

Secc

Oil & Gas Ltd



2" 10K psi

Hot Make Hot Break

EQD / Quick Connect

Technical Data Sheet



CYGNET GROUP
COMPANY

2" 10K psi Hot Make Hot Break Data Sheet

DESIGN BASICS

Coupling Type	10K psi Hot Make Hot Break (HMHB) connector (dual valved)		
Coupling Size	50.8 mm (2")		
Pressure Rating	10,000 psi (690 Bar)	Test Pressure	15,000 psi (1034 Bar)
Max Operating Depth	3050 m (10,000 ft)	Operating Temperature	-18.0°C to +121.0°C
Flow Path	Full bore (with 1 x 90° bend)		
Design Code	API 6A & 17D PSL 3 PR2 for Other End Connectors (OEC) – PSL 3G available on request		
Material Classification	API material class FF, HH available in accordance with NACE MR0175		
Certification Level	EN 10204 3.1 (EN 10204 3.2 available on request)		
Operational	Connect and disconnect under pressure with zero leakage – Can be supplied with hydraulic active disconnect capability		
Breakout Load	200kg at 0 psi and 2000kg at 10,000 psi with no end constraint (>2 tonne breakout load available with tension pin end constraint)		
Mounting	Vertical or horizontal. Provides both an EQD and Quick Connect QCDC		
Installation	Via ROV grab rail (interface in accordance with ISO 13628-8)		
Guidance and Alignment	Receptacle guide probes and stab guide funnels (other options available)		
End Constraint	None – Tension pin option available for breakout load requirements >2 tonne		
Fluid Loss On Break	Zero		
Design Life	25 years (metallic components)		
Additional Options	Swivel options available at either end of connector. Various deployment/locking/tethering options available. Gimbal/Turret high-angle disconnect system. Hydraulic actuation available.		

PERFORMANCE

Max. Bending Moment	2.8 kNm	Maximum Torque	16.35 kNm
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BASIC WEIGHT AND DIMENSIONS

Stab Dimensions	710 mm (L) x 590 mm (W) x 300 mm (D)	Receptacle Dimensions	1850 mm (L) x 600 mm (W) x 210 mm (D)
Connected Dimensions	1850 mm (L) x 600 mm (W) x 350 mm (D)	Connected Mass in Air	292 kg
Stab Mass	62 kg	Receptacle Mass	230 kg

CONNECTION DETAILS

Inlet Connection	Grayloc B20 Hub (other end connections available)
Outlet Connection	2 1/16 10K API Flange (other end connections available)

MATERIALS

Body	Super Duplex 32760	Elastomeric Seals	HNBR (FKM or FFKM available)
Probes	Inconel 6A718	Bolting (Studs)	A4 Stainless Steel
Sleeves	Super Duplex 32760	Bolting (Nuts)	A4 Stainless Steel
Non Pressure Bearing	Stainless Steel 316		

TESTING REQUIREMENTS

Pressure Test	API 6A PSL3	Impact Testing	ASTM A370
Qualification Test	API 6A PR2 (OEC)	Hardness Testing	ASTME10 / ASTME18
Ultrasonic	API 6A PSL3	Magnetic Particle	API 6A PSL3
Dye Penetrant	API 6A PSL3	Radiography	As Required (weld)
Corrosion Testing	ASTM G48 Method A		

WITNESS REQUIREMENTS

Customer Witness	Available	Third Party Witness	Available at additional cost
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PAINTING REQUIREMENTS

Painting Specification	None	Colour	N/A
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NOTES / ADDITIONAL REQUIREMENTS

These figures are based on known and estimated data. Secc reserves the right to change specifications without notice.

FEATURES

- Passive EQD (hydraulic option available)
- Plug and play QDC - Fully reconnectable subsea
- ROV, diver or winch operable
- Zero fluid loss during connection or disconnection
- Up to 15,000 psi working pressure
- Full bore - High flow rates achievable
- Pressure balanced dual barrier sealing technology
- DNV qualified to API 6A 17 D PSL3 PR2
- Future proofed against API 17G1/G2

Emergency Quick Disconnect (EQD) and Quick Connect (QDC)

The Hot Make Hot Break is both an EQD and QDC. It can be positioned subsea or topside and will break away mechanically if the vessel it is connected to loses dynamic positioning. It will disconnect under full working pressure with no fluid loss or line contamination, therefore delivering a high level of protection for personnel, equipment and the environment.

