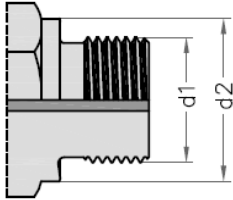


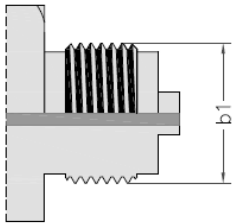
PARALLEL MALE THREADS



process connection size	1/4"	3/8"	1/2"	3/4"	M20	
Thread type	BSP-m	BSP-m	BSP-m	BSP-m	Metric	
Seal method	ISO 1179-4	ISO 1179-4	ISO 1179-4	ISO 1179-4	ISO 9974-3	
Designation thread	ISO 228-1	ISO 228-1	ISO 228-1	ISO 228-1	ISO 261	
Nominal thread diameter	d1	13.16	16.66	20.96	26.44	19.85
Thread per inch		19W ¹	19W ¹	14W ¹	14W ¹	1.5M ²
Diameter of shoulder	d2	18	22	26	32	24.9

¹ W = Whitworth thread

² M = Metric thread

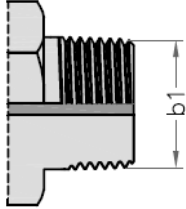


process connection size	1/4"	3/8"	1/2"	3/4"	M20	
Thread type	BSP-m	BSP-m	BSP-m	BSP-m	Metric	
Seal method	EN 837	EN 837	EN 837	EN 837	EN 837	
Designation thread	ISO 228-1	ISO 228-1	ISO 228-1	ISO 228-1	ISO 261	
Nominal thread diameter	b1	13.16	16.66	20.96	26.44	19.85
Thread per inch		19W ¹	19W ¹	14W ¹	14W ¹	1.5M ²

¹ W = Whitworth thread

² M = Metric thread

TAPERED MALE THREADS



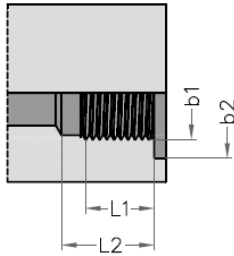
process connection size	1/4"	3/8"	1/2"	3/4"
Thread type	NPT-m	NPT-m	NPT-m	NPT-m
Seal method	On thread	On thread	On thread	On thread
Designation thread	ASME B 1.20.1	ASME B 1.20.1	ASME B 1.20.1	ASME B 1.20.1
Nominal thread diameter	b1 13.54	16.98	21.4	26.49
Thread per inch	18U ¹	18U ¹	14U ¹	14U ¹

¹ U = Unified thread

process connection size	1/4"	3/8"	1/2"	3/4"
Thread type	R (BSPT-m)	R (BSPT-m)	R (BSPT-m)	R (BSPT-m)
Seal method	On thread	On thread	On thread	On thread
Designation thread	ISO 7-1	ISO 7-1	ISO 7-1	ISO 7-1
Nominal thread diameter	b1 13.16	16.86	20.96	26.44
Thread per inch	19W ¹	19W ¹	14W ¹	14W ¹

¹ W = Whitworth thread

PARALLEL FEMALE THREADS

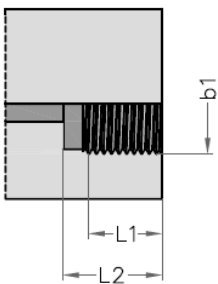


process connection size	1/4"	3/8"	1/2"	3/4"
Thread type	BSP-f	BSP-f	BSP-f	BSP-f
Seal method	ISO 1179-1	ISO 1179-1	ISO 1179-1	ISO 1179-1
Designation thread	ISO 228-1	ISO 228-1	ISO 228-1	ISO 228-1
Nominal thread diameter	b1	11.45	14.95	18.63
Thread per inch		19W ¹	19W ¹	14W ¹
Diameter of spot face (type N)	b2	20	23	28
Thread length (min)	L1	12.5	12.5	15.0
Port depth (min)	L2	15.5	15.5	19.0

¹ W = Whitworth thread

process connection size	M20	M20
Thread type	Metrical	Metrical
Seal method	ISO 1179-1	ISO 9974-1
Designation thread	ISO 261	ISO 261
Nominal thread diameter	b1	18.92
Thread per inch		1.5M ²
Diameter of spot face (type N)	b2	-
Thread length (min)	L1	15.0
Port depth (min)	L2	19.0

