



WELDING CHAMBER HABITAT

Automatic Gas Detection System

Kementerian
Perindustrian
REPUBLIK INDONESIA

TKDN
TINGKAT KOMPONEN DALAM NEGERI

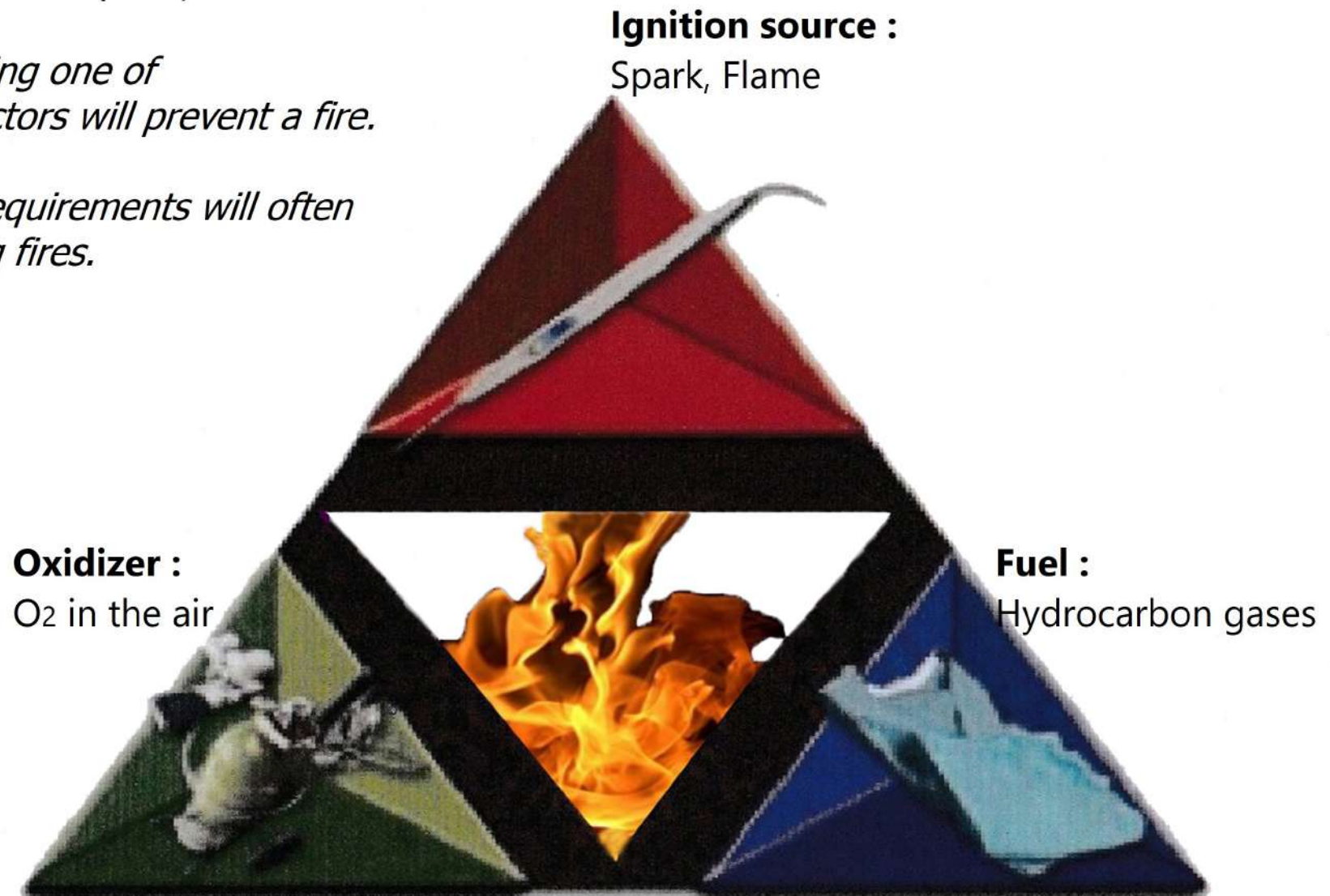




Combustion Fire Triangle

A Fire Triangle is a well known educational tool for understanding and preventing fires

- ▶ *If the fire triangle is complete, a fire will occur.*
- ▶ *Therefore, preventing one of the situational factors will prevent a fire.*
- ▶ *In many cases, requirements will often regard preventing fires.*





Combustion Control



Operational Controls

- Permit to work system
- Facility gas detection systems

Welding Chamber Controls

- ★ Habitat integrity
- ★ Manometer
- ★ Automatic gas detection and shutdown unit
- ★ Personal gas detectors





What we offer

HABITURA PRIMA NAWASENA offers clients a **pressurized welding chamber** or **welding habitat** as a common platform solution that allows **Hot Work** to be conducted on a hydrocarbon live facility. This will result in safer, more efficient, and more cost-effective alternatives to current industry practices.

