

Hermetic interconnect solutions

PHOENIX

High Temperature Hermetic Connectors



martec[®]
an Amphenol[®] company

Perfect Connections[®] for Mission Critical Applications

www.martec.solutions

Who we are and what we do

Perfect connections for mission-critical applications

Our connectors and penetrators are the **ideal hermetic solution** for both power and data.

Martec products represent the very forefront of technology for applications where performance, quality and reliability are needed most.

Since 1987, we have designed and manufactured high-quality precision components from our world-class, purpose-built manufacturing site in Whitstable, UK.

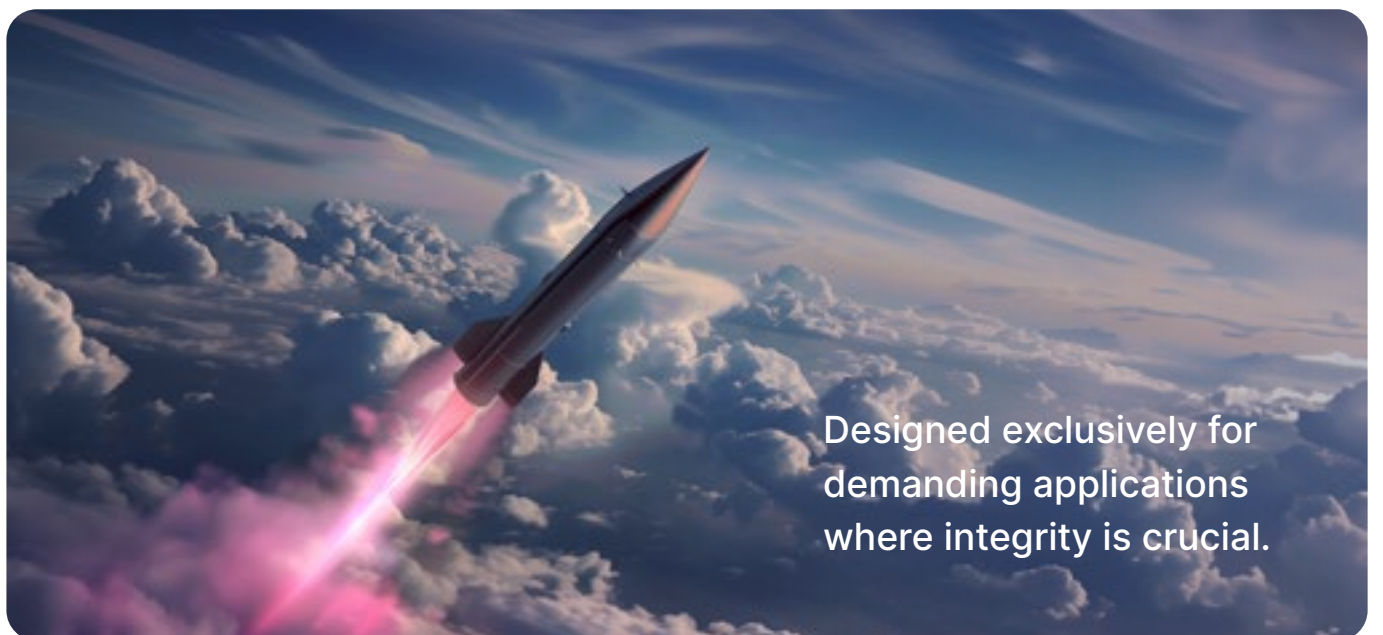
Acquired by the Amphenol Corporation in March 2016, Martec continues with the additional security, financial support and backing of a highly recognised and successful global interconnect organisation.

Martec has become Amphenol's global centre of **excellence for the design, development and manufacture of hermetics and glass-to-metal seals**, with many years of experience with exotic materials and harsh environments where high pressures and temperatures put our products to the test.



With the combined expertise of a stable workforce, a programme of continuous investment and a forward-thinking environmental policy, **Martec has the vision, strength and resources** to meet and exceed customer expectations today and long into the future.

Testament to our reputation as a trusted business is Martec's first ever customer, from 1987, still being a client today, an impressive 37 years after their first order.



Designed exclusively for demanding applications where integrity is crucial.

A culture of interactive innovation

We ensure that our products continue to challenge the norm when it comes to innovation by initiating regular product development lifecycles. This allows us to update our connectors and penetrators and apply our [latest research and development](#) to our range.

We can apply continuous innovation to our customers' solutions, even when requirements vary between conceptualisation and acceptance. We apply this mindset to existing products as well as one-off custom products developed for specific use cases.

