

4: Surface Mateable High Density Metal Keyed Electrical Connectors



# HDM (Hydrobond Deck Mate)

# FEATURES

- Robust, Compact, High Integrity Design
- Proven shock and vibration tested design
- High Pin Densities
- Positive Metal Key Way prevents misalignment and rotation
- Scoop proof design
- Barrel O Ring seals for ease of maintenance and reliability
- Locking grub screws on coupling ring
- Depth rated to 3,450 MSW standard version. (6,900 MSW on request)
- Fully open face pressure sealed
- Available in 6 shell sizes
- Bulkhead Mount and Panel Mount Designs available as standard
- Mounting O Ring face seals and optional Barrel seals available as standard
- Pin Densities from 3 to 73 ways
- Hard Gold Plated Contacts and Multi Leaved Sprung Sockets for positive connection
- Acetal dust caps included on all connectors (additional lanyards on request)
- Optional cost effective pressure sealing caps are available in a wide variety of materials
- Voltage ratings up to 3,300 Volts RMS
- Current ratings up to 95 Amps with higher ratings on request
- Standard and Reverse gender configurations available
- Available in 316 Stainless Steel as standard, Titanium, Aluminium Silicon Bronze, Nickel Aluminium Bronze etc on request
- Non Magnetic versions available
- 1 metre conductor tails on all bulkhead connectors as standard
- Optional Earth Bonding
- Termination options include fully water blocked, mechanical strain terminations and oil filled options
- Moulding options include Polyurethane and Polyethylene

# BENEFITS

www.hydrogroup.plc.uk

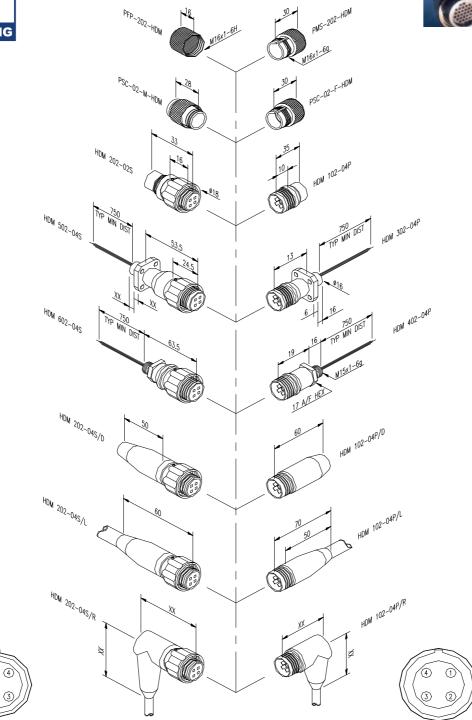
- Long life connector with easily maintained O Ring seals.
- Designed for continual mate and de mate usage
- Easy to use pressure sealing caps
- Individual conductor Boot Seals allow mating in adverse conditions.
- Provides the best protection for your expensive electronics.
- Pins are protected during mating cycle
- Extremely cost effective
- Space saving high pin density designs require less space
- Wide variety of pin configurations allows cost effective system design
- Standard and reverse gender configurations allow for safe system design
- Wide variety of metal options allows for best corrosion resistant design





HDM (Hydrobond Deck Mate) Surface Mateable Connector HDM\_02-04



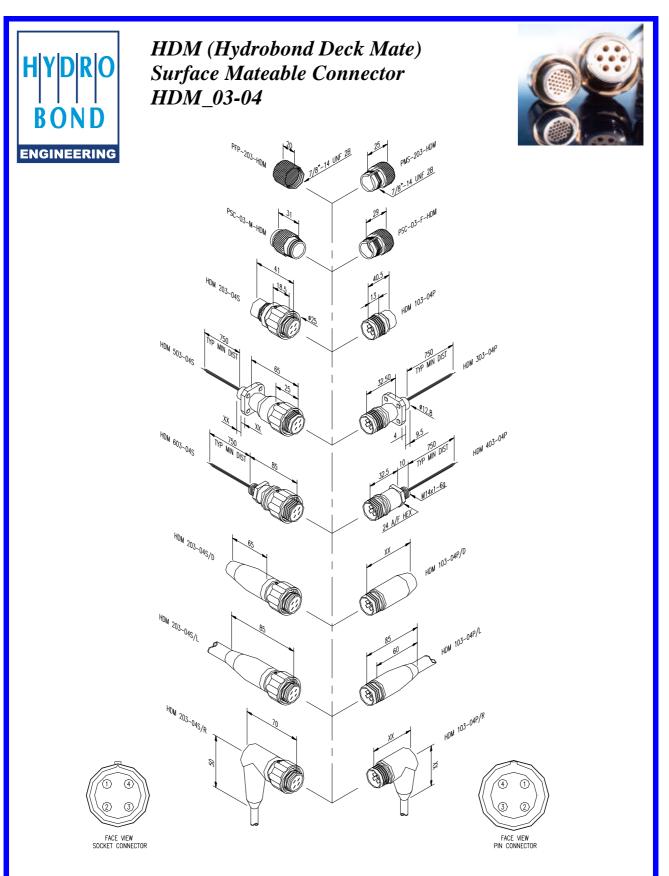


FACE VIEW SOCKET CONNECTOR

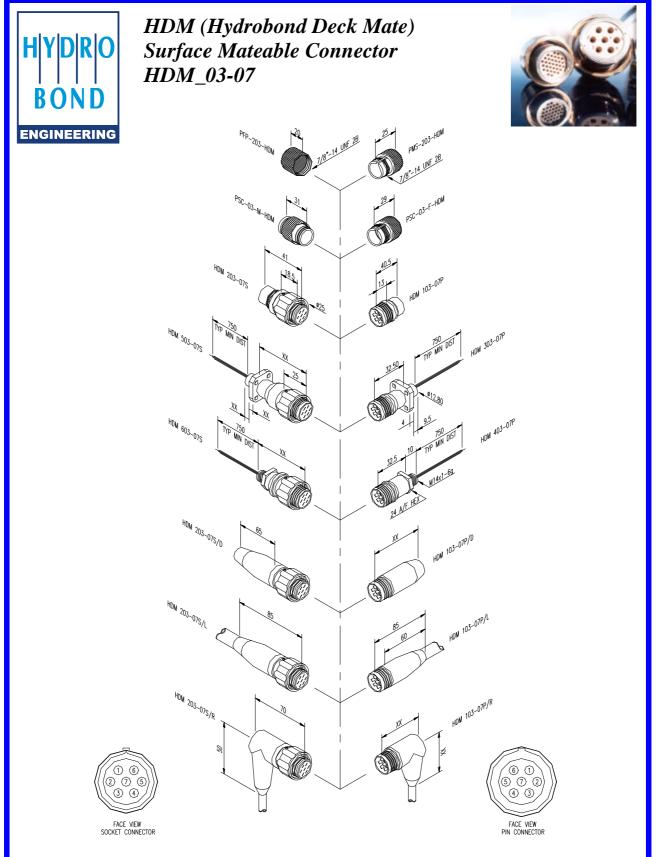
## Electrical and Environmental:

