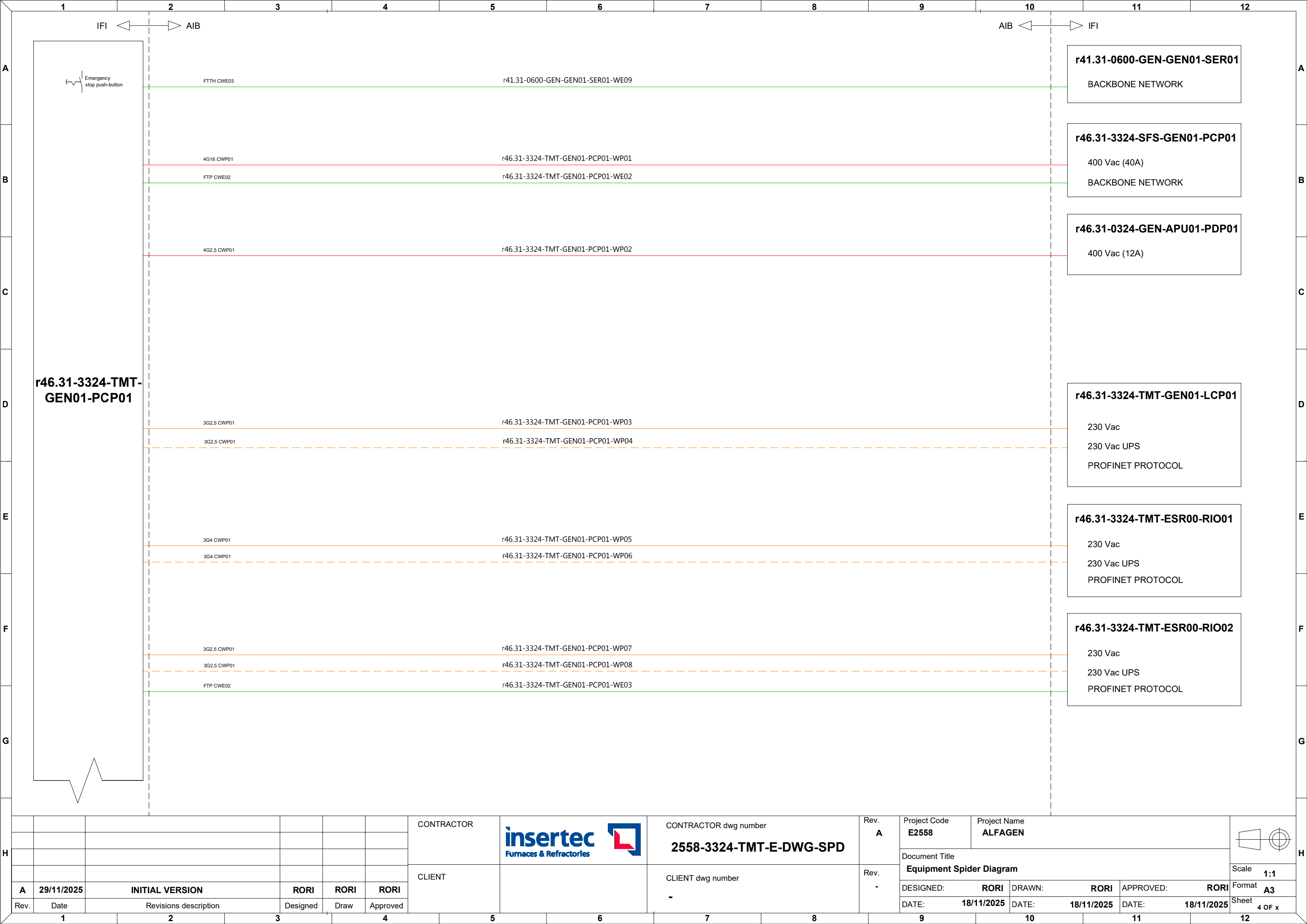
	400Vac Power supply		Regular control signals
	400Vac UPS power supply		Analog & shielded signals
	230Vac Power supply		T/C connection
	230Vac UPS power supply		Communication connection

