



INTRODUCTION

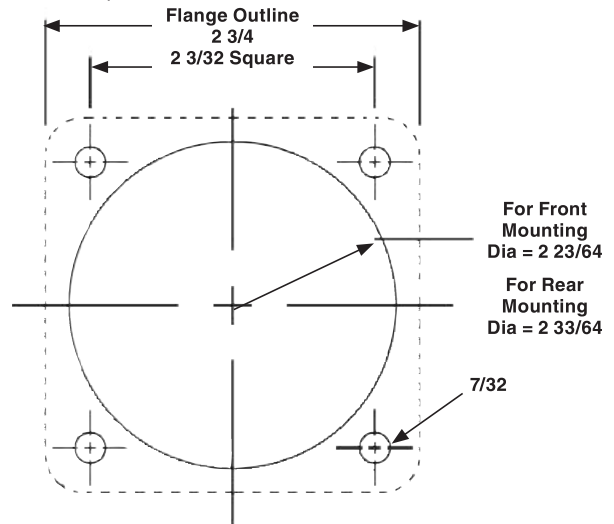
RigPower's mission is to create new industry standards in industrial electrical connectors by combining appropriate technological advances, quality production methods and dependable customer support.

Introduction

As each new drilling rig is designed, more and more equipment is added to allow deeper and faster drilling. However the size of the equipment that can be carried over the highways has a fixed limit. Thus the space that can be allowed for each component becomes smaller. RigPower's HP20® series connectors allow large cable sizes with smaller connector shells, providing tighter component spacing and maximizing the use of the available space.

CABLE AMPACITY RATINGS IN 40° AMBIENT		
CABLE SIZE	90° C	125° C
4/0 MCM	364 AMPS	451 AMPS
313 MCM	513 AMPS	636 AMPS
373 MCM	548 AMPS	669 AMPS
444 MCM	642 AMPS	796 AMPS
535 MCM	724 AMPS	898 AMPS
646 MCM	814 AMPS	1009 AMPS
777 MCM	916 AMPS	1135 AMPS

The HP20® series is a new (patent pending) product exclusive to RigPower. It offers a small shell size 20 connector available in a full range of cable sizes from 4/0 to 777 DLO. This is the smallest connector on the market which will accept a 646 and 777 sized cable. It has a multilam contact system that is capable of carrying the full ampacity of 125 degree rated 777 cable. The HP20® series is available in a wide range of styles and is stocked in ten colors to provide correct phase identification.



Each contact and buss bar has an O-Ring Seal designed into the body which offers improved mounting between the electrical component and the insulator. Additionally, the O-Ring provides a water tight seal so that the components won't have the propensity to short or burn out, even when the cap is not installed.

HP20® Female Receptacle

Neoprene gasket provided on all receptacles.

- A robust Buss Bar style back provides for larger current loads.
- Installation and breakdown is quick and reliable
 - Double Hole Buss Bar with cut indicator in the event a single hole buss bar is required
 - Made from high conductivity copper, Sn coated

HP20® Male Receptacle

Neoprene gasket provided on all receptacles.

Quick acting double lead ACME threads for rapid yet secure connections.

Made from Sn plated high conductivity copper. The male buss bars and contacts have a dead front end to protect operators from shock hazard.

The HP20® series female receptacles use the Multilam Contact System. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points.

- High resistance to heat
- High electrical and thermal conductivity
- Sufficiently high contact forces
- High number of contact cycles
- Excellent resistance to corrosion
- Resistance to vibration
- Long product life

Insulator includes internal O-ring seals to prevent moisture intrusion

Receptacle Cap

The HP20® Series have a matching two key way to assist with the mounting of the mating component.

- Heavy duty stainless steel chain and clips to prevent loss of cap
- Powder Coated for easier phase identification at hook-up

30° – 45° Reversible Locking Buss Bar Lug

Receptacle Cap

- Heavy duty stainless steel chain and clips to prevent loss of cap
- Powder Coated for easier phase identification at hook-up





INTERNAL FEATURES

Design & Performance Highlights

The advanced HP20® design techniques utilized by RigPower have allowed us to design in two O-Rings (Contact to Insulator and Insulator to Cable Adapter) at the optimum locations to create a water tight seal.