Pin Current Rating: 10 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 16 AWG Solder Bucket Size: 1.4 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 03 Approved by:

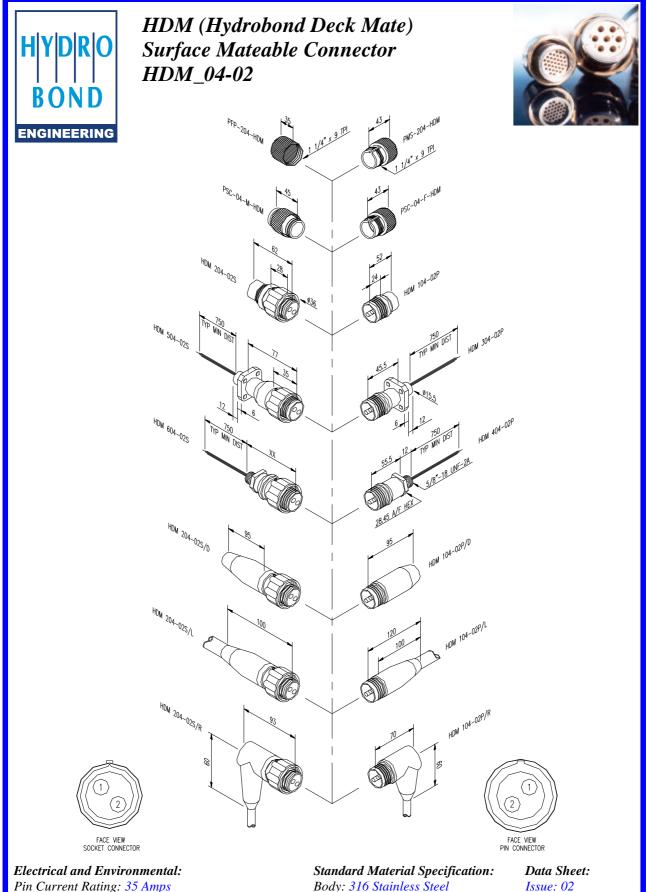
FACE VIEW PIN CONNECTOR



Pin Current Rating: 10 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 16 AWG Solder Bucket Size: 1.4 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



Pin Current Rating: 5 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 18 AWG Solder Bucket Size: 1.5 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



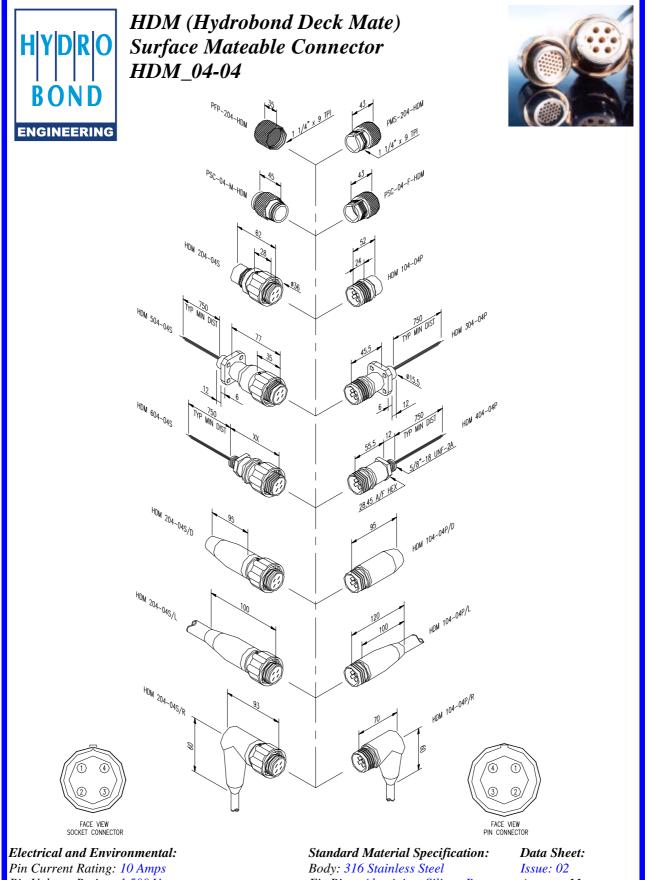
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Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70

Mechanical: Lengths = mm Threads = Inches Mounting Detail:

Approved by:

See Mounting Detail Section of Binder

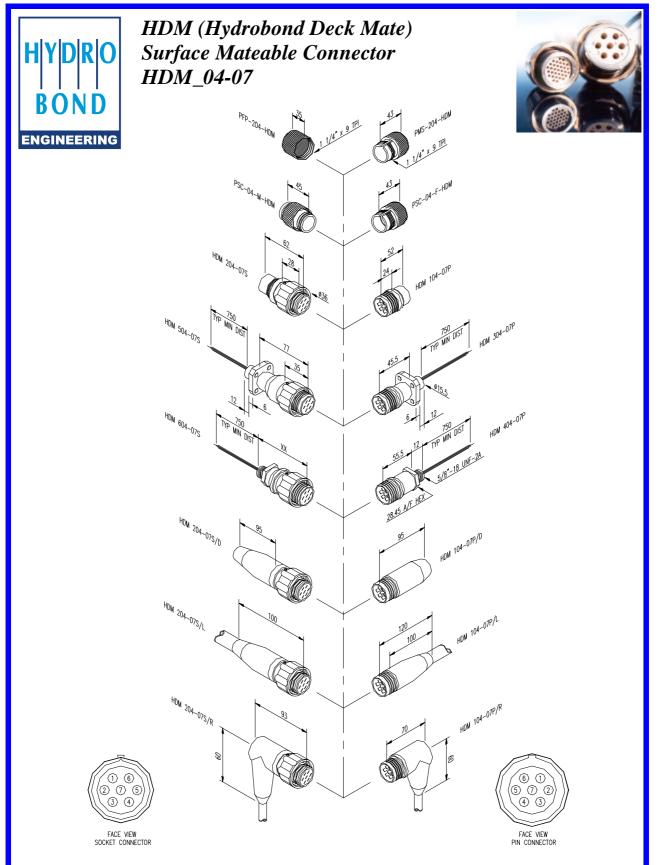


Pin Current Rating: 10 Amps Pin Voltage Rating: 1,500 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 16 AWG Solder Bucket Size: 1.6 mm dia