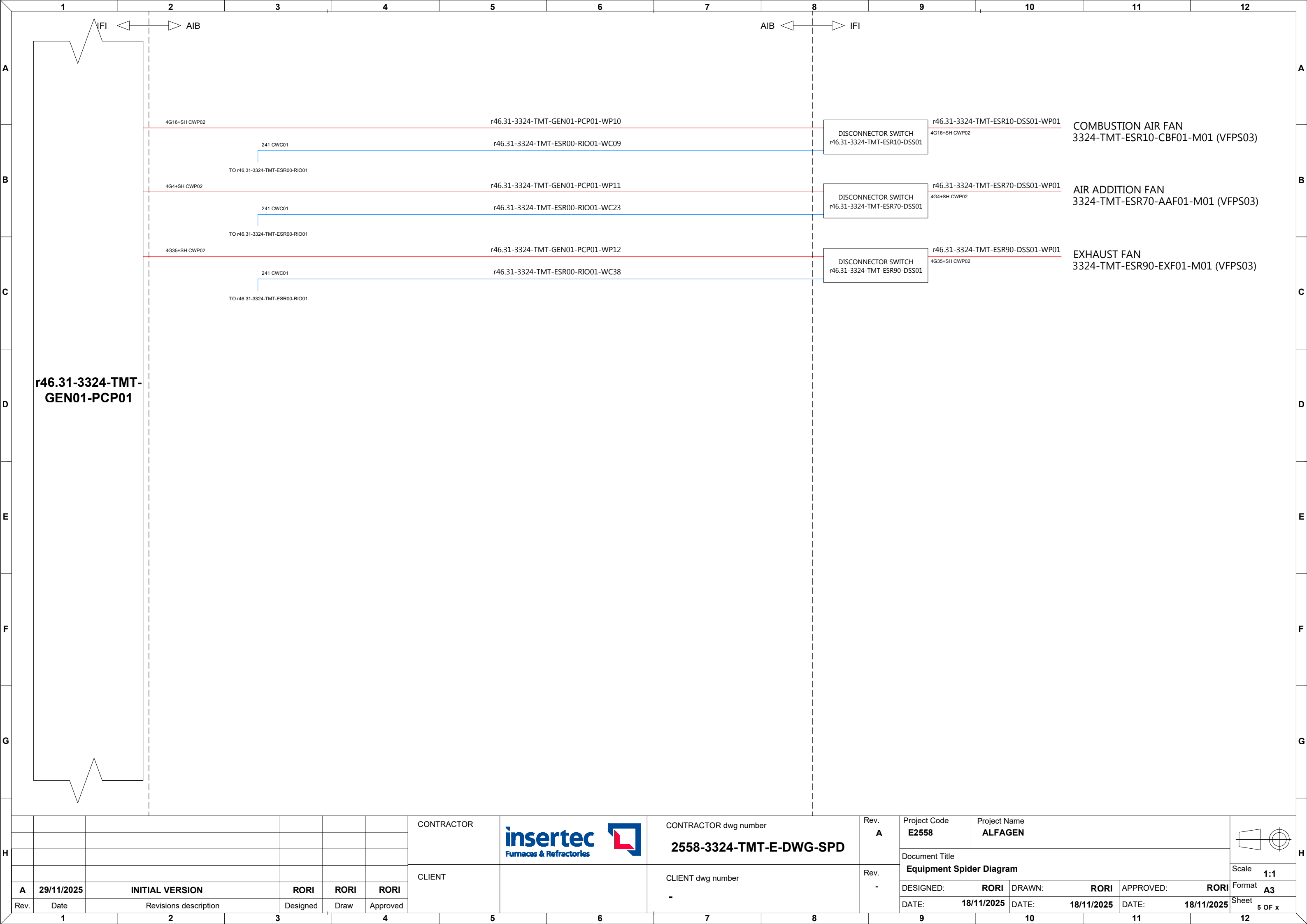
CATEGORY


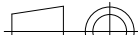
Power cables
CWP01: Regular power cables
CWP02: Shielded power cable
CWP03: Flexible power cables
CWP04: Regular high temperature power cables
CWP05: Shielded high temperature power cables
CWP06: General use power cable
Instrumentation and control cables
CWC01: Regular instrumentation control cables
CWC02: Shielded instrumentation control cables
CWC03: Thermocouple cable
CWC04: Flexible instrumentation control cables
CWC05: High voltage cables for ignition transformers
CWC06: Regular high temperature instrumentation control cables
CWC07: Shielded high temperature instrumentation control cables
Communication cables
CWE01: Fieldbus communication cable (Inside cabinets)
CWE02: Fieldbus communication cable (Outside cabinets)
CWE03: Optic fibre communication cable