¹ M = Metrical thread

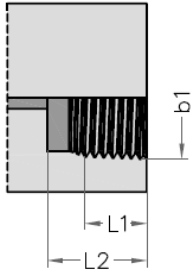


process connection size	1/4"	3/8"	1/2"	3/4"
Thread type	BSP-f	BSP-f	BSP-f	BSP-f
Seal method	EN 837	EN 837	EN 837	EN 837
Designation thread	ISO 228-1	ISO 228-1	ISO 228-1	ISO 228-1
Nominal thread diameter	b1	11.45	14.95	18.63
Thread per inch		19W ¹	19W ¹	14W ¹
Thread length (min)	L1	10.0	12.0	15.0
Port depth (min)	L2	13.0	16.0	19.0

¹ W = Whitworth thread

² M = Metrical thread

TAPERED FEMALE THREADS



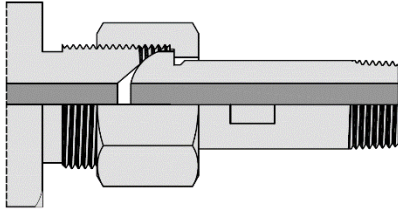
process connection size	1/4"	3/8"	1/2"	3/4"	
Thread type	NPT-f	NPT-f	NPT-f	NPT-f	
Seal method	On thread	On thread	On thread	On thread	
Designation thread	ASME B 1.20.1	ASME B 1.20.1	ASME B 1.20.1	ASME B 1.20.1	
Nominal thread diameter	b1	11.07	14.49	17.9	23.21
Thread per inch		18U ¹	18U ¹	14U ¹	14U ¹
Thread length (min)	L1	10.0	10.3	13.6	14.1
Port depth (min)	L2	16.4	17.4	22.6	23.1

¹ U = Unified thread

process connection size	1/4"	3/8"	1/2"	3/4"	
Thread type	Rc (BSPT-f)	Rc (BSPT-f)	Rc (BSPT-f)	Rc (BSPT-f)	
Seal method	On thread	On thread	On thread	On thread	
Designation thread	ISO 7-1	ISO 7-1	ISO 7-1	ISO 7-1	
Nominal thread diameter	b1	11.45	14.49	17.90	23.21
Thread per inch		19W ¹	19W ¹	14W ¹	14W ¹
Thread length (min)	L1	10.0	10.3	13.6	14.1
Port depth (min)	L2	11.0	11.4	15.0	16.3

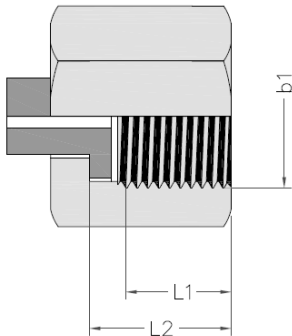
¹ W = Whitworth thread

ROTATING CONNECTIONS



process connection size	1/2"
Type	Swivel Gauge
Thread type	NPT-m
Seal method	sealing face
Designation thread	ASME 1.20.1
Nominal thread diameter	21.4
Thread per inch	14U ¹
Socket wrench size	19