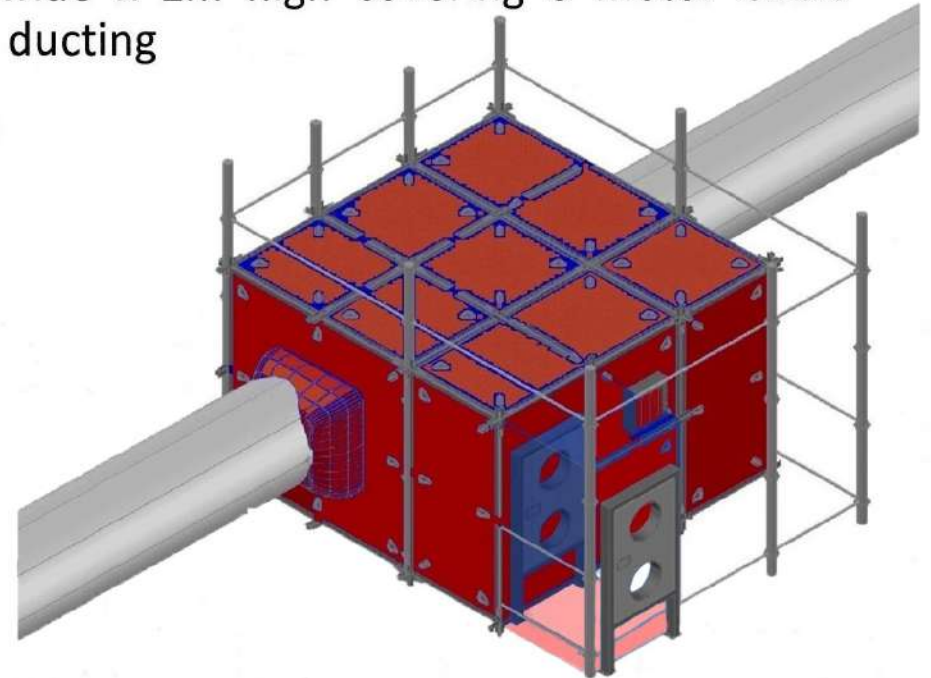
HABITURA PRIMA NAWASENA can offer following services for Oil and Gas Industry :

- Short or Long-term rental of pressurized welding chamber habitats for use offshore or onshore;
- Supply fully trained pressurized welding chamber habitats offshore personnel;
- Alternatively, we can customized training programs to support your personnel, ensuring the competency and efficiency of your pressurized welding chamber requirements;



Welding Chamber Habitat

- Designed for use in potentially explosive atmospheres - Zones 1 & 2
- Modular design – zips together forming many sizes and shapes
- Positively pressurised using an pneumatic driven fan
- No power or hand tools to assemble the pressurized Welding Chamber
- All the component parts are lightweight
- The basic standard kit is 2m long x 2m wide x 2m high covering 8 meter Cubic comprising of ten panels a pneumatic fan & ducting
- Gas detection and shutdown unit (optional)





Welding Chamber Habitat Certified

- Modular zip-fit panel design which can be customised and adapted to fit around pipes and other penetrations where the challenge is to create a safe module in hazardous area
- The simplicity and speed of installation
- **Domestic Component Level (TKDN) certified Welding Chamber Unit (WCU) in according with government business requirements**
- Fire proof panels, Testing Certificate by SUCOFINDO Lab. (Burning Test Method BS476 Part 7 and Tensile Test Method ASTM D638) and Field Testing (Burning Test & Grindstone Test)





Welding Chamber Habitat Pressure Table

Habitat Size LxWxH	Habitat Volume m ³	Fan Flow Rate (m ³ /sec)	Time for one change		Air change rate	
			In seconds	In minutes	per minute	per hour
1x1x2	2	0.75	2.67	0.04	22.50	1350.00
1x2x2	4	0.75	5.33	0.09	11.25	675.00
3x1x2	6	0.75	8.00	0.13	7.50	450.00
2x2x2	8	0.75	10.67	0.18	5.63	337.50
3x2x2	12	0.75	16.00	0.27	3.75	225.00
2x4x2	16	0.75	21.33	0.36	2.81	168.75
3x3x2	18	0.75	24.00	0.40	2.50	150.00
2x5x2	20	0.75	26.67	0.44	2.25	135.00
3x4x2	24	0.75	32.00	0.53	1.88	112.50
3x5x2	30	0.75	40.00	0.67	1.50	90.00
4x4x2	32	0.75	42.67	0.71	1.41	84.38
4x5x2	40	0.75	53.33	0.89	1.13	67.50

Note: Rates may vary depending on length of air in-take and out-take hoses.



