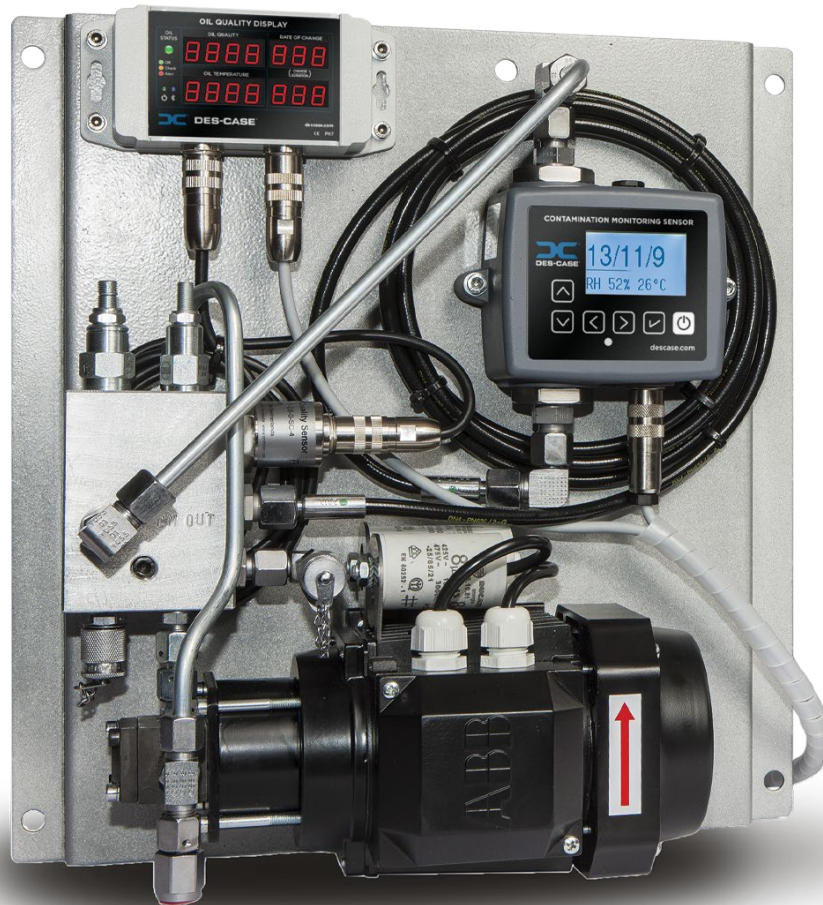


CONDITION MONITORING

Condition Monitoring Center

The Condition Monitoring Center (CMC) combines technology to enable sampling on low pressure hydraulic and lubrication systems where aeration can be an issue. The CMC suppresses the air bubbles so they are no longer counted as particles. It also allows for continuous particle monitoring on systems where no oil pressure is evident.