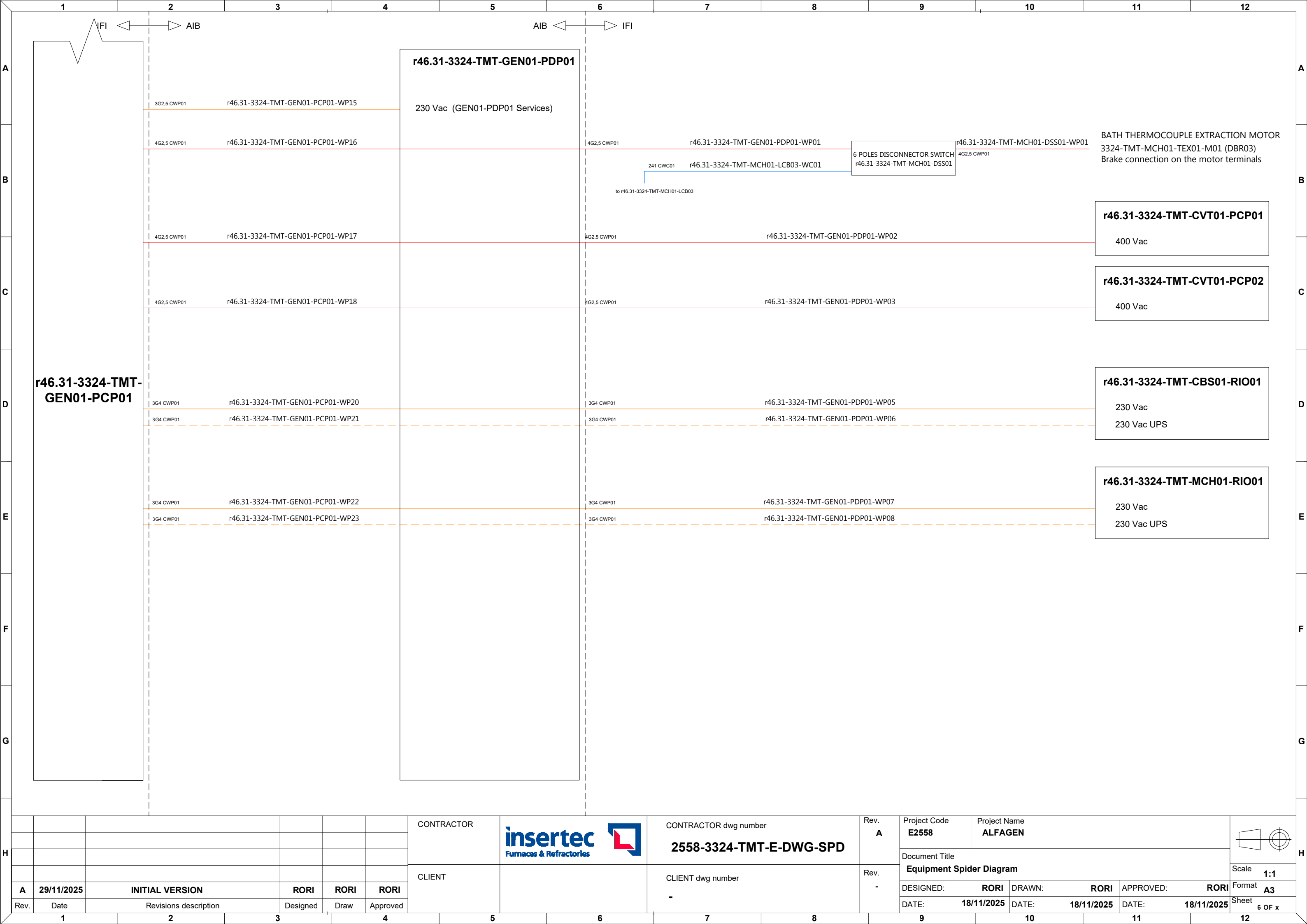
						CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN			
										Document Title Equipment Spider Diagram				
A	29/11/2025	INITIAL VERSION		RORI	RORI	RORI	CLIENT	CLIENT dwg number -	Rev. -	DESIGNED: RORI DRAWN: RORI APPROVED: RORI			Scale 1:1	
Rev.	Date	Revisions description		Designed	Draw	Approved				DATE: 18/11/2025 DATE: 18/11/2025 DATE: 18/11/2025			Format A3	
													Sheet 2 OF x	


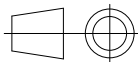






H							CONTRACTOR		CONTRACTOR dwg number	Rev. A	Project Code	Project Name				H								
							CLIENT		CLIENT dwg number	Rev. -	Document Title			Scale										
											Equipment Spider Diagram			1:1										
	A	29/11/2025	INITIAL VERSION			RORI					RORI	RORI			DESIGNED: RORI	DRAWN: RORI	APPROVED: RORI	Format	A3					
Rev.	Date	Revisions description			Designed	Draw	Approved			-					Sheet	5 OF x								
	1		2		3		4		5		6		7		8		9		10		11		12	



						CONTRACTOR		CONTRACTOR dwg number	Rev. A	Project Code E2558	Project Name ALFAGEN			
								2558-3324-TMT-E-DWG-SPD		Document Title Equipment Spider Diagram			Scale 1:1	
A	29/11/2025	INITIAL VERSION		RORI	RORI	RORI		CLIENT dwg number	Rev. -	DESIGNED: RORI	DRAWN: RORI	APPROVED: RORI	Format A3	
Rev.	Date	Revisions description		Designed	Draw	Approved	CLIENT	-		DATE: 18/11/2025	DATE: 18/11/2025	DATE: 18/11/2025	Sheet 6 OF x	
1	2	3	4	5	6	7	8	9	10	11	12			

LOCAL CONTROL PANEL


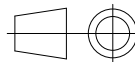
r46.31-3324-TMT-GEN01-LCP01

LEGEND

	400Vac Power supply		Regular control signals
	400Vac UPS power supply		Analog & shielded signals
	230Vac Power supply		T/C connection
	230Vac UPS power supply		Communication connection