Typically Used

Pressurized Welding Chamber System is typically used for..:



-  Installation and tie-in of new pipe work for Brownfield Development and Campaigns
-  Installation of new structural supports and skids for platform / plant upgrades
-  Repair of critical plant and equipment, cable splicing and housing non-EX equipment
-  Repair of Process Vessels where internal entry is required



Welding Chamber Habitat Features

- ✓ **Speed of Installation** > 1 person can install a small Habitat and installed in under 1 working shift.
- ✓ **Multiple Deployment** > can be dismantled and re-erected as the work progresses.
- ✓ **Waste Management** > eliminates the waste disposal of scrap materials. The materials are re-usable
- ✓ **Cost Benefit** > cost savings and minimize plant S/D duration
- ✓ **Design Features** > panels are fire proof, interchangeable and can accommodate more than one task



Welding Chamber Habitat Benefit

- ✓ Pressurized Welding Chamber Systems offer a cost-effective solution that increases efficiency and provides numerous HSE benefits
- ✓ This addresses the challenge of creating a safe workplace wherever HOT WORK in hazardous areas is performed





Automatic Shutdown System

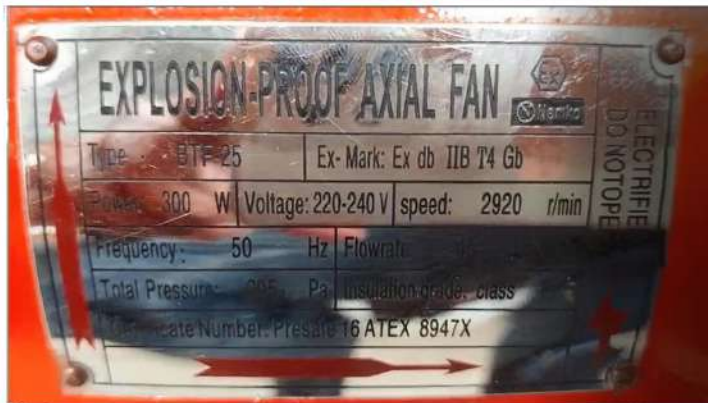
Evolved and Innovated Gas Detection Unit

- ✓ **Integrated Mobile Gas Detection**
- ✓ **Automatic shutdown independently of planned shutdown**
- ✓ **Remote gas sensors set at 5% LEL Methane and H₂S**



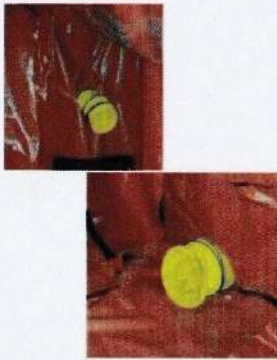


Certified Axial Fan





Components

				
Panel 1x1 Fireproof	Panel Zipper 1x1 Fireproof	Blower Panel Fireproof	Window Panel	Hanger
				
Aluminium Door 2x1	Emergency Door 2x1	Inlet Blower Electric and Pneumatic	Outlet Blower Electric and Pneumatic	Spiral Hose

Note: Pictures and components are subject to change for improvement without notice



Accessories



Fire Blanket



Gas Detector



Press. Manometer



Rubber Silicon



Hand Gloves



Velcro



Sticky Back Velcro



FR Duct Tape



Rope & Wire



Tools box & G
Clamp 4"

Note: Pictures and components are subject to change for improvement without notice



Project References List

No.	END USER/CUSTOMER	PROJECT	KINDS OF PRODUCTS ARE SUPPLIED
1	MEDCO E&P NATUNA LTD (ex COPI)	ISOLATION HOT WORK (HAZARDOUS AREA)	WELDING CHAMBER UNIT (HABITAT)
		STRUCTURE STEEL	SMOKING SHELTER
		PIPE LINE	PIPE FITTINGS & VALVE CS/SS316, PVC & CPVC
		MAN POWER	TECHNICIAN HABITAT & SPV.PIPING
2	PREMIER OIL	ISOLATION HOT WORK (HAZARDOUS AREA)	WELDING CHAMBER UNIT (HABITAT) & ACCESSORIES
3	MELU BANGUN WIWEKA	ISOLATION HOT WORK (HAZARDOUS AREA)	WELDING CHAMBER UNIT (HABITAT) & ACCESSORIES
4	PETRA ENERGY INTERNATIONAL	ISOLATION HOT WORK (HAZARDOUS AREA)	WELDING CHAMBER UNIT (HABITAT) & ACCESSORIES
5	ARMADA GEMA NUSANTARA (HCML)	ISOLATION HOT WORK (HAZARDOUS AREA)	WELDING CHAMBER UNIT (HABITAT) & ACCESSORIES
		MAN POWER	TECHNICIAN HABITAT

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