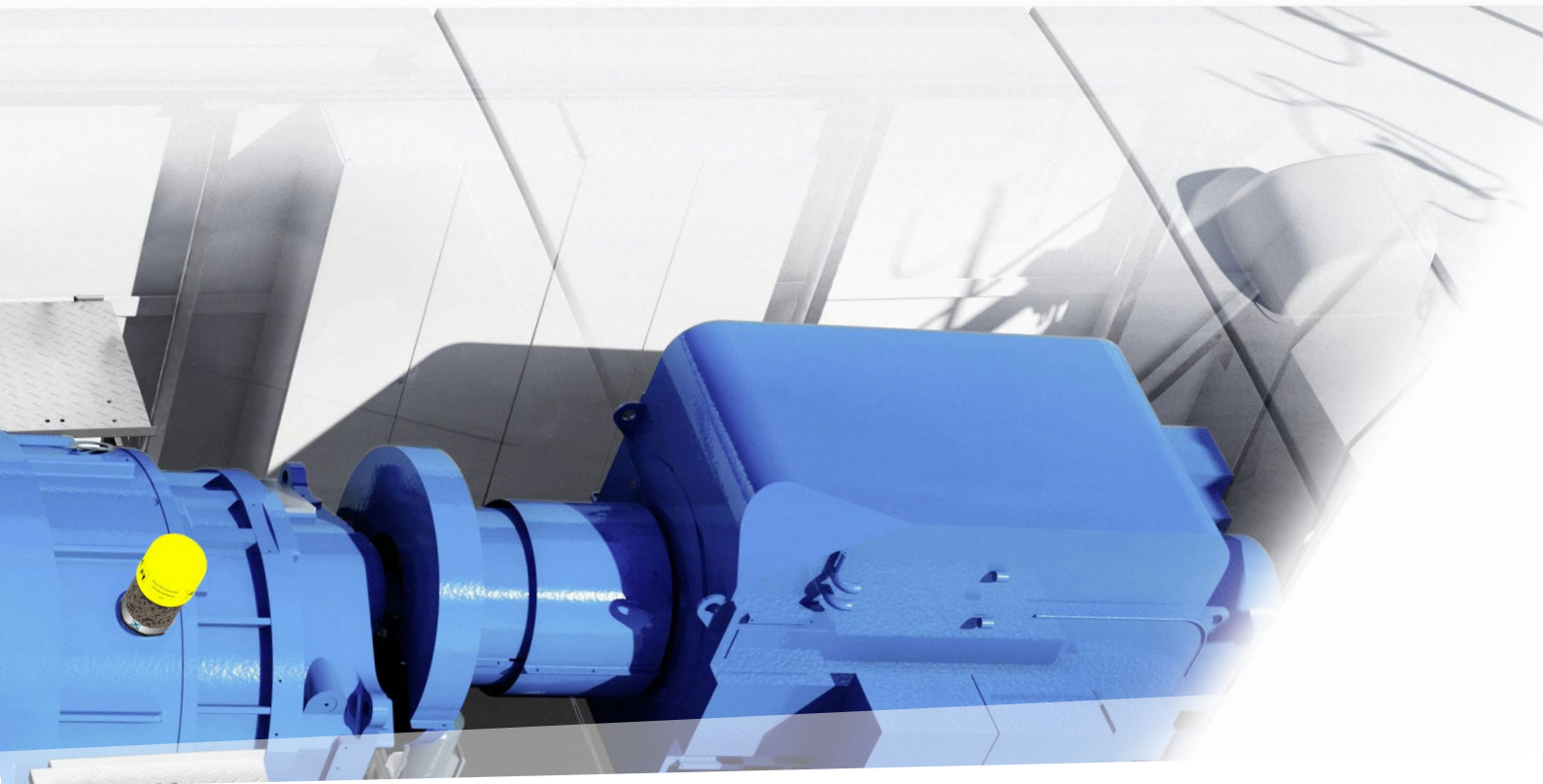
Condition Monitoring Center

WHERE CAN IT BE USED?

- ▶ Renewable energy
- ▶ Gearbox applications
- ▶ Automotive industry
- ▶ Paper industry
- ▶ Offshore systems
- ▶ Lubrication systems
- ▶ Marine thrusters
- ▶ Test Benches

THE CONDITION MONITORING CENTER (CMC) COMBINES TECHNOLOGY TO ENABLE SAMPLING ON LOW PRESSURE HYDRAULIC AND LUBRICATION SYSTEMS WHERE AERATION CAN BE AN ISSUE. THE CMC SUPPRESSES THE AIR BUBBLES SO THEY ARE NO LONGER COUNTED AS PARTICLES. IT ALSO ALLOWS FOR CONTINUOUS PARTICLE MONITORING ON SYSTEMS WHERE NO OIL PRESSURE IS EVIDENT.

The CMC can be installed in most low pressure hydraulic and lubrication systems. One option ranging from zero bar pressure to a max of 50 bar on the inlet of the system and 0,5 bar on the return of the system. A further option can be installed on systems with a max of 0,5 bar on inlet of CMC pump and a max of 6 bar on system return. These two options give the user the versatility to install the CMC in a variety of different system applications. Also the Condition Monitoring Center can be designed with an integrated magnetic coupling. This option can handle inlet and outlet pressures of 25 bar. Utilizing the best particle counter in its class as standard, the CMC delivers simplicity, practicality & accuracy for the most demanding of applications. Proven optical technology and algorithms ensure consistent monitoring of your system, providing peace of mind for your operators.



The CMC comes with an optional CMS complete with RS485/232 MODBUS & CANBUS (J1939 typical) protocols for remote control. CMS Communication & motor power needs to be completed by the customer during installation. The cable for motor power is not supplied. Optionally the CMC can be equipped with an Oil Quality Sensor (OQS), used for measuring oil degradation.