- Rated for 1135 Amps continuous at 1,000 volts, AC/DC
- Rugged machined aluminum shell with a hard anodized coating is resistant to salt corrosion, drilling mud, humidity, moisture, oil and dust
- Heavy-Duty ACME Threaded Coupling permits positive and quick engagement even under harsh conditions

- A dead front tip on the male contact improves operator safety by eliminating exposed, live surfaces
- Low Mating & Unmating Force permits ease of insertion and withdrawal. Available with an advanced “Multilam” insert
- Copper Alloy, Sn Plated Contacts and Buss Bars provide maximum conductivity
- All contacts use the same crimping die sets as the RigPower “RMP® II, Secure Mount®, Safe Stab®, VFD-1™, MCC-1® and MC20” series connectors
- Color Coding Option for positive phase identification

Advanced Crimping System

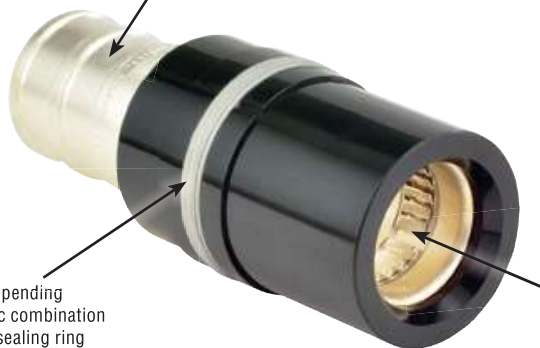
The HP20® Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

Industry Exclusive

Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won't have the propensity to short or burn out, even when the cap is not installed.

Male In-line Receptacle –

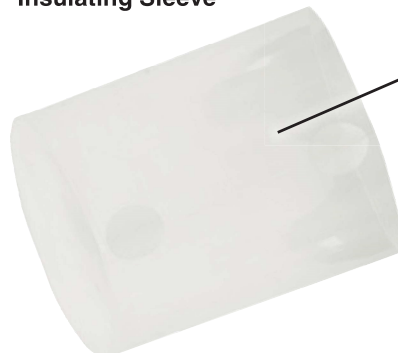
Sn plated high conductivity copper contact. All male plugs and receptacles have a dead front end to protect operators from shock hazard.



The patent pending elastomeric combination shear and sealing ring which reduces the radial clearance needed and allows for a full size 777 crimp well

The HP20® Series connectors use the Multilam contact system. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points.

- High resistance to heat
- High electrical and thermal conductivity
- Sufficiently high contact forces
- High number of contact cycles
- Excellent resistance to corrosion
- Resistance to vibration
- Long product life

HP20® Cable Adaptor w/
Internal Insulating SleeveHP20® Internal Mylar
Insulating Sleeve

Industry Exclusive

The HP20® series is the smallest connector on the market that will accept 777 MCM cable. The (patent pending) combination shear and sealing elastomeric ring reduces the radial distance needed for the insulation between the OD of the copper contact and the ID of the connector body while providing safe operation at up to 1000 volts. This design allows for a size 20 shell to contain a full size contact capable of carrying the full amperage of 777 MCM cable. The 1100 amp rating of the contact assures complete reliability and full load rating.

Industry Exclusive

The extra-long barrel and the (patent pending) design of the internally insulated cable adaptor allows no “line of sight” between the copper contact and the internal of the metal shell. This allows a full sized 777 MCM crimp well to be safely contained in the smaller Size 20 connector shell.



INDUSTRY FEATURES AND BENEFITS

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

HP20® Female Plug

Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

Coupling Nut

- Note the locking screw on the coupling nut provides for severe service environments
- Includes internal O-ring seals to prevent moisture

Advanced Crimping System
The HP20® Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

Industry Exclusive

Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won't have the propensity to short or burn out, even when the cap is not installed.

The patent pending elastomeric combination shear and sealing ring reduces the radial clearance needed and allows for a full size 777 crimp well

Plug Cap – Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

The HP20® Series connectors use the Multilam contact system. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points.

- High resistance to heat
- High electrical and thermal conductivity
- Sufficiently high contact forces
- High number of contact cycles
- Excellent resistance to corrosion
- Resistance to vibration
- Long product life

US Patent Pending

The small size of the HP20® connector is made possible by our exclusive shielded cable adaptor

HP20® Cable Adaptor w/ Internal Insulating Sleeve



HP20® Internal Mylar Insulating Sleeve



Industry Exclusive

Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won't have the propensity to short or burn out, even when the cap is not installed.