A fully-valved, pressure-balanced emergency breakaway connector

The HMHB is designed to enable efficient pumping/ transfer of fluids while providing a reliable safety system

Figure 1: Disconnected HMHB Assembly

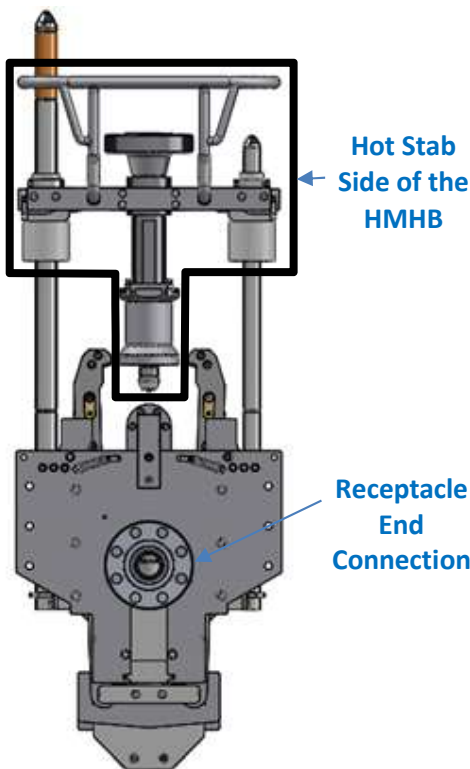


Figure 2: Connected HMHB Section View

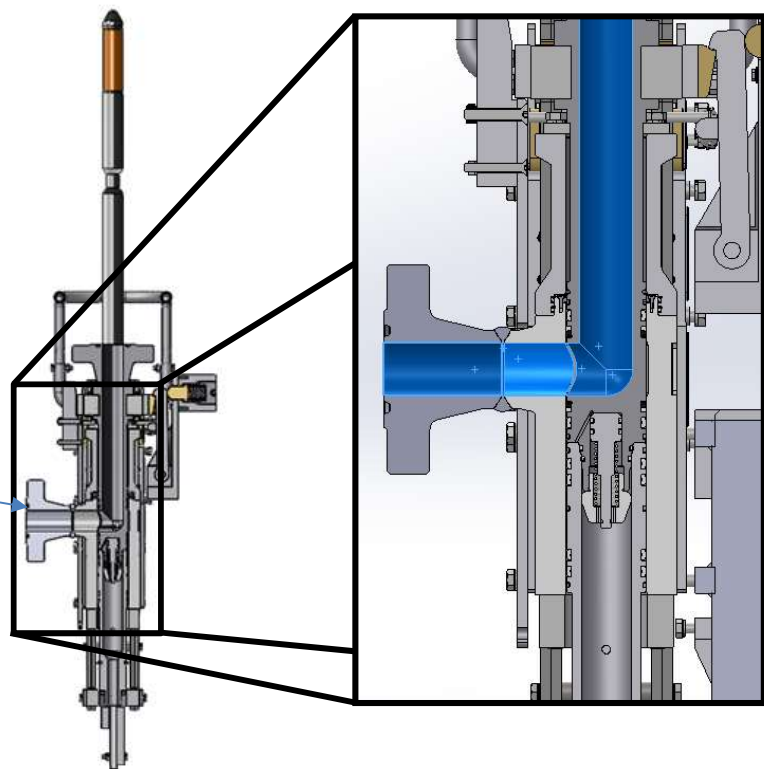


Figure 3: Connected HMHB 90° Full Bore



Quick, permanent, plug and play accessibility to the subsea asset

Easily operated by ROV, diver, actuator or winch, The HMHB allows operators to dispense with guillotines and other uncontrolled subsea and topside emergency disconnection systems. The ease of its connection and disconnection significantly reduces operational downtime and deferred oil revenues.



Gimbal Swivel System

Swivel system permits the HMHB connector to have +/- 40° pitch and roll capabilities. This ensures that the connector is axially aligned with the fluid conduit at all times.



Turret Swivel System

The HMHB Turret swivel is an adaptation of the gimbal design. It allows the connector to rotate 280° about the normal (vertical) axis and roll 180° about the longitudinal.

Additional Options:

Flushing Stump

Facilitates topside flushing of the HMHB stab and connected fluid line.

The Subsea Replacement Seal Cartridge

The connector can be supplied with a subsea replacement seal cartridge and change-out tool. This facilitates replacement of the seals subsea, thus significantly reducing down time.