DESIGNED WITH YOU IN MIND...

The CMC is specifically configured to provide customers the versatility they require for existing systems or those in development. The built-in motor/pump assembly and automatic particle counter (CMS) can be wired to directly, allowing control through a wide range of communication protocols and logic controllers. A small footprint makes it the ideal solution for installation on new or retrofit applications. A wide range of operating voltages allow us to support a global market, and emerging technologies.

The CMC can give you reliable feedback about solid particle contamination levels, water level (%RH), oil degradation and temperature. Making it the most advanced diagnostic centre for hydraulic and lubrication fluids.

WHEN SHOULD IT BE USED?

- ▶ Entrained air or turbulent flows
- ▶ Higher viscosity fluids
- ▶ Un-pressurized systems

WHY SHOULD IT BE USED?

- ▶ Reliable & accurate performance.
- ▶ Allows for pro active maintenance
- ▶ Certifying test benches
- ▶ Easy to retro-fit.
- ▶ Exceptional communication & 4.000 test memory.
- ▶ Alarms for contamination levels
- ▶ Alarm for water
- ▶ Alarm for temperature

CMC Specification

OPERATIONAL PARAMETERS

Fluid Compatibility / Corrosion Resistance	Hydrocarbon based & Synthetic hydraulic fluids
Min Inlet Pressure	positive pressure
Max Inlet pressure	50 bar (pump option dependant)
Max Outlet pressure	6 bar (pump option dependant)
Max. Fluid Temperature (Continuous)	Max. 80 °C viscosity dependant. Not lower than 10 cSt
Min Fluid Temperature (Continuous)	Viscosity dependant. Not greater than 1.000 cSt
Min Temperature (Start Up)	Viscosity dependant. Not greater than 1.000 cSt ≈ 25 °C ISO VG 320
Max. Viscosity	1.000 cSt
Min. Viscosity	10 cSt
Min. Start Up Ambient Temperature	-30° C
Max. Continuous Ambient Temperature	65° C
Power Consumption	0.25 kW max
Weight	13 Kg

CONTAMINATION MONITORING SENSOR

In-line contamination monitor	CMS with keypad and backlit display and relays.
Particle Sizing & Channels	As CMS: >4, 6, 14, 21, 25, 38, 50, 70 µm(c) to ISO 4406 1999 Standard
Moisture Sensing (RH%)	Available with or without moisture sensor
Communication Protocols	PLC compatible. RS485, RS232 & CanBus (J1939 typical)
Software	RMF View (Supplied with product)
Re-calibration	Defined by customer Quality Controls
On/off & Stop/Start signals (Remote)	Start/Stop signalling & test set up user defined.
Hydraulic Hoses (External)	Customer to source their own
Circuit Flow Rate	40 ml/min to 400 ml/min (viscosity dependant)
Electric Motor	110VAC, 230VAC, 400VAC, 690VAC
USBi Comms Junction Box	Optional , order with CMS

OIL QUALITY SENSOR

Material	Stainless Steel AISI304
Analogue output	4 - 20 mA
Digital output	1xRS485: 9600 baud half duplex, Modbus protocol supported on RS485 CANbus: CANopen protocol supported on RS485
Dimensions	90 mm x 37 mm
Power supply	9 - 30VDC
Protection class	IP67
Weight	160 g
Output connection	6 PIN Lumberg
Mechanical connection	1/2" BSP Thread
Seals	FPM

OIL QUALITY DISPLAY	
Material	Polycarbonate
Protection class	IP67 (when connected)
Analogue output	4 - 20 mA
Digital output	RMF Systems protocol
Dimensions (LxWxH)	120 mm x 66 mm x 42 mm
Weight	225 g
Mounting	Integrated flanges
Power	9 - 30 VDC
Average power consumption	0.4 W
Power consumption	30 mA continuous
Analog output	4-20 mA
Display	Oil Quality
	Oil Temperature
	Rate of Change
	Status indicator