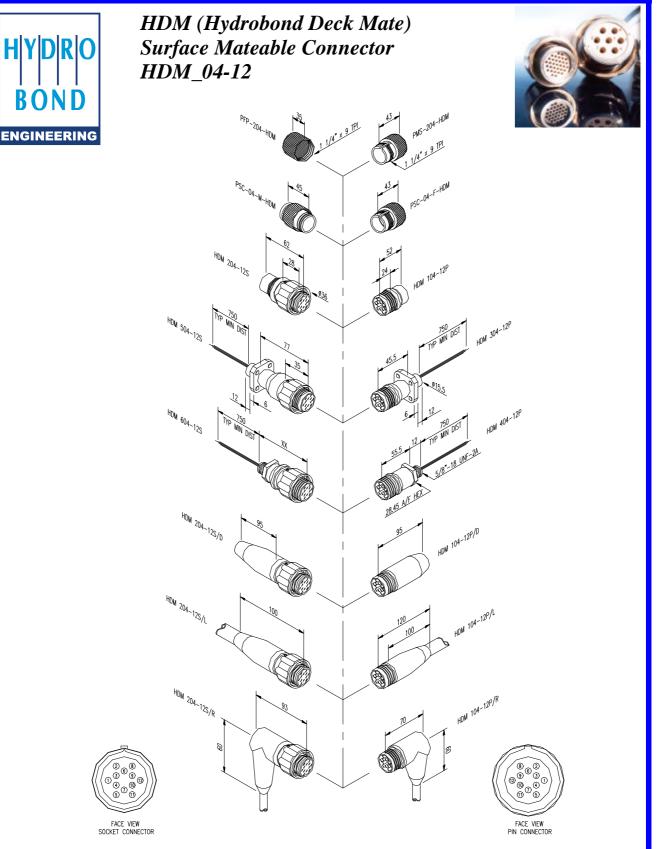
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Approved by: Mechanical: Lengths = mm Threads = Inches

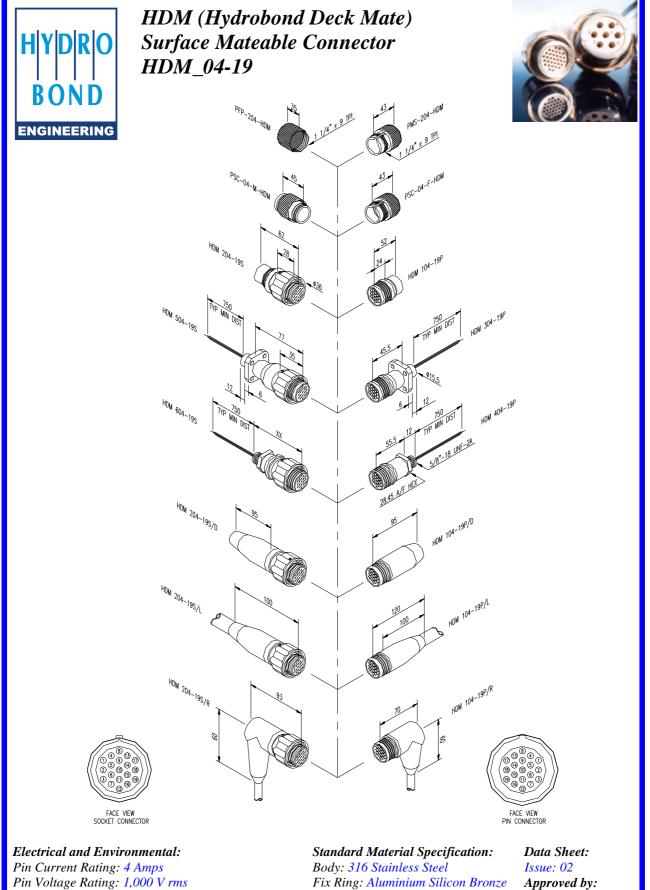
Mounting Detail: See Mounting Detail Section of Binder



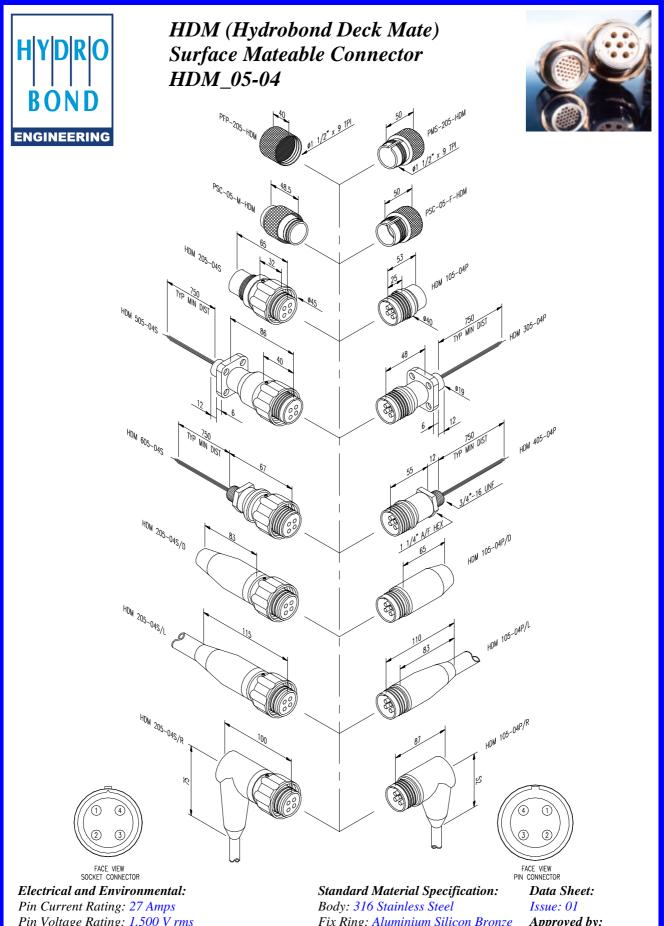
Pin Current Rating: 8 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 16 AWG Solder Bucket Size: 1.4 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