CATEGORY

Power cables
CWP01: Regular power cables
CWP02: Shielded power cable
CWP03: Flexible power cables
CWP04: Regular high temperature power cables
CWP05: Shielded high temperature power cables
CWP06: General use power cable
Instrumentation and control cables
CWC01: Regular instrumentation control cables
CWC02: Shielded instrumentation control cables
CWC03: Thermocouple cable
CWC04: Flexible instrumentation control cables
CWC05: High voltage cables for ignition transformers
CWC06: Regular high temperature instrumentation control cables
CWC07: Shielded high temperature instrumentation control cables
Communication cables
CWE01: Fieldbus communication cable (Inside cabinets)
CWE02: Fieldbus communication cable (Outside cabinets)
CWE03: Optic fibre communication cable

						CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN			
										Document Title Equipment Spider Diagram			Scale 1:1	
A	29/11/2025	INITIAL VERSION		RORI	RORI					RORI	DESIGNED: RORI	DRAWN: RORI	APPROVED: RORI	
Rev.	Date	Revisions description		Designed	Draw	Approved	CLIENT	CLIENT dwg number -	Rev. -	DATE: 18/11/2025	DATE: 18/11/2025	DATE: 18/11/2025	Sheet 7 OF x	
1	2	3	4	5	6	7	8	9	10	11	12			

ENERGY SOURCE REMOTE IO


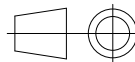
r46.31-3324-TMT-ESR00-RIO01

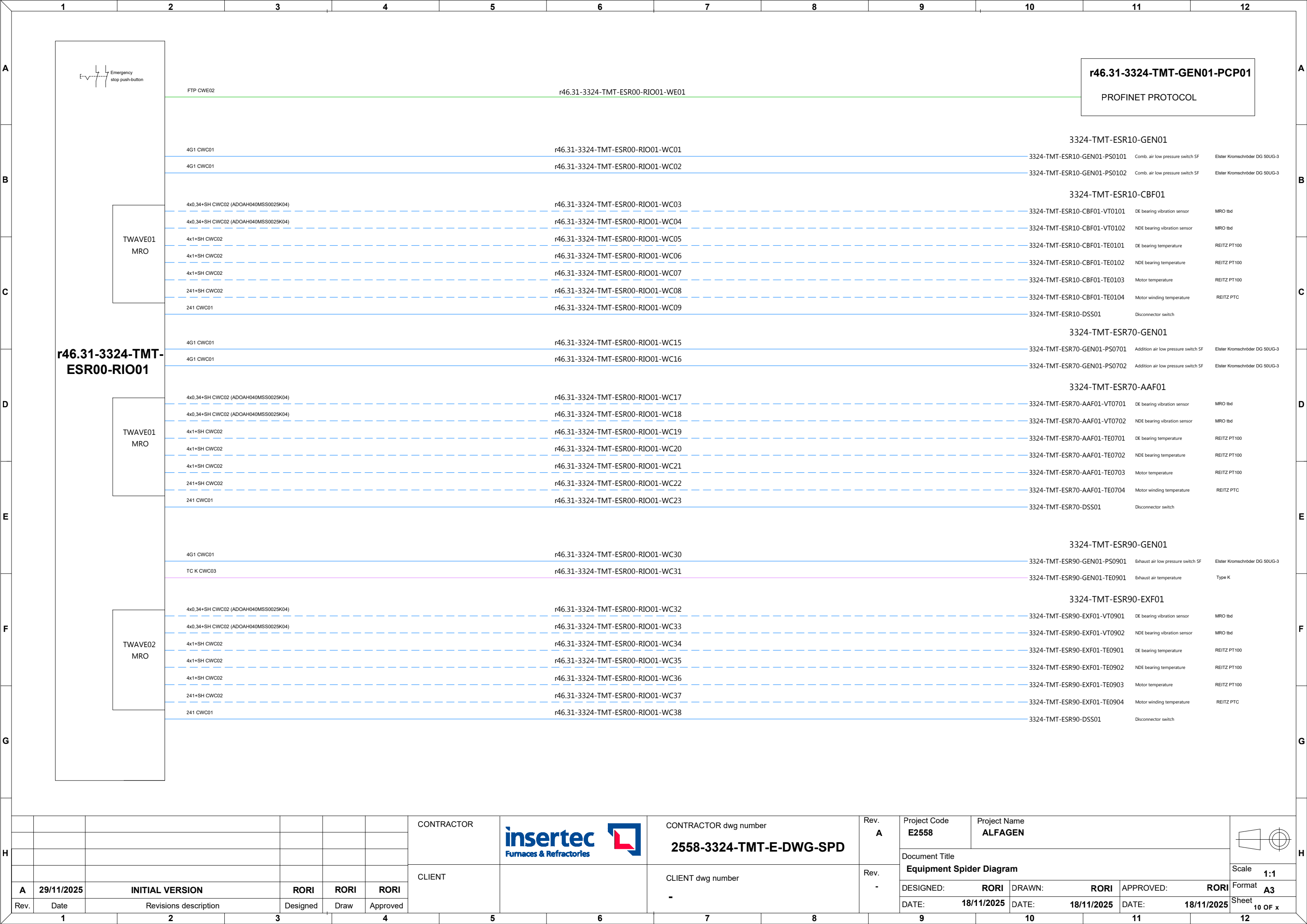
LEGEND

	400Vac Power supply		Regular control signals
	400Vac UPS power supply		Analog & shielded signals
	230Vac Power supply		T/C connection
	230Vac UPS power supply		Communication connection