Our experience has taught us that successful engineering projects result from clearly defined objectives, effective implementation and strong attention to detail.



MHTV, perfect for energy storage applications.

Our Project Development Objectives

1. Concept

Whether using standard or custom products, we will work closely with you to develop the right solution.

2. Initial development

We will work with you to create several working prototypes that meet all of the criteria specific to your project.

3. Full development

After reviewing the prototype options, we will develop the most effective into a fully functional product.

4. Qualification, testing and verification

We can support the qualification process through testing and acceptance test reports.

5. Pre-production

After our in-depth qualification phase, we will review all of our findings and support your product readiness reviews.

6. Production

Our expert manufacturing team will manage the entire production process with vigilance.

7. Obsolescence management

We will help to manage obsolescence by ensuring alternative solutions remain fit for purpose.

Phoenix Range MHTV Series

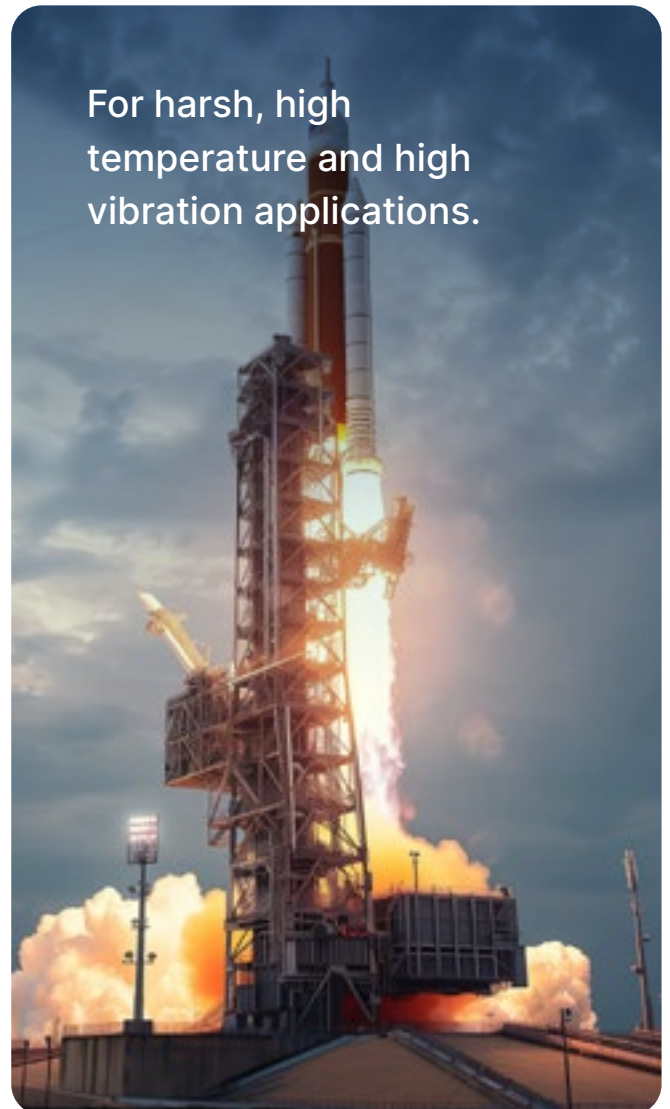
Martec presents the Phoenix Range, a series of **high-performance hermetic connectors**. Our connectors are designed and manufactured exclusively to meet the demanding environmental needs of applications requiring elevated temperature performance compared to COTS connectors.

Our Phoenix high temperature connectors bring reliability at high temperature to electronic systems throughout the Aerospace, Military, Space and Power Generation industries.

Key Features

- Operating Temperature -55°C to 450°C.
- Hermetically sealed receptacle ensures complete component protection
- Mating plug with ceramic inserts
- MIL-DTL-38999 style mating interface, and keyways
- Available in 2 mounting styles.

The key feature of our Phoenix high temperature range is **continuous use in environments up to 450°C with no compromise on electrical performance**. We are proud to have developed our technology, maintaining the integrity of the connection whilst withstanding the stresses of harsh, high temperature environments. We can supply both the receptacle and plug to offer a complete solution.



