

# HD High density multiple wire feedthroughs



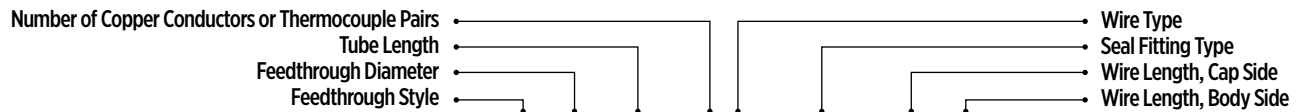
Conax Technologies' HD Series high density mechanically sealed feedthrough assemblies allow multiple insulated wires to be installed through a single port. These assemblies consist of a stainless steel tube swaged over bundled 24 AWG solid Teflon™-insulated thermocouple wire or copper wires. The thermocouple pairs are available with or without junctions. HD assemblies provide an excellent means to pass numerous thermocouple, RTD and low voltage instrumentation wires through a vessel wall without breaching the wall in multiple locations.

HD assemblies can be supplied with or without a Conax Technologies soft seal fitting for pressure/vacuum sealing. When equipped with a fitting, the tube passes through the sealing fitting, providing a continuous wire feedthrough. Assemblies configured with a PG Fitting can accommodate up to 60 conductor wires or 30 thermocouple pairs. An MHM Fitting can accommodate multiple HD assemblies to seal up to 240 conductors or 120 thermocouple pairs. Assemblies can also be furnished with split fittings or MK Fittings.

The stainless steel tube is provided with a 4-1/2" nominal length standard. These feedthroughs are normally furnished with 24 inches of lead wire on each end. Longer lengths may be furnished as required.

- Temperature Range: -112 °F to +250 °F (-80 °C to +120 °C)
- Vacuum Rating: 5x10<sup>-6</sup> mmHg @ 68 °F (20 °C)
- Leak Rate: 1x10<sup>-9</sup> He scc/sec @ 68 °F (20 °C)
- Voltage Rating: to 100VDC
- Amperage Rating: to 500mA
- Feedthrough Pressure Rating @ 68 °F (20 °C): 5,000 PSIG (345 bar). For fitting pressure ratings, see the applicable fitting section. The Assembly Pressure Rating is limited by the lowest element in the assembly (fitting or feedthrough).

## Catalog Numbering System



**Example (with seal fitting): HD25-450 (12K) PG2AT, 24/24**  
**Example (without seal fitting): HD25-450 (12K), 24/24**

Fitting Style	Feedthrough Diameter	Tube Length	Number of Conductors	Wire Type	Seal Fitting Type (Optional)	Wire Length, Cap Side	Wire Length, Body Side
HD	18 - 0.187" OD	450 - 4.5" Custom tube lengths also available.	12 - for HD18 12 total conductors or 6 T/C pairs	J Iron/Constantan	Select a fitting with a bore size that fits the feedthrough diameter. See the appropriate catalog section for proper fitting callout. If fitting is not required, omit fitting callout. Will accept PG, MK, MHM or split fitting.	(in inches)	(in inches)
	25 - 0.250" OD		24 - for HD25 24 total conductors or 12 T/C pairs	K Chromel/Alumel			
	31 - 0.312" OD		40 - for HD31 40 total conductors or 20 T/C pairs	T Copper/Constantan			
	37 - 0.375" OD		60 - for HD37 60 total conductors or 30 T/C pairs	E Chromel/Constantan			
				CU Copper			
				CU (NI) Nickel-plated Copper			
				CX Alloy for Tungsten 5% Rhenium/Tungsten 26% Rhenium, 24 AWG only			
				RX/SX Copper/Copper Nickel alloy			
				N Nicrosil/Nisil			

Conax Technologies can provide numerous options for the management of wires in our sealing assemblies:

- Wire Markers with customer nomenclature for easy wire identification of multiple wires
- Twisting of wires in pairs or other groupings for easier identification and management
- Wire Jackets/Sleeving
- Hot Junctions—exposed or encapsulated

Please consult a Conax Technologies sales engineer for details.



High density assemblies with a PG or MK Fitting provide a continuous sealed wire feedthrough accommodating up to 60 wires or 30 thermocouple pairs.



High Density (HD) Thermocouple Feedthrough for Thermal Validation or Mapping of a Pharmaceutical Freeze Dryer, Sterilizer or Lyophilizer. High density assemblies can be fitted with thermocouple junctions and/or connectors as demonstrated in this assembly for the pharmaceutical industry.



Multiple high density units passing through the multiple holes of an MHM Fitting produce an assembly capable of accommodating hundreds of wires or thermocouple pairs.

HD Series Capacities	Feedthrough Diameter		Number of Conductors
	IN	MM	
HD18	0.19	4.7	12
HD25	0.25	6.4	24
HD31	0.31	7.9	40
HD37	0.38	9.5	60

Conductor Capacity per Seal Fitting					
Seal Fitting	Feedthroughs per Fitting	HD18	HD25	HD31	HD37
MPG-187	1	12			
PG2-187	1	12			
PG2-250	1		24		
PG4-187	1	12			
PG4-250	1		24		
PG4-312	1			40	
PG4-375	1				60
PG5-375	1				60
MHM5-187	2	24			
	3	36			
	4	48			
	5	60			
	6	72			
MHM5-250	2		48		
	3		72		
	4		96		
MHM6-187	8	96			
	10	120			
	12	144			
	14	168			
MHM6-250	5		120		
	6		144		
	7		168		
MHM6-312	2			80	
	3			120	
	4			160	
MHM6-375	2				120
	3				180
	4				240

HD SERIES