CATEGORY

Power cables
CWP01: Regular power cables
CWP02: Shielded power cable
CWP03: Flexible power cables
CWP04: Regular high temperature power cables
CWP05: Shielded high temperature power cables
CWP06: General use power cable
Instrumentation and control cables
CWC01: Regular instrumentation control cables
CWC02: Shielded instrumentation control cables
CWC03: Thermocouple cable
CWC04: Flexible instrumentation control cables
CWC05: High voltage cables for ignition transformers
CWC06: Regular high temperature instrumentation control cables
CWC07: Shielded high temperature instrumentation control cables
Communication cables
CWE01: Fieldbus communication cable (Inside cabinets)
CWE02: Fieldbus communication cable (Outside cabinets)
CWE03: Optic fibre communication cable

						CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN					
										Document Title Equipment Spider Diagram						
A	29/11/2025	INITIAL VERSION		RORI	RORI	RORI	CLIENT		CLIENT dwg number -	Rev. -	DESIGNED: RORI DRAWN: RORI APPROVED: RORI				Scale 1:1	
Rev.	Date	Revisions description		Designed	Draw	Approved					DATE: 18/11/2025 DATE: 18/11/2025 DATE: 18/11/2025				Format A3	
															Sheet 9 OF x	



ENERGY SOURCE REMOTE IO


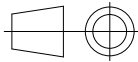
r46.31-3324-TMT-ESR00-RIO02

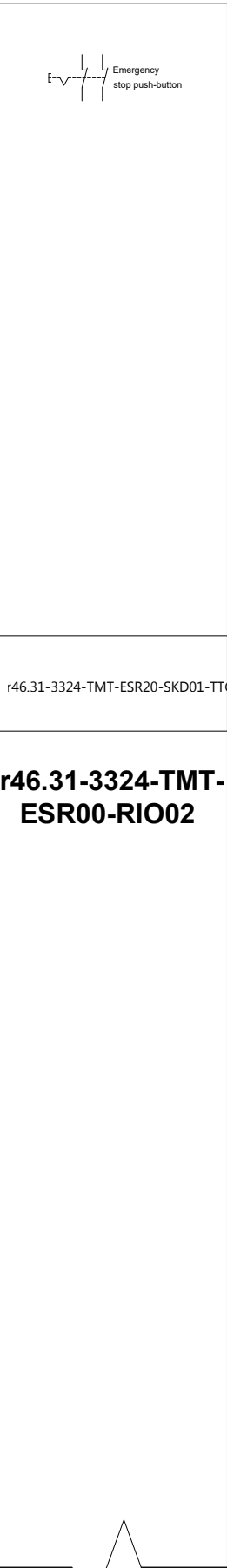
LEGEND



	400Vac Power supply		Regular control signals
	400Vac UPS power supply		Analog & shielded signals
	230Vac Power supply		T/C connection
	230Vac UPS power supply		Communication connection

CATEGORY

Power cables
CWP01: Regular power cables
CWP02: Shielded power cable
CWP03: Flexible power cables
CWP04: Regular high temperature power cables
CWP05: Shielded high temperature power cables
CWP06: General use power cable
Instrumentation and control cables
CWC01: Regular instrumentation control cables
CWC02: Shielded instrumentation control cables
CWC03: Thermocouple cable
CWC04: Flexible instrumentation control cables
CWC05: High voltage cables for ignition transformers
CWC06: Regular high temperature instrumentation control cables
CWC07: Shielded high temperature instrumentation control cables
Communication cables
CWE01: Fieldbus communication cable (Inside cabinets)
CWE02: Fieldbus communication cable (Outside cabinets)
CWE03: Optic fibre communication cable

						CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN			
										Document Title Equipment Spider Diagram			Scale 1:1	
A	29/11/2025	INITIAL VERSION		RORI	RORI			CLIENT dwg number -	Rev. -	DESIGNED: RORI	DRAWN: RORI	APPROVED: RORI	Format A3	
Rev.	Date	Revisions description		Designed	Draw	Approved				DATE: 18/11/2025	DATE: 18/11/2025	DATE: 18/11/2025	Sheet 11 OF x	
1	2	3	4	5	6	7	8	9	10	11	12			



H							CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN				H							
												Document Title					Scale 1:1						
												Equipment Spider Diagram											
							CLIENT		CLIENT dwg number -	Rev. -	DESIGNED: RORI		DRAWN: RORI		APPROVED: RORI		Format A3						
	A	29/11/2025	INITIAL VERSION			RORI					RORI	RORI	DATE: 18/11/2025		DATE: 18/11/2025		DATE: 18/11/2025		Sheet 12 OF x				
Rev.	Date	Revisions description			Designed	Draw	Approved																
1		2		3		4		5		6		7		8		9		10		11		12	