Electrical and Environmental: Pin Current Rating: 4 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 20 AWG Solder Bucket Size: 1.2 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 18 AWG Solder Bucket Size: 1.2 mm dia Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70



Pin Voltage Rating: 1,500 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW *Temperature Rating: -20*  $^{\circ}$  *C to +60*  $^{\circ}$  *C* Conductor Tail Size: 10 AWG Solder Bucket Size: 3.2 mm dia

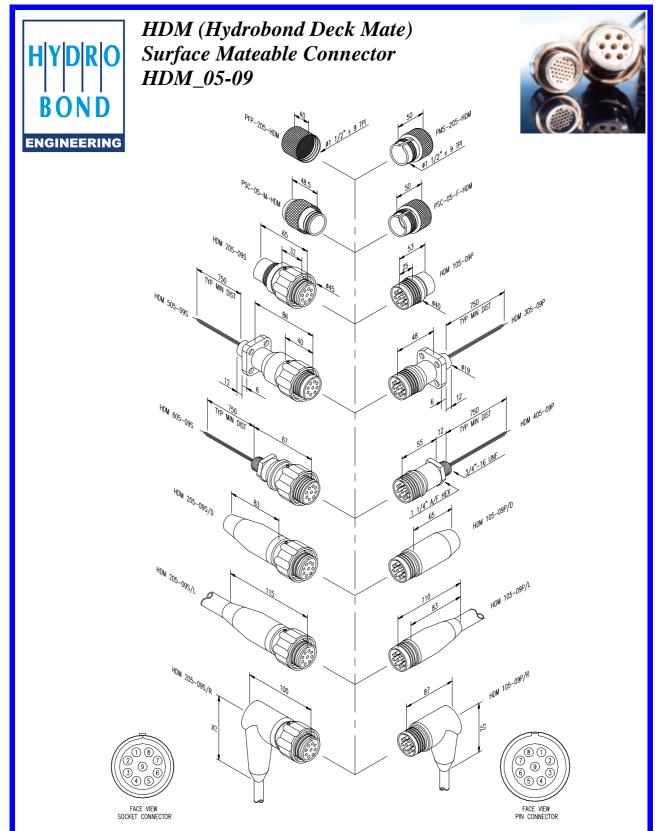
# Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek

Conductor Tails: Spec 44 X 1.0 m.

O – Rings: NI70

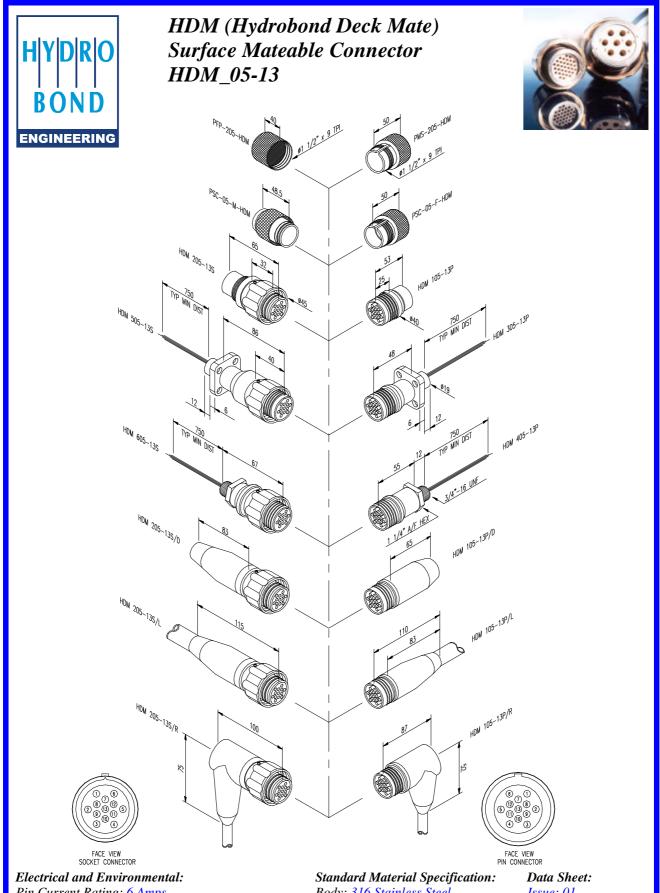
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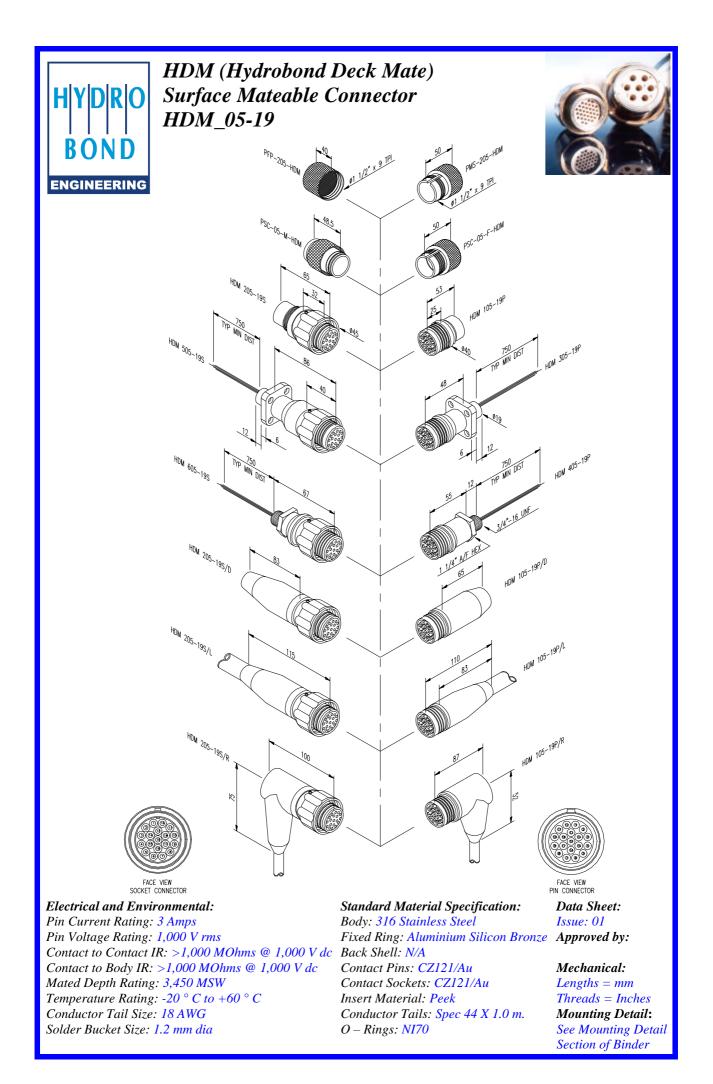
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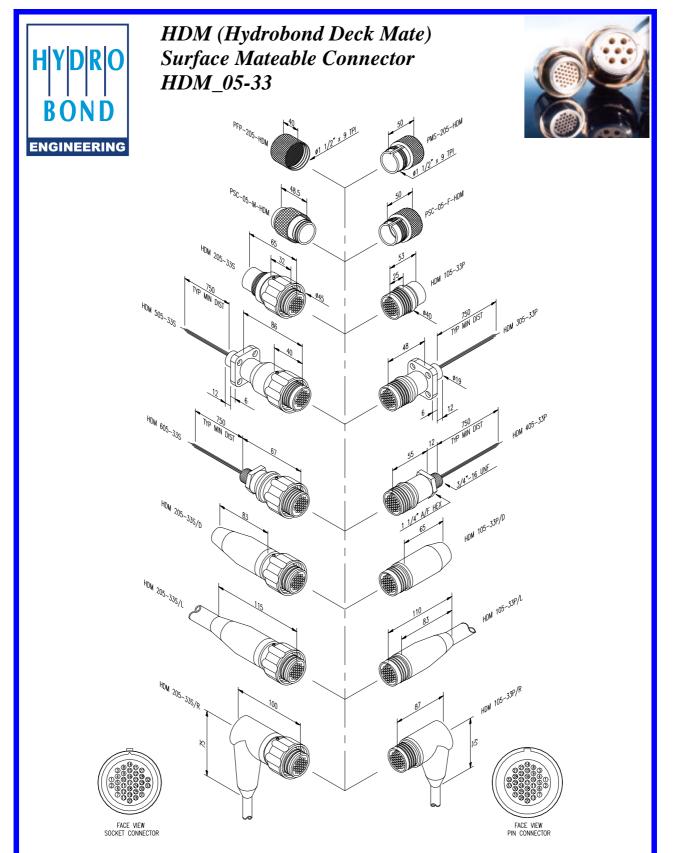
Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