Main Dimensions

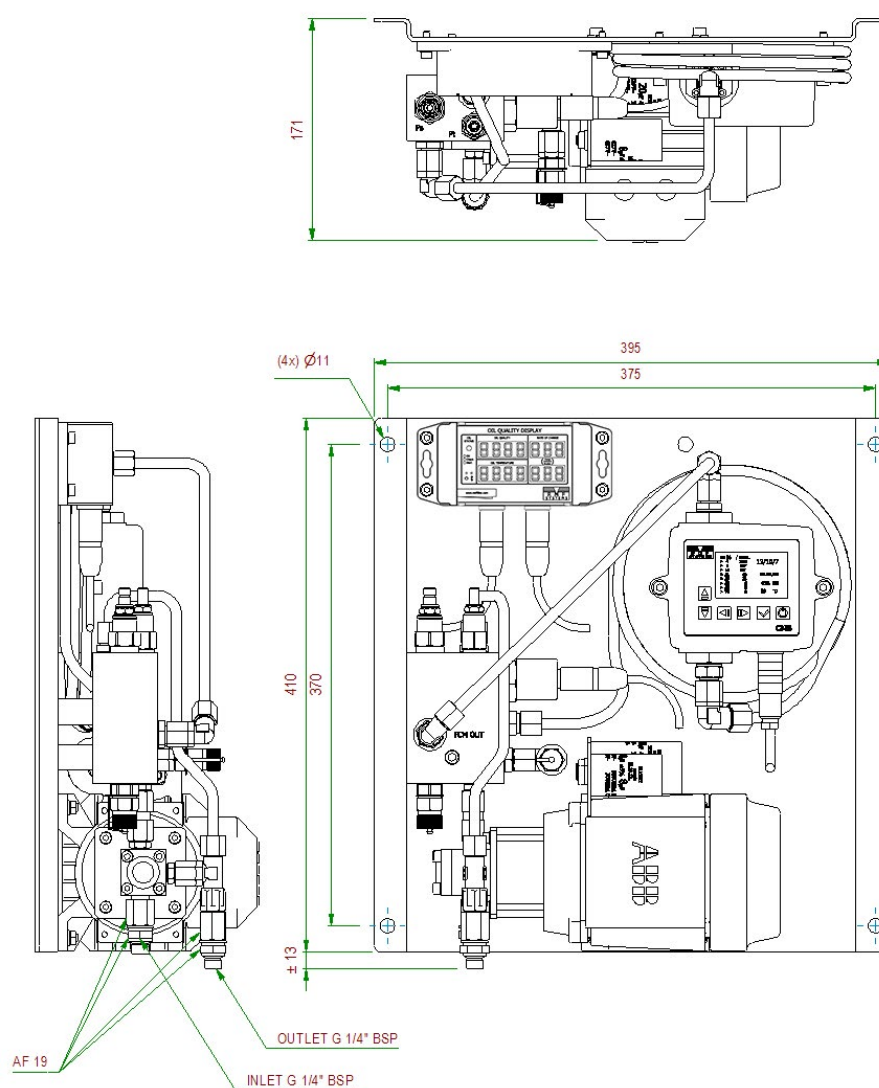


Figure 1: Main dimensions

Hydraulic Diagram

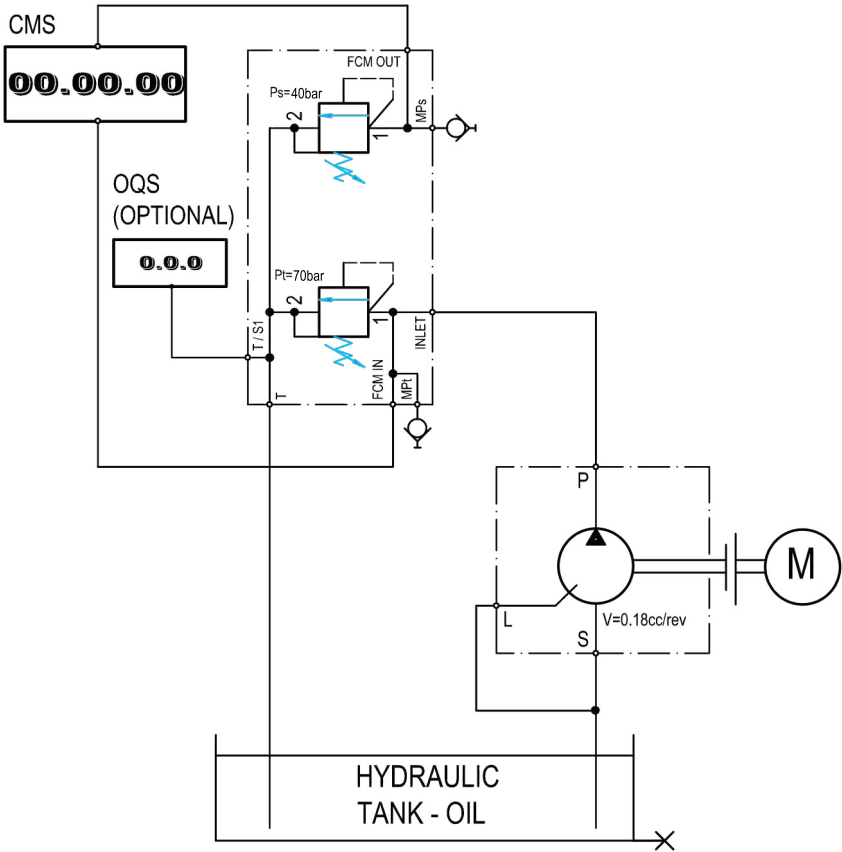


Figure 2: Diagram CMC without drain

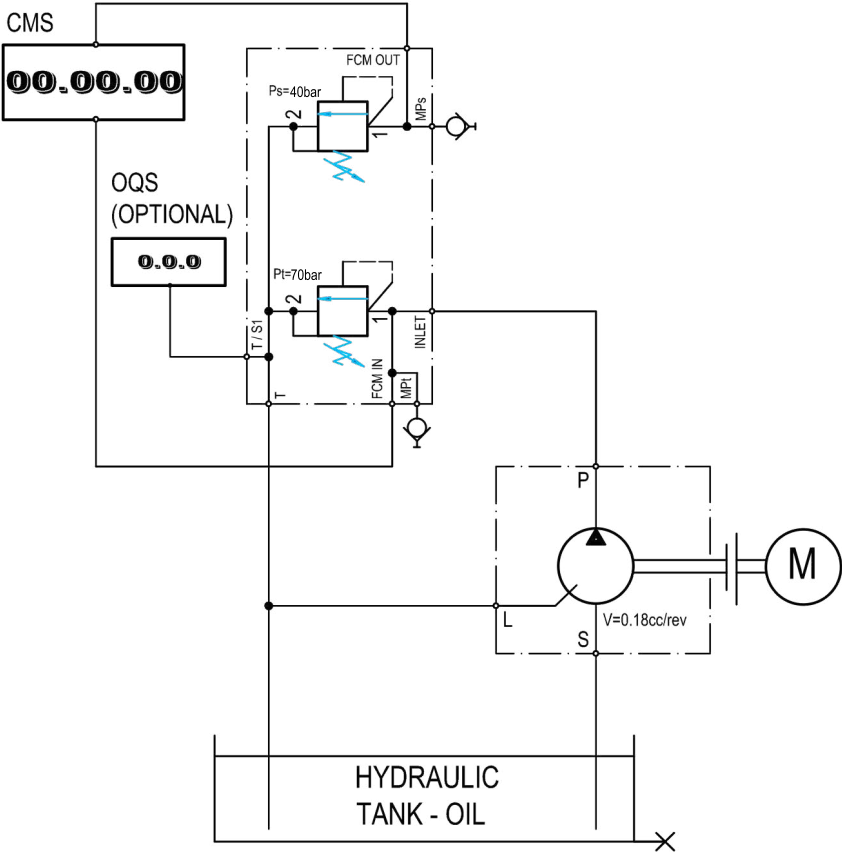
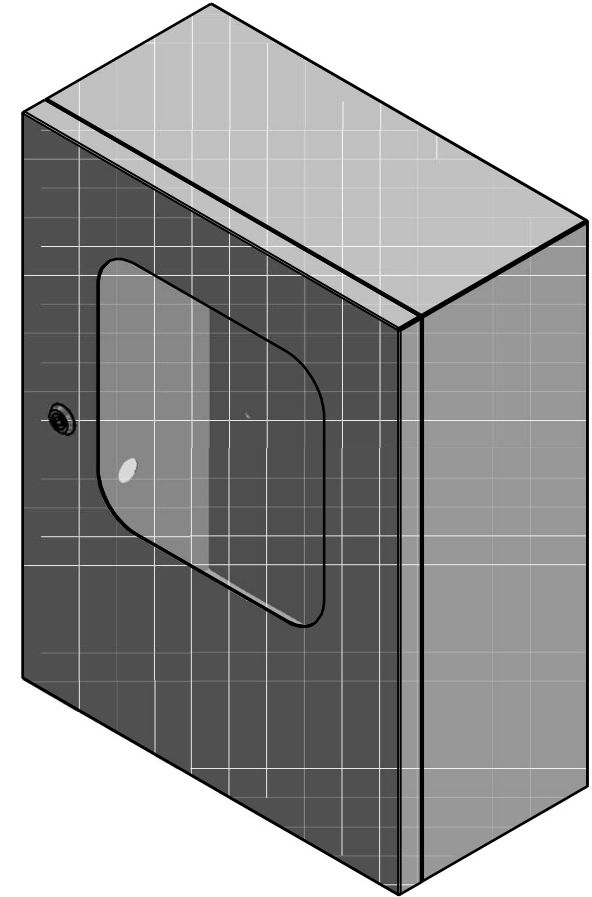
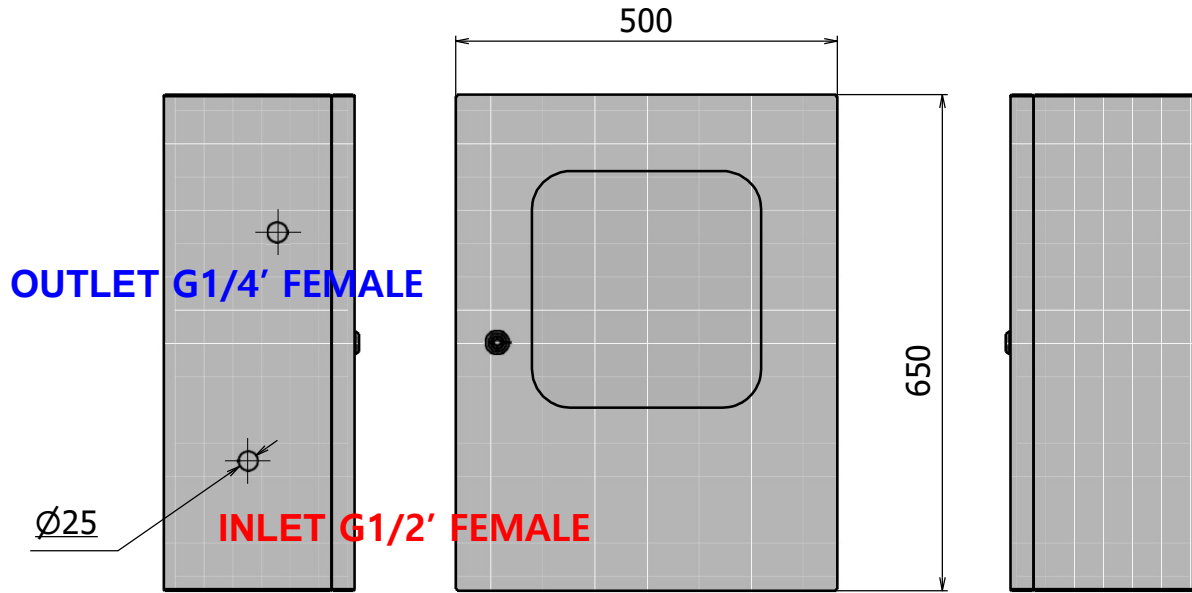



Figure 3: Diagram CMC with drain

- 1.품 명 : CMC, Cabinet
(500*650*250)
2.재 질 : MILD STEEL 1.6t
3.전 면 : 투명 아크릴
4.색 상 : 연회색 7.5BG



		<div>(주)비투솔루션</div> <div>Solution Partner in Maintenance Field</div> <div>충남 아산시 배방읍 고곡철대로 147, 506 (우성메디피아빌딩) T el 041 551 8861~2, Fax 041 551 8865 www.b2solution.co.kr</div>				
DESIGNED BY		DOCUMENT TITLE			SHEET	
DESIGNED DATE	2022-01-04				CMC CABINET	1 / 1
DESIGNED STATE						
CHECKED BY						
CHECKED DATE		ARTICLE NUMBER	DRAWING NUMBER	REVISION	FORMAT	
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	UNITS : mm		MARERIAL :			

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