[illegible]

COMBUSTION SYSTEM REMOTE IO


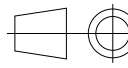
r46.31-3324-TMT-CBS01-RIO01

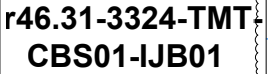
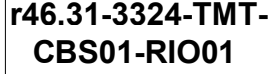
LEGEND


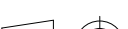
- 400Vac Power supply
- 400Vac UPS power supply
- 230Vac Power supply
- 230Vac UPS power supply
- Regular control signals
- Analog & shielded signals
- T/C connection
- Communication connection

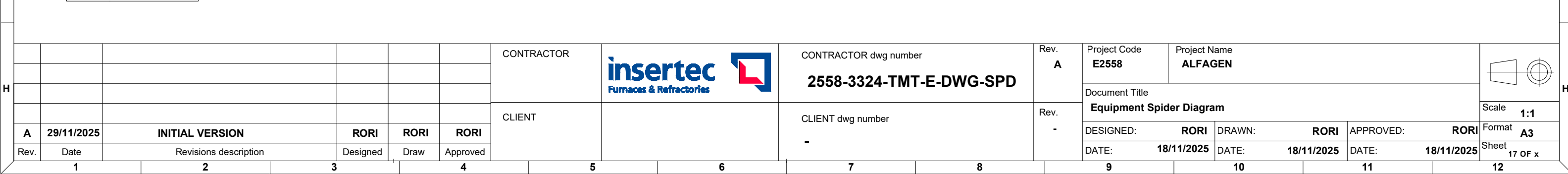
CATEGORY

- Power cables
- CWP01: Regular power cables
- CWP02: Shielded power cable
- CWP03: Flexible power cables
- CWP04: Regular high temperature power cables
- CWP05: Shielded high temperature power cables
- CWP06: General use power cable
- Instrumentation and control cables
- CWC01: Regular instrumentation control cables
- CWC02: Shielded instrumentation control cables
- CWC03: Thermocouple cable
- CWC04: Flexible instrumentation control cables
- CWC05: High voltage cables for ignition transformers
- CWC06: Regular high temperature instrumentation control cables
- CWC07: Shielded high temperature instrumentation control cables
- Communication cables
- CWE01: Fieldbus communication cable (Inside cabinets)
- CWE02: Fieldbus communication cable (Outside cabinets)
- CWE03: Optic fibre communication cable

						CONTRACTOR		CONTRACTOR dwg number	2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code	Project Name											
											E2558	ALFAGEN											
											Document Title				Equipment Spider Diagram		Scale						
										1:1													
A	29/11/2025	INITIAL VERSION			RORI	RORI	RORI					Format											
Rev.	Date	Revisions description			Designed	Draw	Approved	CLIENT		CLIENT dwg number	-	Rev. -	DESIGNED:	RORI	DRAWN:		RORI	APPROVED:	RORI	Sheet			
																							14 OF x



H							CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN				H
												Document Title Equipment Spider Diagram				
							CLIENT		CLIENT dwg number -	Rev. -	DESIGNED: RORI DRAWN: RORI APPROVED: RORI			Format A3		
	A	29/11/2025	INITIAL VERSION		RORI	RORI					RORI	DATE: 18/11/2025	DATE: 18/11/2025	DATE: 18/11/2025	Sheet 16 OF x	
	Rev.	Date	Revisions description		Designed	Draw					Approved					
	1	2	3	4	5	6	7	8	9	10	11	12				



MELTING CHAMBER REMOTE IO


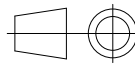
r46.31-3324-TMT-MCH01-RIO01

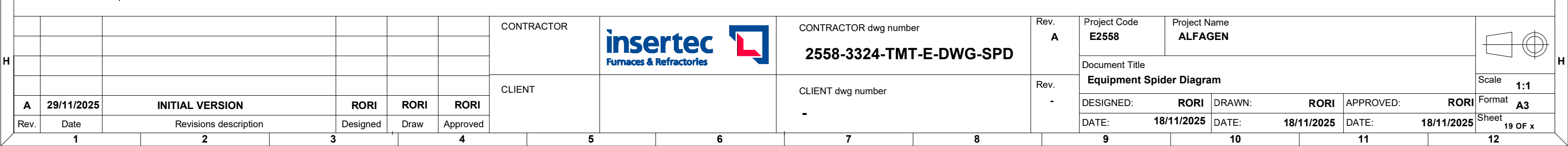
LEGEND

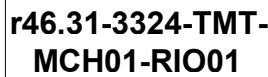
	400Vac Power supply		Regular control signals
	400Vac UPS power supply		Analog & shielded signals
	230Vac Power supply		T/C connection
	230Vac UPS power supply		Communication connection