Pin Current Rating: 6 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 18 AWG Solder Bucket Size: 1.6 mm dia

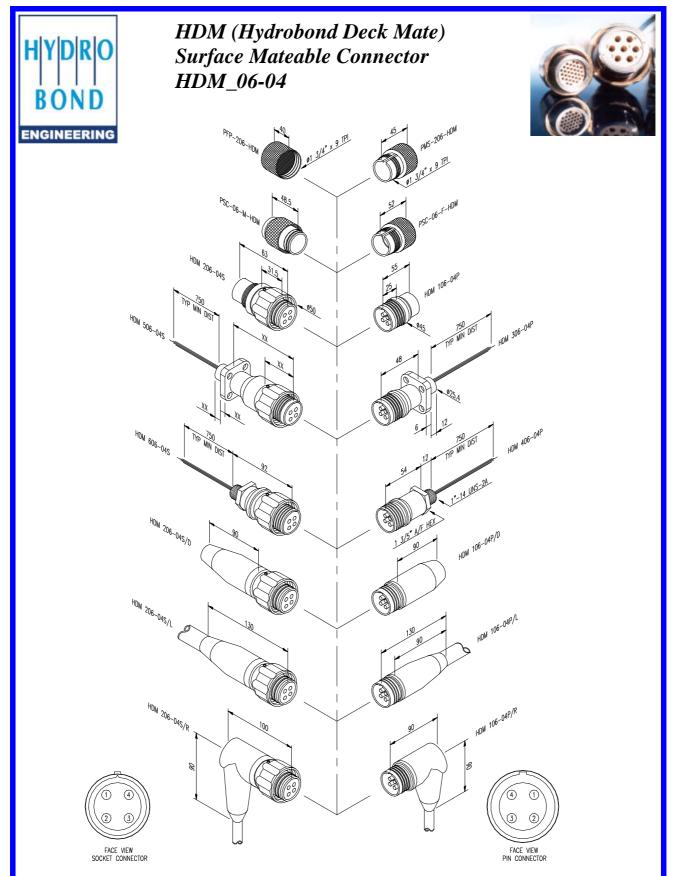
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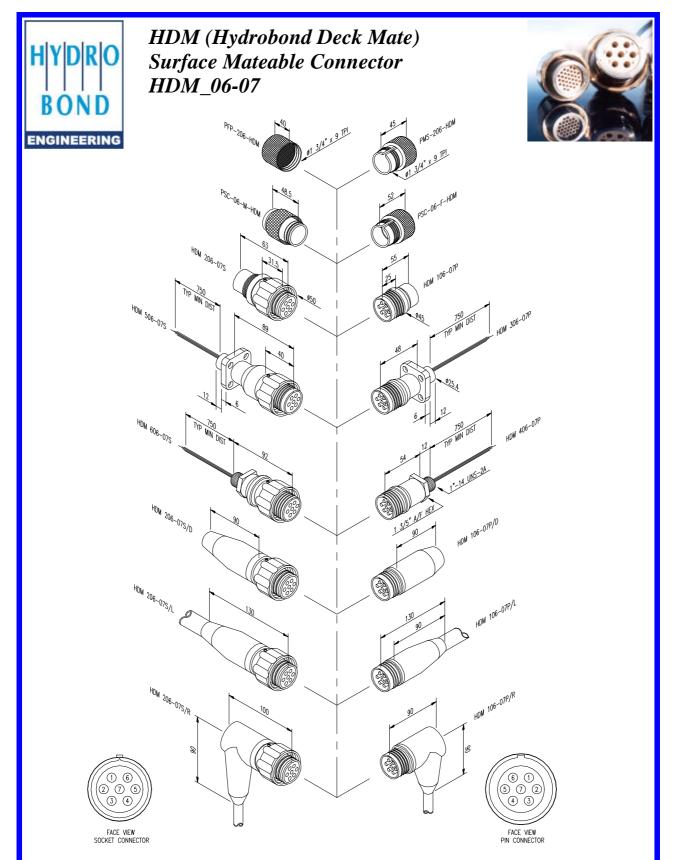