HP20® Male Plug

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

Coupling Nut

- Note the locking screw on the coupling nut provides for severe service environments
- Includes internal O-ring seals to prevent moisture

Advanced Crimping System
The HP20® Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

Insulator includes internal O-ring seals to prevent moisture intrusion

Made from Sn plated high conductivity copper. The male contacts have a dead front end to protect operators from shock hazard.

Plug Cap – Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

Quick acting double lead ACME threads for rapid, yet secure, connections.

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CONNECTORS

HP20® SERIES



FIXED CABLE RECEPTACLE FEATURES AND BENEFITS

HP20® Male Fixed Cable Receptacle

Fixed Cable Receptacle Cap
— Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

#20 Size Mounting Flange

Neoprene gasket provided.

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

Quick acting double lead ACME threads for rapid yet secure connections.

Made from Sn plated high conductivity copper. The male contacts have a dead front end to protect operators from shock hazard.

US Patent Pending

The small size of the HP20® connector is made possible by our exclusive shielded cable adaptor

HP20® Female Fixed Cable Receptacle

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

HP20® Cable Adaptor w/ Internal Insulating Sleeve

HP20® Internal Mylar Insulating Sleeve

Quick acting double lead ACME threads for rapid yet secure connections.

The HP20® series female receptacles use the Multilam Contact System. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points.

- High resistance to heat
- High electrical and thermal conductivity
- Sufficiently high contact forces
- High number of contact cycles
- Excellent resistance to corrosion
- Resistance to vibration
- Long product life

Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

#20 Size Mounting Flange

Neoprene gasket provided.

Fixed Cable Receptacle Cap — Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

HP20® Fixed In-line Connection

HP20® Fixed Cable Receptacle

HP20® Plug





HP20® SERIES

IN-LINE RECEPTACLE CONNECTIONS

HP20® Female In-line Receptacle

Advanced Crimping System

The HP20® Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

Industry Exclusive

Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won't have the propensity to short or burn out, even when the cap is not installed.

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

Plug Cap – Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

The patent pending elastomeric combination shear and sealing ring which reduces the radial clearance needed and allows for a full size 777 crimp well

The HP20® Series connectors use the Multilam contact system. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points.

- High resistance to heat
- High electrical and thermal conductivity
- Sufficiently high contact forces
- High number of contact cycles
- Excellent resistance to corrosion
- Resistance to vibration
- Long product life

HP20® In-line Connection

HP20® In-line Receptacle

HP20® Plug

Industry Exclusive

Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won't have the propensity to short or burn out, even when the cap is not installed.

HP20® Male In-line Receptacle

Advanced Crimping System

The HP-0 Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

Quick acting double lead ACME threads for rapid, yet secure, connections.

Insulator includes internal O-ring seals to prevent moisture intrusion

Made from Sn plated high conductivity copper. The male contacts have a dead front end to protect operators from shock hazard.

Plug Cap – Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.