CATEGORY

Power cables
CWP01: Regular power cables
CWP02: Shielded power cable
CWP03: Flexible power cables
CWP04: Regular high temperature power cables
CWP05: Shielded high temperature power cables
CWP06: General use power cable
Instrumentation and control cables
CWC01: Regular instrumentation control cables
CWC02: Shielded instrumentation control cables
CWC03: Thermocouple cable
CWC04: Flexible instrumentation control cables
CWC05: High voltage cables for ignition transformers
CWC06: Regular high temperature instrumentation control cables
CWC07: Shielded high temperature instrumentation control cables
Communication cables
CWE01: Fieldbus communication cable (Inside cabinets)
CWE02: Fieldbus communication cable (Outside cabinets)
CWE03: Optic fibre communication cable

						CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN					
										Document Title Equipment Spider Diagram						
A	29/11/2025	INITIAL VERSION		RORI	RORI	RORI	CLIENT		CLIENT dwg number -	Rev. -	DESIGNED: RORI DRAWN: RORI APPROVED: RORI				Scale 1:1	
Rev.	Date	Revisions description		Designed	Draw	Approved					Format A3					
											DATE: 18/11/2025 DATE: 18/11/2025 DATE: 18/11/2025	Sheet 18 OF x				





insertec
Furnaces & Refractories

CVS POWER AND CONTROL PANEL


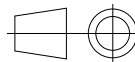
r46.31-3324-TMT-CVT01-PCP01

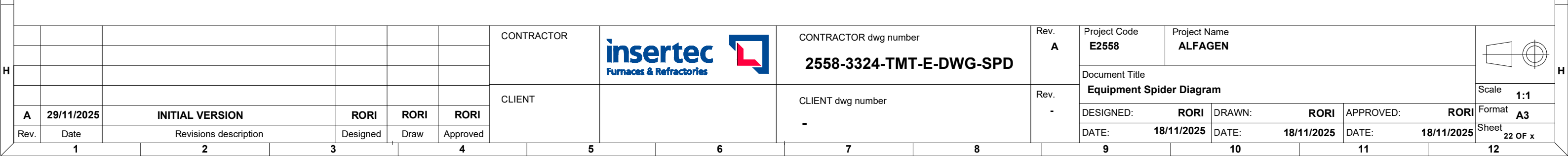
LEGEND

	400Vac Power supply		Regular control signals
	400Vac UPS power supply		Analog & shielded signals
	230Vac Power supply		T/C connection
	230Vac UPS power supply		Communication connection

CATEGORY

Power cables
CWP01: Regular power cables
CWP02: Shielded power cable
CWP03: Flexible power cables
CWP04: Regular high temperature power cables
CWP05: Shielded high temperature power cables
CWP06: General use power cable
Instrumentation and control cables
CWC01: Regular instrumentation control cables
CWC02: Shielded instrumentation control cables
CWC03: Thermocouple cable
CWC04: Flexible instrumentation control cables
CWC05: High voltage cables for ignition transformers
CWC06: Regular high temperature instrumentation control cables
CWC07: Shielded high temperature instrumentation control cables
Communication cables
CWE01: Fieldbus communication cable (Inside cabinets)
CWE02: Fieldbus communication cable (Outside cabinets)
CWE03: Optic fibre communication cable









						CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN					
										Document Title Equipment Spider Diagram						
A	29/11/2025	INITIAL VERSION		RORI	RORI	RORI	CLIENT		CLIENT dwg number -	Rev. -	DESIGNED: RORI DRAWN: RORI APPROVED: RORI				Scale 1:1	
Rev.	Date	Revisions description		Designed	Draw	Approved					DATE: 18/11/2025 DATE: 18/11/2025 DATE: 18/11/2025				Format A3	
															Sheet 21 OF x	