#### Electrical and Environmental: Pin Current Rating: 2 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 18 AWG Solder Bucket Size: 1.2 mm dia

Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



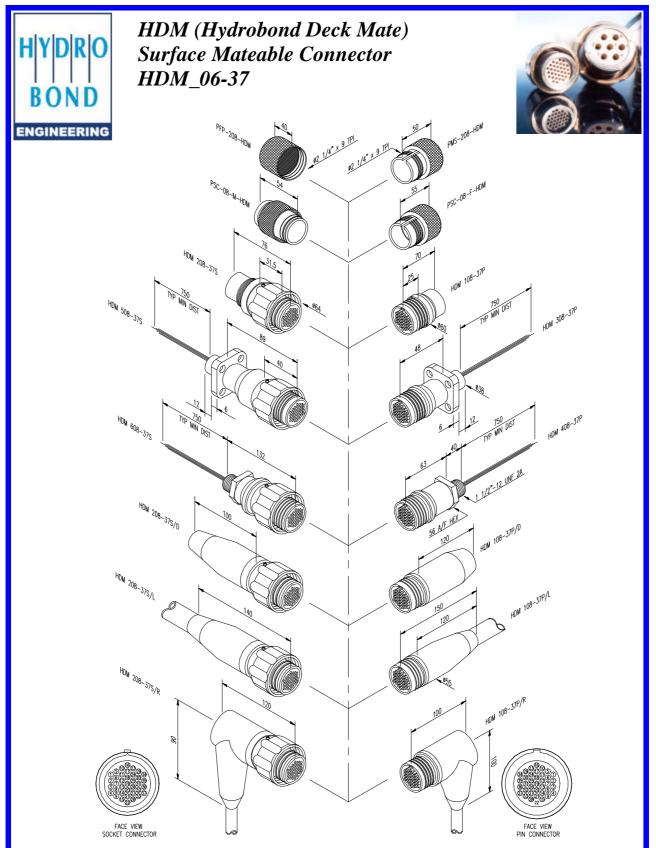
Electrical and Environmental: Pin Current Rating: 20 Amps Pin Voltage Rating: 3,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 12 AWG Solder Bucket Size: 2.5 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 01 Approved by:



Electrical and Environmental:Standard MaterPin Current Rating: 22 AmpsBody: 316 StainPin Voltage Rating: 1,500 V rmsFix Ring: AlumiContact to Contact IR: >1,000 MOhms @ 1,000 V dcBack Shell: N/AContact to Body IR: >1,000 MOhms @ 1,000 V dcContact Pins: CMated Depth Rating: 3,450 MSWContact SocketsTemperature Rating: -20 ° C to +60 ° CInsert Material:Conductor Tail Size: 12 AWGConductor TailsSolder Bucket Size: 2.5 mm diaO - Rings: NI70

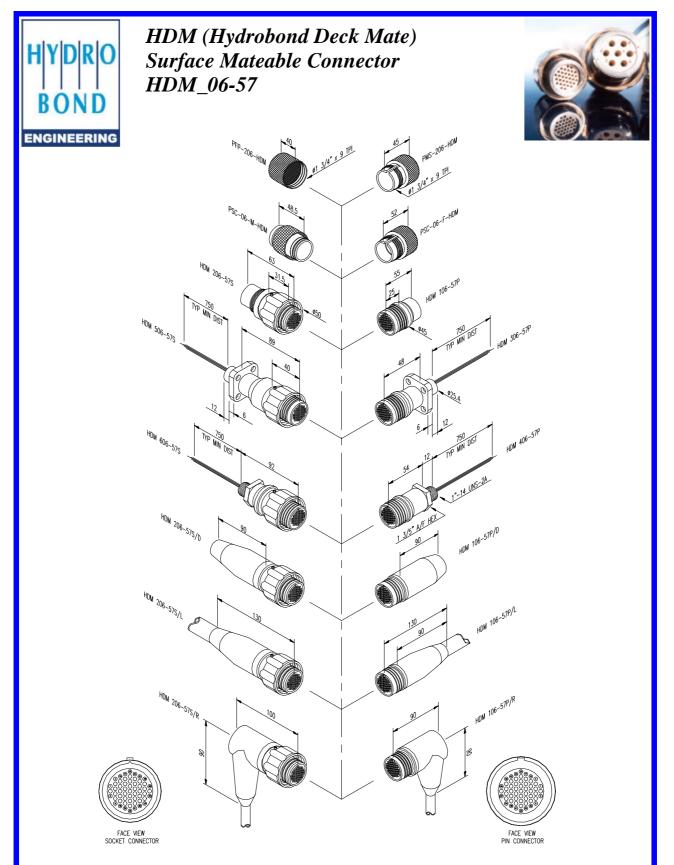
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Data Sheet: Issue: 01 Approved by:

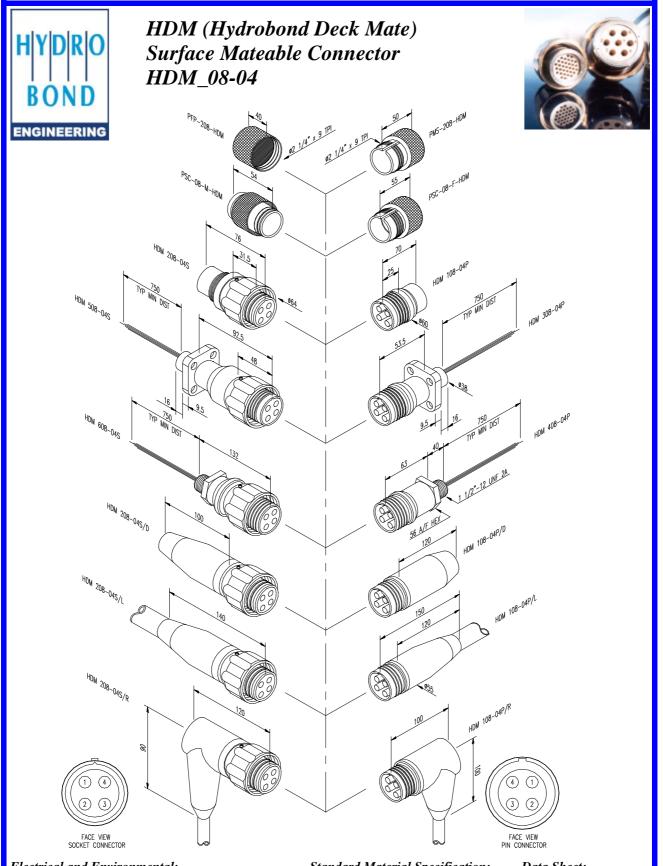


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Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