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CONNECTORS

HP20® SERIES



PARTS LIST

ORDERING TABLE FOR HP20® SINGLE POLE POWER CONNECTORS – (Rated for 1000 Volts / 1135 Amps)					
HP20® PANEL MOUNT RECEPTACLES – Ordering Format: HP20-(1)-(2)					
(1) RECEPTACLE GENDER		(2) COLOR			
MBR = Male Double Hole Buss Bar Panel Mount Receptacle		BK = Black	BL = Blue		
FBR = Female Double Hole Buss Bar Panel Mount Receptacle		BR = Brown	G = Green		
		GY = Gray	OR = Orange		
		P = Purple	R = Red		
		W = White	Y = Yellow		
HP20® PLUGS, IN-LINE RECEPTACLES & FIXED CABLE RECEPTACLES – Ordering Format: HP20-(1)-(2)-(3)-(4)-(5)					
(1) MALE & FEMALE CONTACT SIZE	(2) STYLE OF PLUG CASING	(3) GROMMET	(4) MECHANICAL CLAMP	(5) COLOR	
Male	P = Plug	16 = 0.875 - 1.000	M = Mechanical Clamp	BK = Black	
4/0M = 4/0 Male Contact		18 = 1.000 - 1.125		BL = Blue	
3M = 313 Male Contact		OR	20 = 1.125 - 1.250	OR	BR = Brown
4M = 444 Male Contact			22 = 1.250 - 1.375	G = Green	
5M = 535 Male Contact	IR = In-Line Receptacle	24 = 1.375 - 1.500	Kellems Grip	GY = Gray	
6M = 646 Male Contact				OR = Orange	
7M = 777 Male Contact					
Female	OR		K16 = #16 (0.875 - 1.000)	P = Purple	
4/0F = 4/0 Female Contact			K18 = #18 (1.000 - 1.125)	R = Red	
3F = 313 Female Contact	FCR = Fixed Cable Receptacle		K20 = #20 (1.125 - 1.250)	W = White	
4F = 444 Female Contact			K22 = #22 (1.250 - 1.375)	Y = Yellow	
5F = 535 Female Contact			K24 = #24 (1.375 - 1.500)		
6F = 646 Female Contact	Thank You for selecting RigPower connectors				
7F = 777 Female Contact					
RIGPOWER HP20® SERIES SINGLE POLE – SPARE PARTS					
PART NUMBER	PART DESCRIPTION	PART NUMBER	MALE PART DESCRIPTION		
G16-20	Grommet #16 (0.875 - 1.000)	HP20-4/0M	HP20 - 4/0 Male Contact w/Insulator		
G18-20	Grommet #18 (1.000 - 1.125)	HP20-2M	HP20 - 373 Male Contact w/Insulator		
G20-20	Grommet #20 (1.125 - 1.250)	HP20-3M	HP20 - 313 Male Contact w/Insulator		
G22-20	Grommet #22 (1.250 - 1.375)	HP20-4M	HP20 - 444 Male Contact w/Insulator		
G24-20	Grommet #24 (1.375 - 1.500)	HP20-5M	HP20 - 535 Male Contact w/Insulator		
GW24-20	Grommet Washer #24 (for #20 Shell)	HP20-6M	HP20 - 646 Male Contact w/Insulator		
K16-20	Kellems Grip #16 (0.875 - 1.000)	HP20-7M	HP20 - 777 Male Contact w/Insulator		
K18-20	Kellems Grip #18 (1.000 - 1.125)	HP20-MBB	HP20 - Male Buss Bar w/Insulator		
K20-20	Kellems Grip #20 (1.125 - 1.250)	PART NUMBER	FEMALE PART DESCRIPTION		
K22-20	Kellems Grip #22 (1.250 - 1.375)	HP20-4/0F	HP20 - 4/0 Female Contact w/Insulator		
K24-20	Kellems Grip #24 (1.375 - 1.500)	HP20-2F	HP20 - 373 Female Contact w/Insulator		
MC24-20	Mechanical Clamp #24 (for #20 Shell)	HP20-3F	HP20 - 313 Female Contact w/Insulator		
	CABLE GROMMET Has a tapered fit to the cable adapter and is available in fourteen sizes to ensure a proper water tight seal to the cable.	HP20-4F	HP20 - 444 Female Contact w/Insulator		
		HP20-5F	HP20 - 535 Female Contact w/Insulator		
		HP20-6F	HP20 - 646 Female Contact w/Insulator		
		HP20-7F	HP20 - 777 Female Contact w/Insulator		
		HP20-FBB	HP20 - Female Buss Bar w/Insulator		
PART NUMBER	THE 30°/45° REVERSIBLE LOCKING BUSS BAR LUG	PART NUMBER	DOUBLE HOLE LUGS		
SL-535-AL	535 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-535-L	Quick/Quad Stab Double Hole 535 Lug		
SL-646-AL	646 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-646-L	Quick/Quad Stab Double Hole 646 Lug		
SL-777-AL	777 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-777-L	Quick/Quad Stab Double Hole 777 Lug		



Mechanical Clamp
Has a dual holding pattern. One size for larger cables, reverse it and it accommodates smaller cables more effectively.

Kellems® Grip
Also available for extra protection from high tensile loads on cables.



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30° – 45° Reversible Locking Buss Bar Lug
The small footprint of the HP20® panel mounted receptacles, combined with the RigPower exclusive locking lug allows the designed to combine a small foot print on the panel with short radius cable bends behind the panel while ensuring that shock or vibration loads will not loosen the plug to buss bar connection