Technical Specifications

- Design standard: MIL-DTL-38999 Series III (NON-QPL)
- Planform arrangement derived from MIL-DTL-38999: 08-98, 10-5, 12-8
- Contact sizes: MIL-DTL-D38999 (Size 20)
- Shell Material: Stainless Steel
- Insulation: Receptacle: glass-ceramic Plug: ceramic insert
- Contact material: Stainless Steel / Nickel Alloy
- Leak rate: Receptacle $< 1 \times 10^7$ cc/sec (He)
- Maximum temperature: 450°C
- Insulation resistance: > 5000 MOhm @ 500 Vdc @ambient (reduced @ temperature)

Experience our superior hermetic connectors and feedthroughs – a must-have for any high-demand environment where a **reliable, high-performing connector** is key. Get in touch today.

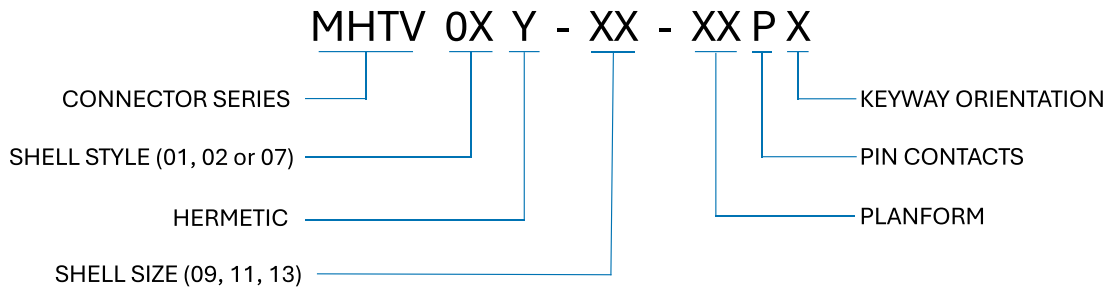
Contact our factory for further information

Tel: +44 (0)1227 287 781 | Email: sales@martec.ltd.uk

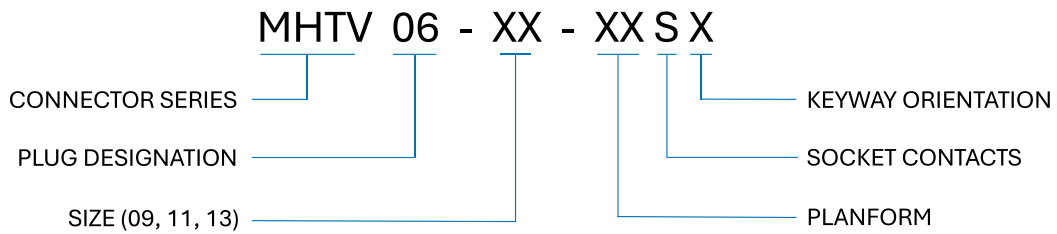


Designed to handle temperatures up to 450°C, our connector is the best choice for any high-temperature environment.

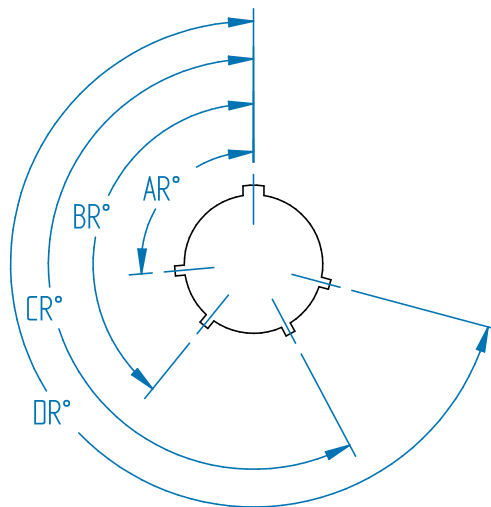
Receptacles - How to order



Plugs - How to order



Receptacle Front face shown



Alternative keying position

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The angles for a given connector are the same whether it contains pins or sockets. Master key stays fixed; minor keys rotate. Inserts are not rotated in conjunction with master key/keyway.