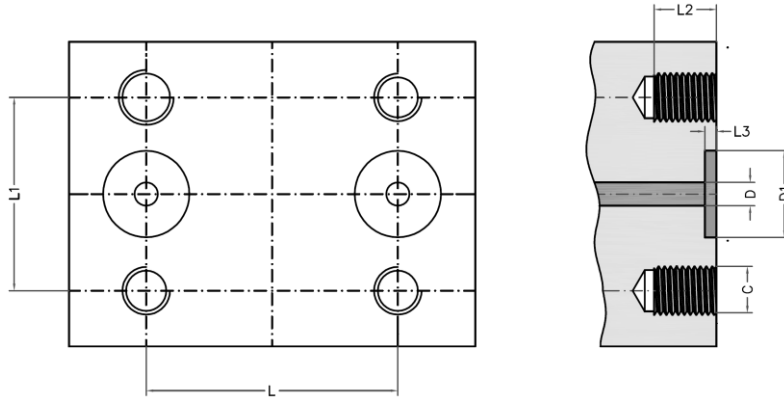
¹ U = Unified thread



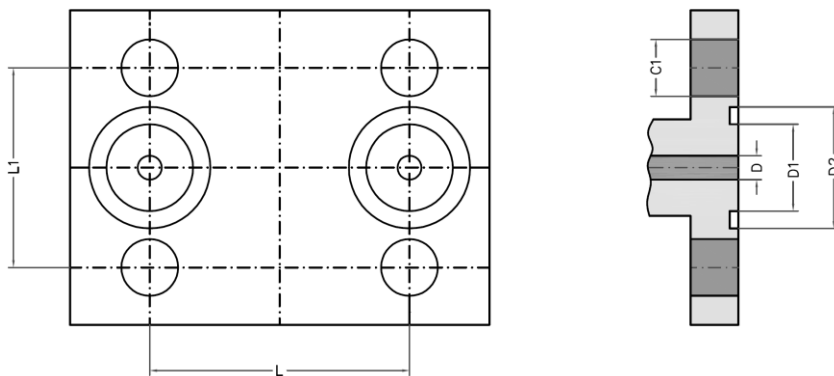
instrument connection size	1/2"	
Type	Rotating Nut	
Thread type	BSP-f	
Seal method	DIN 16284	
Designation thread	ISO 228-1	
Nominal thread diameter	b1	18.63
Thread per inch	14W ¹	
Thread length (min)	L1	18.0
Port depth (min)	L2	24
Socket wrench size	27	
Maximum allowable pressure	400 bar	

¹ W = Whitworth thread

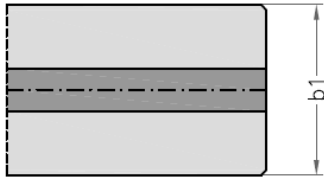
FLANGED CONNECTIONS



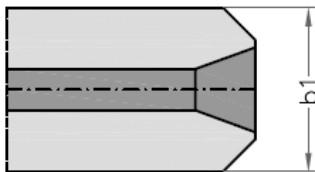
process connection size		1/2"
Type	Transmitter interface	
Standard	IEC 61518	
Thread size	C	7/16" UNF x 20
Bore diameter	D	2.9
Inside diameter groove	D1	18.5
Centre to center distance dP	L	54.0
Centre to center distance height	L1	41.3
Depth thread	L2	≥ 15
Depth groove	L3	2.5



instrument connection size		1/2"
Type	Transmitter interface	
Standard	IEC 61518 type B	
Thread size	C	7/16" UNF x 20
Bolt size	C1	-
Bore diameter	D	2.9
Inside diameter groove	D1	18.5
Outside diameter groove	D2	25.5
Centre to center distance dP	L	54.0
Centre to center distance height	L1	41.3
Depth thread	L2	≥ 15
Depth groove	L3	2.5

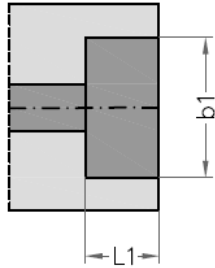
MALE WELD ENDS


process connection size	1/2"	3/4"	DN15	DN20
Type	Socket Weld	Socket Weld	Socket Weld	Socket Weld
Standard (suitable for)	ASME B16.11	ASME B16.11	EN 12760	EN 12760
Weld type	Fillet Weld	Fillet Weld	Fillet Weld	Fillet Weld
Outside diameter of bevel	b1	21.3	26.7	21.3



process connection size	1/2"	3/4"	DN15	DN20
Type	Butt Weld	Butt Weld	Butt Weld	Butt Weld
Standard	ASME B 16.9	ASME B 16.9	EN 12627	EN 12627
Weld type	Penetrated weld	Penetrated weld	Penetrated weld	Penetrated weld
Outside diameter of bevel	b1	21.3	26.7	22

FEMALE WELD ENDS



process connection size		1/2"	3/4"	DN15	DN20
Type		Socket Weld	Socket Weld	Socket Weld	Socket Weld
Standard		ASME B16.11	ASME B16.11	EN 12760	EN 12760
Weld type		Fillet Weld	Fillet Weld	Fillet Weld	Fillet Weld
Inside diameter of socket (min)	b1	21.8	27.2	21.7	27.05
Inside diameter of socket (max)	b2	22.2	27.6	22.2	27.55
Inside diameter of socket (min)	L1	9.5	12.5	10	13



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