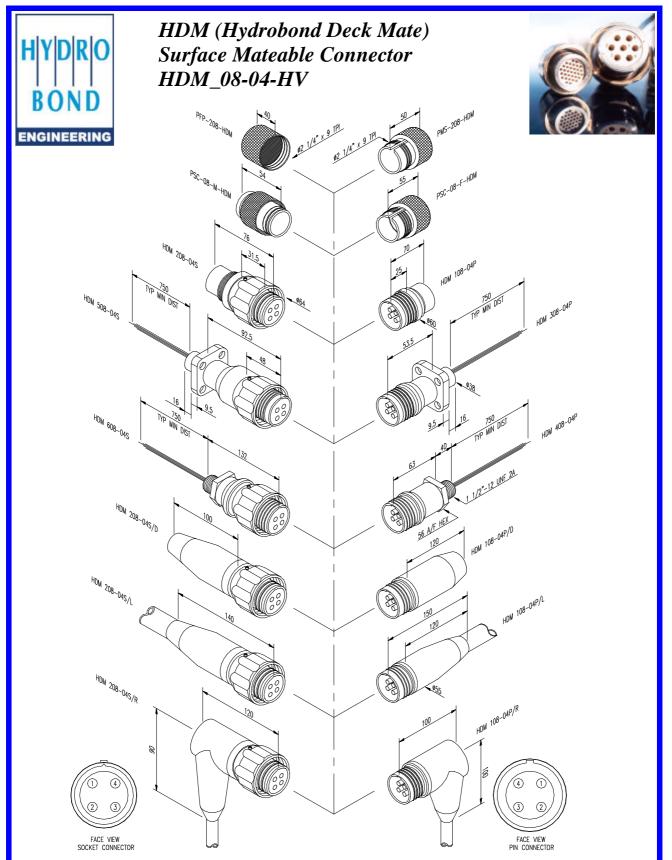
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Electrical and Environmental: Pin Current Rating: 60 Amps Pin Voltage Rating: 1,500 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: Details on Application Solder Bucket Size: Details on Application

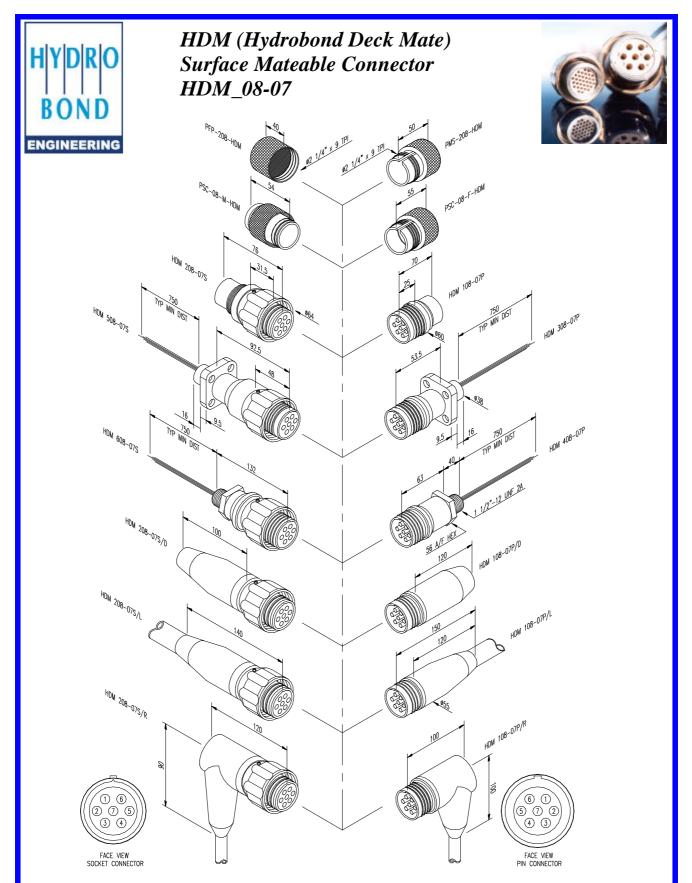
Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Polyrad X 1.0 m. O – Rings: NI70

Data Sheet: Issue: 02 Approved by:



Electrical and Environmental: Pin Current Rating: 20 Amps Pin Voltage Rating: 3,300 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 13 AWG Solder Bucket Size: 2.5 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Reynolds 178-8545 X 1.0 m. O – Rings: NI70