CVS POWER AND CONTROL PANEL


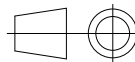
r46.31-3324-TMT-CVT01-PCP02

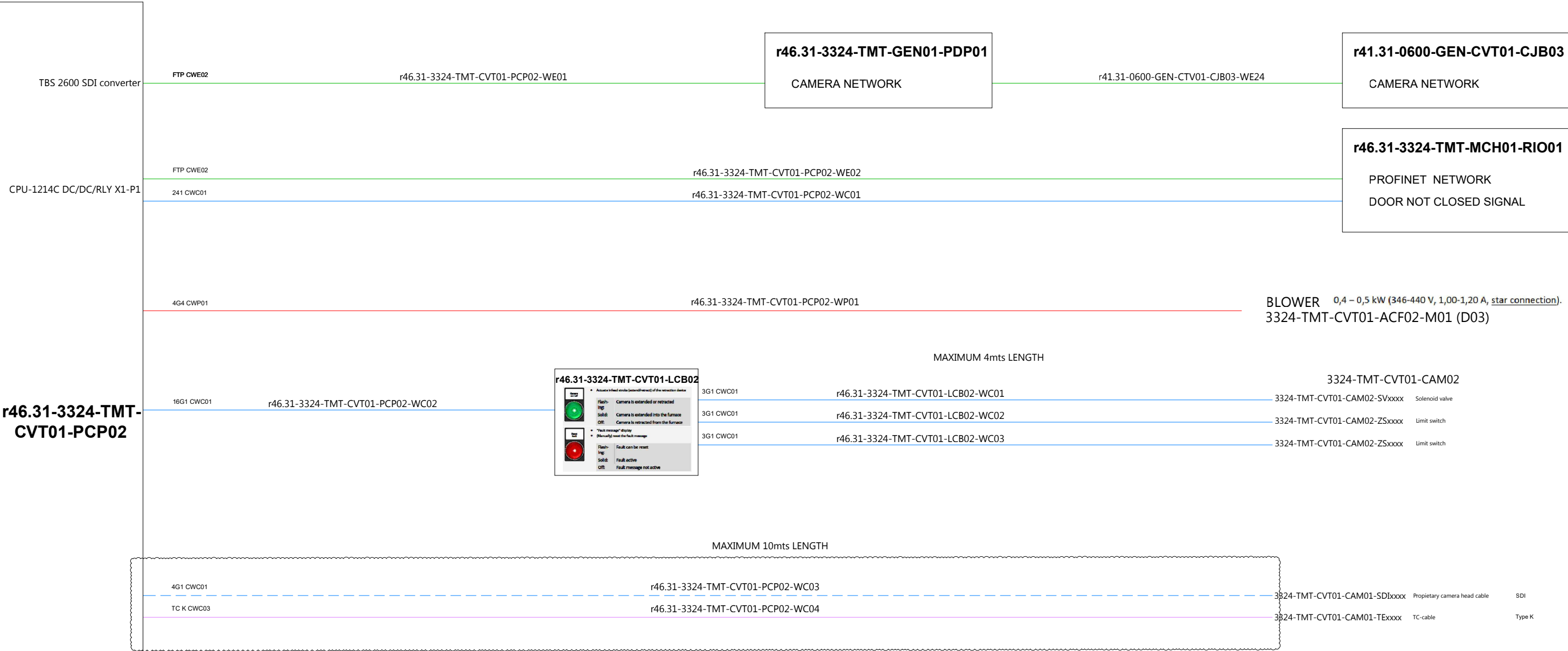
LEGEND

	400Vac Power supply		Regular control signals
	400Vac UPS power supply		Analog & shielded signals
	230Vac Power supply		T/C connection
	230Vac UPS power supply		Communication connection

CATEGORY



Power cables
CWP01: Regular power cables
CWP02: Shielded power cable
CWP03: Flexible power cables
CWP04: Regular high temperature power cables
CWP05: Shielded high temperature power cables
CWP06: General use power cable
Instrumentation and control cables
CWC01: Regular instrumentation control cables
CWC02: Shielded instrumentation control cables
CWC03: Thermocouple cable
CWC04: Flexible instrumentation control cables
CWC05: High voltage cables for ignition transformers
CWC06: Regular high temperature instrumentation control cables
CWC07: Shielded high temperature instrumentation control cables
Communication cables
CWE01: Fieldbus communication cable (Inside cabinets)
CWE02: Fieldbus communication cable (Outside cabinets)
CWE03: Optic fibre communication cable

						CONTRACTOR		CONTRACTOR dwg number 2558-3324-TMT-E-DWG-SPD	Rev. A	Project Code E2558	Project Name ALFAGEN			
										Document Title Equipment Spider Diagram			Scale 1:1	
A	29/11/2025	INITIAL VERSION		RORI	RORI					RORI	DESIGNED: RORI	DRAWN: RORI	APPROVED: RORI	
Rev.	Date	Revisions description		Designed	Draw	Approved	CLIENT	CLIENT dwg number -	Rev. -	DATE: 18/11/2025	DATE: 18/11/2025	DATE: 18/11/2025	Sheet 23 OF x	
1	2	3	4	5	6	7	8	9	10	11	12			



Legend:

- Flash:** Camera is extended or retracted
- Flg:** Camera is extended into the furnace
- Solid:** Camera is extended into the furnace
- Off:** Camera is retracted from the furnace
- Flash:** Switching on side channel compressor
- Flg:** Side channel compressor switched on
- Solid:** Side channel compressor switched on
- Off:** Side channel compressor switched off
- Flash:** Fault can be reset
- Flg:** Fault active
- Solid:** Fault active
- Off:** Fault message not active
- Flash:** Fault can be reset
- Flg:** Fault active
- Solid:** Fault active
- Off:** Fault message not active

						CONTRACTOR		CONTRACTOR dwg number	Rev. A	Project Code E2558	Project Name ALFAGEN				
								2558-3324-TMT-E-DWG-SPD		Document Title					
										Equipment Spider Diagram					Scale 1:1
A	29/11/2025	INITIAL VERSION			RORI	RORI	RORI	CLIENT		CLIENT dwg number -	Rev. -	DESIGNED: RORI	DRAWN: RORI	APPROVED: RORI	Format A3
Rev.	Date	Revisions description			Designed	Draw	Approved					DATE: 18/11/2025	DATE: 18/11/2025	DATE: 18/11/2025	Sheet 24 OF x