Keyway positional data

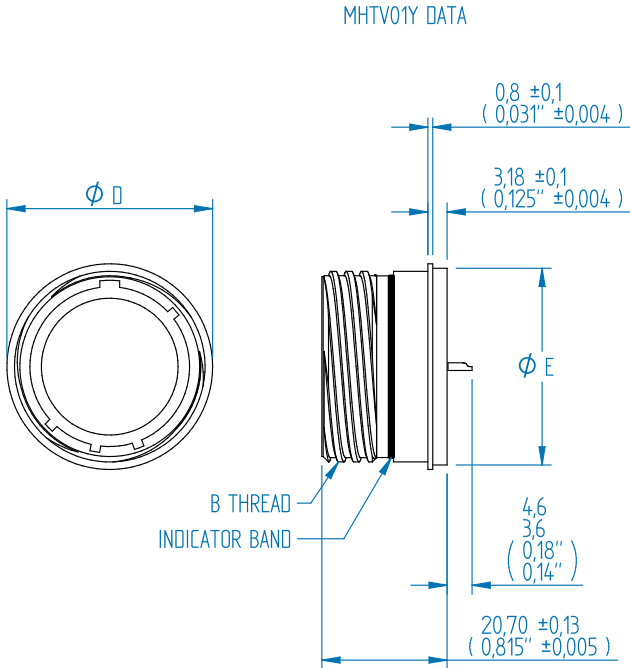
Shell Size	Key & Keyway Arrangement Identification Letter	AR°	BR°	CR°	DR°
9	N*	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
	E	91	131	197	240
11, 13	N*	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
	D	119	146	176	298
	E	51	141	184	242

Availability, arrangement and identification

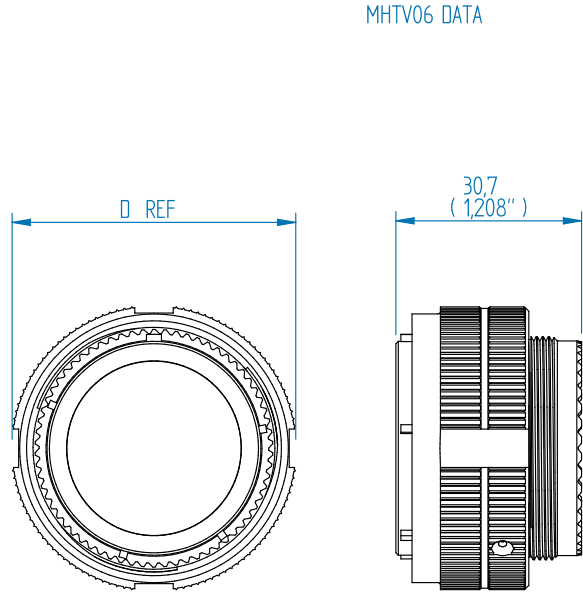
	9-98	11-5	13-8
# of contacts	3	5	8
Contact size	20	20	20



MHTV01 Technical drawing



MHTV06 Technical drawing



Dimensions

Shell Size	B Thread 0,1P-0,3P-TS	D +0,010 -0,010	E +0,002 -0,002
9	0,625	0,750	0,670
11	0,750	0,843	0,781
13	0,875	0,970	0,904

All dimensions in inches

Shell Size	D1 +0,25 -0,25	E +0,05 -0,05
9	19,05	17,02
11	21,41	19,84
13	24,64	22,96