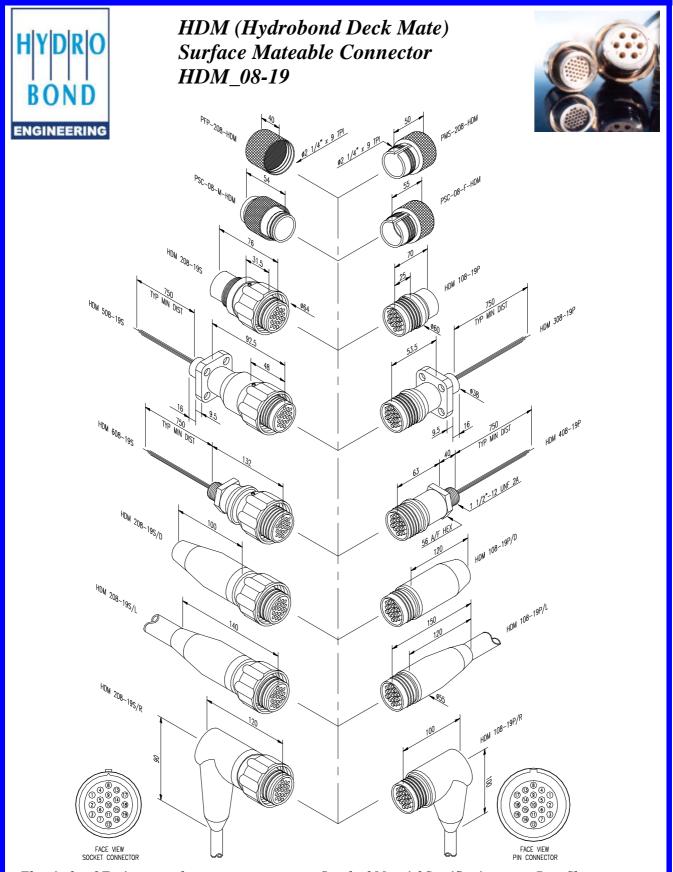
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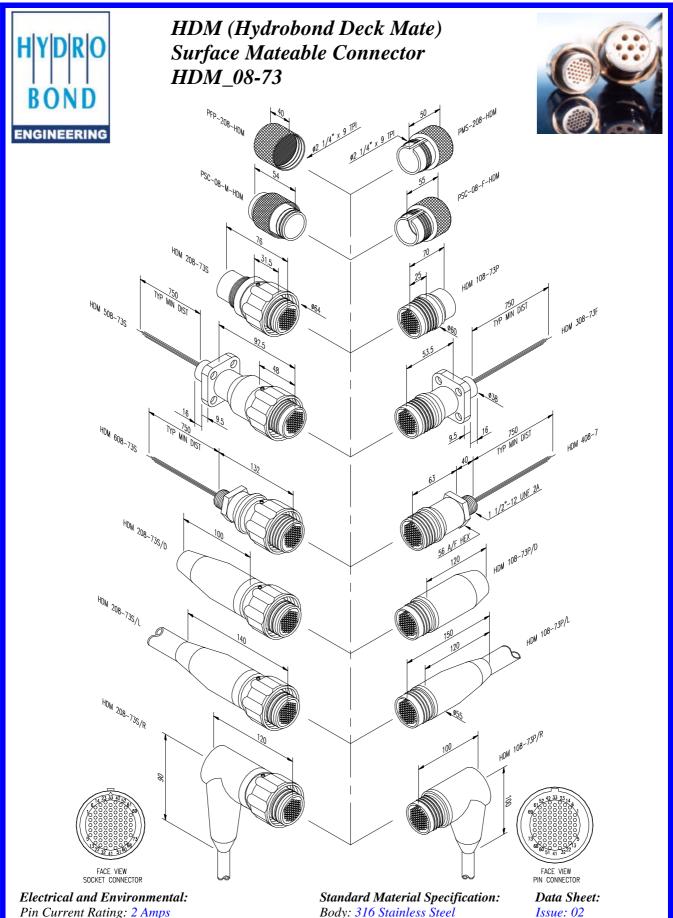
Electrical and Environmental: Pin Current Rating: Details on Application Pin Voltage Rating: Details on Application Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW *Temperature Rating: -20 ° C to +60 ° C* Conductor Tail Size: 13 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Reynolds 178-8545 X Mounting Detail: 1.0 m. O – Rings: NI70

Data Sheet: Issue: 02 Approved by:

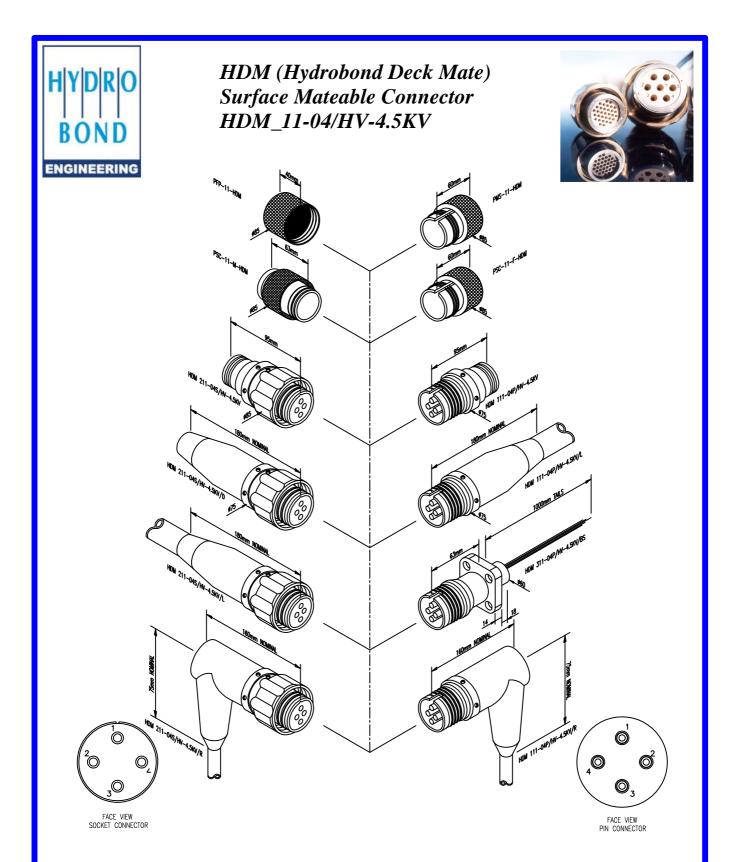


Electrical and Environmental: Pin Current Rating: 5 Amps Pin Voltage Rating: 1,500 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 16 AWG Solder Bucket Size: 1.6 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70 Data Sheet: Issue: 02 Approved by:



Pin Current Rating: 2 Amps Pin Voltage Rating: 1,000 V rms Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 18 AWG Solder Bucket Size: 1.2 mm dia Standard Material Specification: Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Spec 44 X 1.0 m. O – Rings: NI70

Data Sheet: Issue: 02 Approved by:



Pin Current Rating: 8 Amps Pin Voltage Rating: 4,500 V rms Contact to Contact IR: >1,000 MOhms @ 4,500 V dc Contact to Body IR: >1,000 MOhms @ 4,500 V dc Mated Depth Rating: 3,450 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 12 AWG Solder Bucket Size: 3.2 mm dia

### Standard Material Specification: Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze Back Shell: N/A Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Peek Conductor Tails: Reynolds 178-8545 O – Rings: NI70 Data Sheet: Issue: 01 Approved by:

#### Mechanical: