

Technical Information

Connection Information

DHL Series Connections

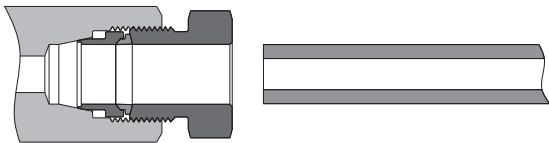
Dimensions of Female DHL Series Connections (DHL) - Double Ferrule Type

Tube O.D. in.(mm)	Connection	Dimensions, in. (mm)			
		P	C	D	E
1/8 (3.18)	DHL2	3/8-24	0.63 (15.9)	0.13 (3.2)	0.09 (2.4)
1/4 (6.35)	DHL4	1/2-20	0.85 (21.7)	0.25 (6.4)	0.19 (4.8)
3/8 (9.53)	DHL6	5/8-18	0.89 (22.5)	0.38 (9.5)	0.25 (6.4)
1/2 (12.7)	DHL8	13/16-16	0.96 (24.4)	0.50 (12.7)	0.37 (9.5)
9/16 (14.3)	DHL9	15/16-14	1.20 (30.6)	0.56 (14.3)	0.41 (10.4)
3/4 (19.1)	DHL12	1 1/4-12	1.54 (39.2)	0.75 (19.1)	0.56 (14.2)

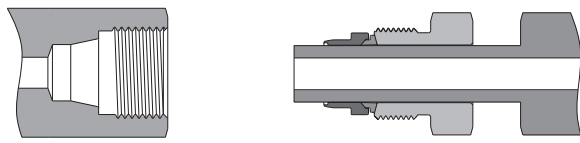
NOTES: 1. All dimensions are shown for reference only and should not be considered as actual machining dimensions.
 2. All threads are manufactured to class 2A or 2B fit.

Types of DHL Series Connections

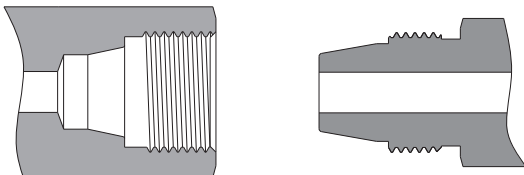
a. Female DHL Series (DHL) DHL Series Tubing



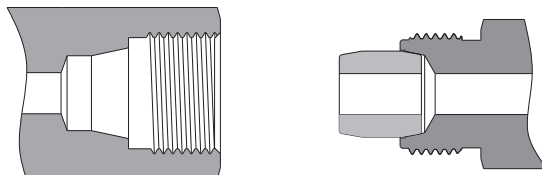
b. Female DHL Series (DHL) (Without Ferrules and Nut) DHL Series Tube Stub with Ferrules and Nut (DHM)



c. Female DHL Series (DHL) (Without Ferrules and Nut) Male DHL Series (One-Piece) (DMP)



d. Female DHL Series (DHL) (Without Ferrules and Nut) Male DHL Series (Two-Piece) (DCP)



Medium Pressure Connections

Dimensions of Female Medium Pressure Connections (2FH)

Tube O.D. in.(mm)	Connection	Dimensions, in. (mm)				
		P	B	C	D	E
1/4 (6.35)	2FH4	7/16-20	0.29 (7.3)	0.50 (12.7)	0.19 (4.8)	0.11 (2.8)
3/8 (9.53)	2FH6	9/16-18	0.39 (10.0)	0.63 (16.0)	0.31 (7.9)	0.20 (5.2)
9/16 (14.3)	2FH9	13/16-16	0.44 (11.2)	0.75 (19.1)	0.50 (12.7)	0.31 (7.9)
3/4 (19.1)	2FH12	3/4-14	0.31 (13.0)	0.94 (23.9)	0.63 (15.9)	0.44 (11.1)
1 (25.4)	2FH16	1 3/8-12	0.83 (21.0)	1.31 (33.3)	0.88 (22.4)	0.56 (14.3)

Dimensions of Medium Pressure Coned-and-Threaded Tubing Connections

Tube O.D. x I.D. in.	Connection	Dimensions, in. (mm)		
		T (Left Hand)	D	L
1/4 x 0.109	2FH4	1/4-28	0.14 (3.6)	0.34 (8.7)
3/8 x 0.203	2FH6	3/8-24	0.25 (6.4)	0.44 (11.1)
9/16 x 0.312	2FH9	9/16-18	0.41 (10.3)	0.50 (12.7)
3/4 x 0.438	2FH12	3/4-16	0.56 (14.3)	0.63 (15.9)
1 x 0.562	2FH16	1-14	0.72 (18.3)	0.78 (19.8)

NOTES: 1. All dimensions are shown for reference only and should not be considered as actual machining dimensions.
 2. All threads are manufactured to class 2A or 2B fit.

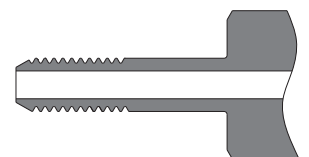
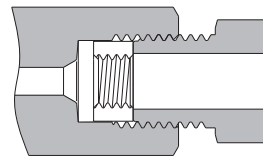
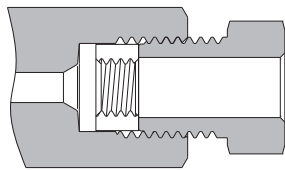
Types of Medium Pressure Connections

a. Female MP (2FH)

Medium Pressure Coned and Threaded Tubing

b. Female MP (2FH)

MP Nipple (2CT)

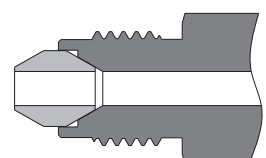
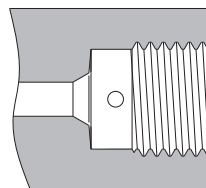
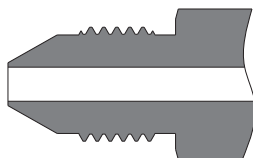
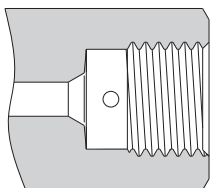


c. Female MP (2FH) (Without Collar and Gland)

Male MP (One-Piece) (2MP)

d. Female MP (2FH) (Without Collar and Gland)

Male MP (Two-Piece) (2CP)



High Pressure Connections

Dimensions of Female High Pressure Connections (6FH)

Tube O.D. in.(mm)	Connection	Dimensions, in. (mm)				
		P	B	C	D	E
1/4 (6.35)	6FH4	9/16-18	0.39 (9.8)	0.45 (11.4)	0.17 (4.3)	0.09 (2.4)
3/8 (9.53)	6FH6	3/4-16	0.54 (13.6)	0.64 (16.3)	0.26 (6.6)	0.13 (3.2)
9/16 (14.3)	6FH9	1 1/8-12	0.63 (16.0)	0.75 (19.1)	0.38 (9.7)	0.19 (4.8)

Dimensions of High Pressure Coned-and-Threaded Tubing Connections

Tube O.D. x I.D. in.	Connection	Dimensions, in. (mm)		
		T (Left Hand)	D	L
1/4 x 0.083	6FH4	1/4-28	0.13 (3.2)	0.56 (14.3)
3/8 x 0.125	6FH6	3/8-24	0.22 (5.6)	0.75 (19.1)
9/16 x 0.188	6FH9	9/16-18	0.28 (7.1)	0.94 (23.8)

NOTES: 1. All dimensions are shown for reference only and should not be considered as actual machining dimensions.
 2. All threads are manufactured to class 2A or 2B fit.

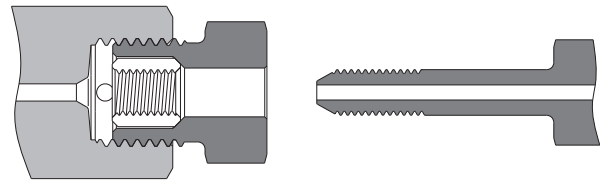
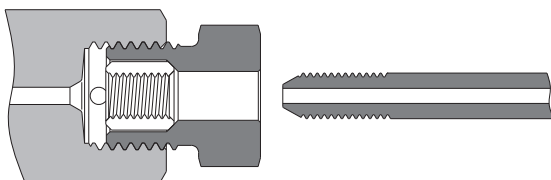
Types of High Pressure Connections

a. Female HP (6FH)

High Pressure Coned and Threaded Tubing

b. Female HP (6FH)

HP Nipple (6CT)

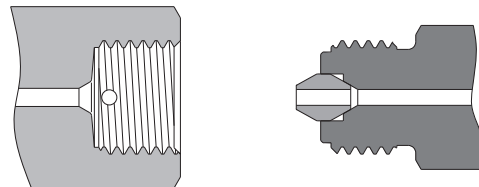
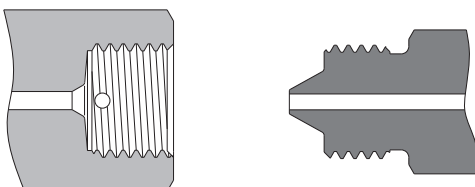


c. Female HP (6FH) (Without Collar and Gland)

Male HP (One-Piece) (6MP)

d. Female HP (6FH) (Without Collar and Gland)

Male HP (Two-Piece) (6CP)

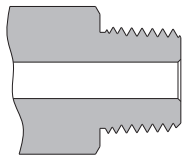


Thread Ends

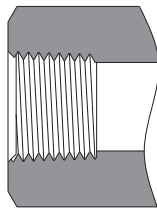
Thread Specifications

Connection Type	Code	Thread Type	Thread Specification
Male or Female NPT	NS or FNS	NPT	ASME B1.20.1, SAE AS71051
Male or Female ISO/BSP Tapered	RT or FRT	ISO/BSP Tapered	ISO 7-1, BS EN 10226-1, DIN EN 10226-1, JIS B0203
Heavy-Duty Stud Ends (SAE J1926-2, ISO 11926-2)	SH	SAE/MS	ASME B1.1
Ports with O-ring Seal in Truncated Housing (SAE J1926-1, ISO 11926-1)	US		
Male or Female JIC (37° Flare)	AN		
Male Type "M"	HM		

Male NPT (NS)

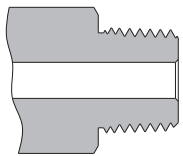


Female NPT (NS or FNS)

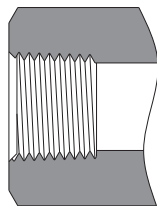


- 60° thread angle
- Pitch measured in inch
- Truncation of roots and crests are flat
- Taper 1:16
- Type of sealing: thread sealant

Male ISO/BSP Tapered (RT)

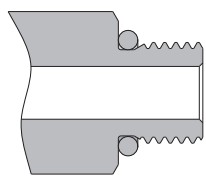


Female ISO/BSP Tapered (RT or FRT)

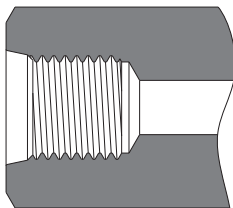


- 55° thread angle
- Pitch measured in inch
- Truncation of roots and crests are flat
- Taper 1:16
- Type of sealing: thread sealant

Heavy-Duty Stud Ends (SH)

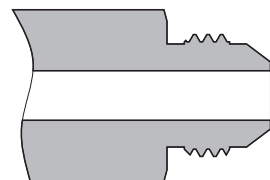


Ports with O-ring Seal in Truncated Housing (US)

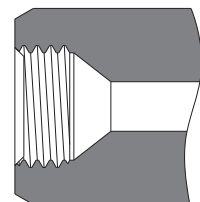


- 60° thread angle
- Pitch measured in inch
- Truncation of roots and crests are rounded
- SH Stud End complies with SAE J1926-2, ISO 11926-2
- US Port complies with SAE J1926-1, ISO 11926-1

Male JIC (37° Flare) (AN)



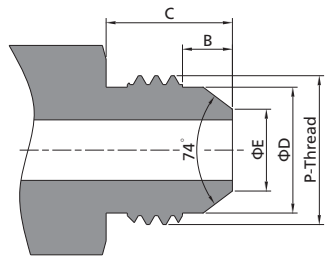
Female JIC (37° Flare) (AN)



- 60° thread angle
- Pitch measured in inch
- Truncation of roots and crests are rounded
- 74° coned connections

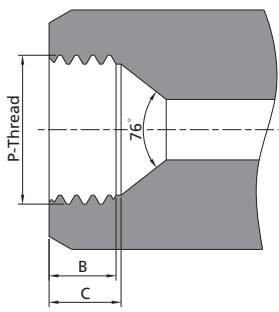
Dimensions of AN Stud End (Male)

Connection	Dimensions, in. (mm)				
	P	B	C	D	E
AN4	7/16-20	0.20 (5.1)	0.55 (14.0)	0.36 (9.2)	0.19 (4.9)
AN6	9/16-18	0.20 (5.2)	0.56 (14.1)	0.48 (12.1)	0.32 (8.1)
AN8	3/4-16	0.26 (6.6)	0.66 (16.7)	0.65 (16.6)	0.43 (10.8)
AN10	7/8-14	0.28 (7.0)	0.76 (19.3)	0.77 (19.5)	0.54 (13.7)
AN12	1 1/16-12	0.32 (8.2)	0.86 (21.9)	0.94 (23.9)	0.67 (16.9)
AN16	1 5/16-12	0.32 (8.2)	0.91 (23.1)	0.19 (30.2)	0.91 (23.2)



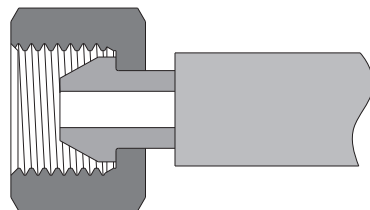
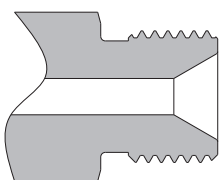
Dimensions of AN Port (Female)

Connection	Dimensions, in. (mm)		
	P	B	C
AN4	7/16-20	0.28 (7.1)	0.33 (8.3)
AN6	9/16-18	0.29 (7.4)	0.34 (8.7)
AN8	3/4-16	0.31 (7.9)	0.37 (9.5)
AN10	7/8-14	0.40 (10.2)	0.47 (11.9)
AN12	1 1/16-12	0.42 (10.7)	0.50 (12.7)
AN16	1 5/16-12	0.48 (12.3)	0.56 (14.3)



Male Type "M" (HM)

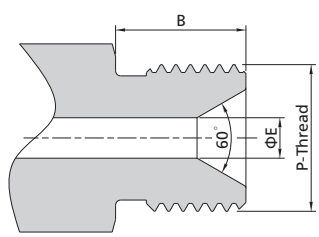
Female Swivel Type "M" Hose Fitting



- 60° thread angle
- Pitch measured in inch
- Truncation of root and crest are rounded
- 60° coned connections

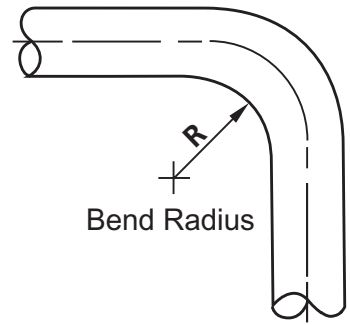
Dimensions of HM Stud End

Connection	Dimensions, in. (mm)		
	P	B	E
HM9	9/16-18	0.50 (12.7)	0.09 (2.4)
HM12	3/4-16	0.63 (16.0)	0.29 (7.4)
HM14	7/8-14	0.76 (19.2)	0.15 (3.8)
HM16	1-12	0.64 (16.3)	0.39 (10.0)
HM21	1 5/16-12	0.62 (15.7)	0.69 (17.5)



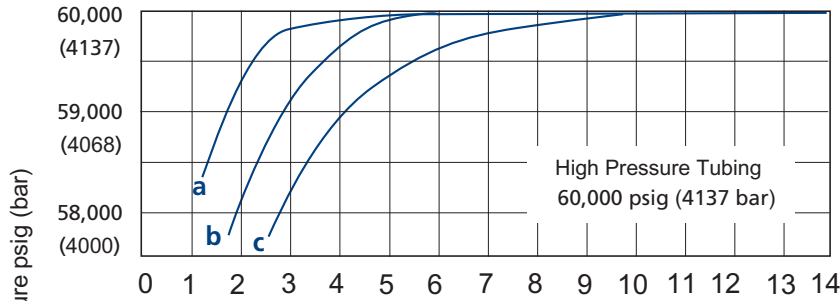
Working Pressure vs. Bend Radius Curve

Medium & High Pressure Tubing (316/316L SS)



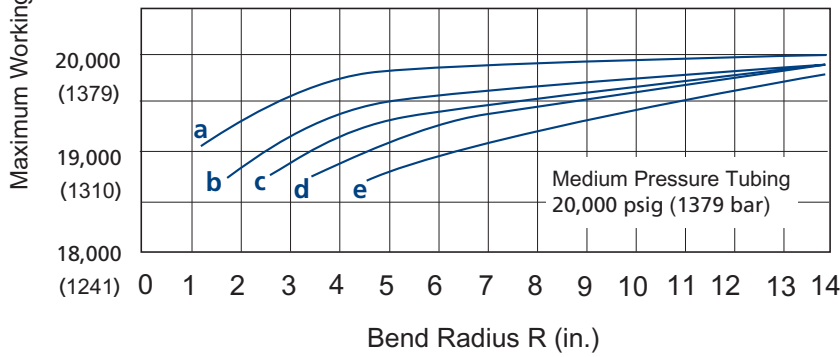
Bend Radius

High Pressure Tubing 60,000 psig (4137 bar)



	Tube O.D. x I.D. in.	R (min.) in. (mm)
a	1/4 x 0.083	1.25 (31.8)
b	3/8 x 0.125	1.75 (44.5)
c	9/16 x 0.188	2.63 (66.7)

Medium Pressure Tubing 20,000 psig (1379 bar)



	Tube O.D. x I.D. in.	R (min.) in. (mm)
a	1/4 x 0.109	1.25 (31.8)
b	3/8 x 0.203	1.75 (44.5)
c	9/16 x 0.312	2.63 (66.7)
d	3/4 x 0.438	3.50 (89.9)
e	1 x 0.562	4.63 (117.5)

- Medium & High Pressure Fittings and Tubing
- Quick Couplings
- Medium & High Pressure Valves
- Line Filters
- Sour Service Products
- Subsea Valves
- Tools and Installation Instructions
- Technical Information