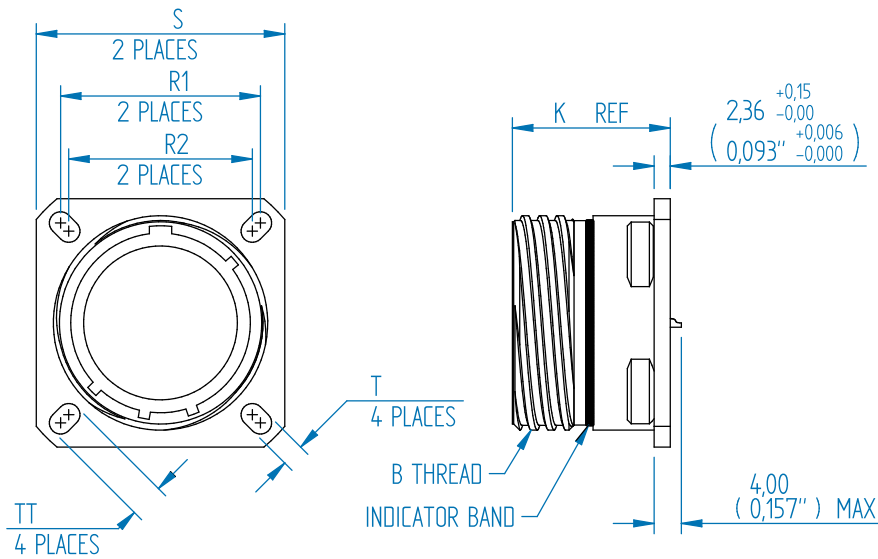
All dimensions in mm

Dimensions

Shell Size	D Ref (mm)	D Ref (inches)
9	25,4	1,000
11	28,6	1,125
13	31,5	1,240

MHTV02

Technical drawing



MHTV02Y DATA

Dimensions

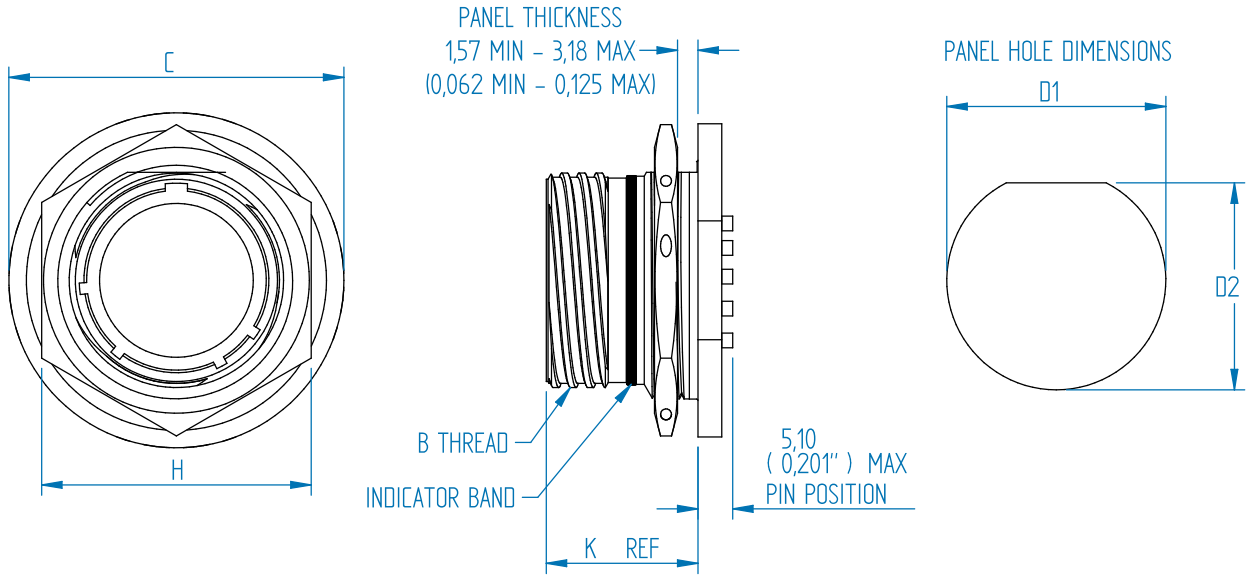
Shell Size	B Thread 0,1P-0,3P-TS	R1	R2	S ±0,010	T ±0,008	TT ±0,008	K
9	0,625	0,719	0,594	0,938	0,128	0,216	0,913
11	0,750	0,812	0,719	1,031	0,128	0,194	0,913
13	0,875	0,906	0,812	1,125	0,128	0,194	0,913

All dimensions in inches

Shell Size	R1	R2	S ±0,25	T ±0,2	TT ±0,2	K
9	18,26	15,09	23,83	3,25	5,49	23,2
11	20,62	18,26	26,19	3,25	4,93	23,2
13	23,01	20,62	28,58	3,25	4,93	23,2

All dimensions in mm

MHTV07 Technical drawing



Dimensions

Shell Size	B Thread 0,1P-0,3P-TS	C Max	D1 +0,010 -0,000	D2 +0,000 -0,010	H Hex +0,017 -0,016	K
9	0,625	1,062	0,693	0,657	0,875	0,871
11	0,750	1,250	0,825	0,770	1,000	0,871
13	0,875	1,375	1,010	0,955	1,188	0,878

All dimensions in inches

Shell Size	C Max	D1 +0,25 -0,00	D2 +0,00 -0,25	H Hex +0,43 -0,41	K
9	26,98	17,60	16,70	22,23	22,12
11	31,75	20,96	19,59	25,40	22,12
13	34,93	25,65	24,26	30,18	22,30

All dimensions in mm

Our High Temperature range

Where exceptional performance at high temperature is the critical factor, Martec have a solution for you.

Martec's expertise and versatility in manufacturing allows for precise standards and tolerance, ensuring the high temperature solution we manufacture meets the specifics of different industries and customers. Components, including feedthroughs and circular interconnect, not only offer a high temperature solution but also maintain high performance standards, and can be tailored to meet our customers' mission critical criteria.



Customise your connectors

Customisation is key in meeting the unique needs in various industries. Our engineering team specialises in tailoring interconnect solutions to specific requirements, guaranteeing a perfect fit for your application. Whether it is for Aerospace, power generation or any other industry where top performance at high temperature is paramount, our connectors offer unmatched performance and reliability.





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