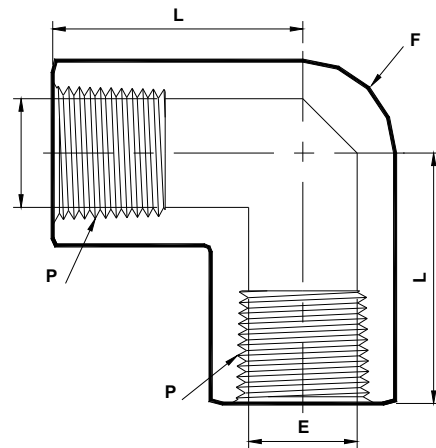


3. Pipe Fitting Part 2

1/16"-2" NPT, 1/8"-1/2" BSP/ISO, SAE/MS

18. Female Elbow

NPT (F) x NPT (F)
(N - PFE)



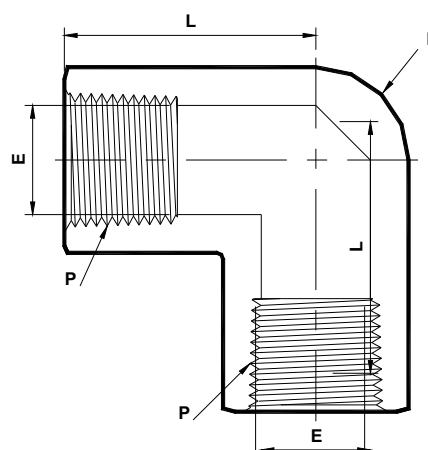
Sr. No.	NPT ② Female Pipe Size P	Ref Part No.	L	ØE ①	Hex F
Dimensions in Inches					
1	1/16 x 27	1N PFE	0.50	0.25	7/16
2	1/8 x 27	2N PFE	1.04	0.34	9/16
3	1/4 x 18	4N PFE	1.17	0.45	3/4
4	3/8 x 18	6N PFE	1.42	0.59	7/8
5	1/2 x 14	8N PFE	1.56	0.73	1.1/16
6	3/4 x 14	12N PFE	1.92	0.94	1.1/4
7	1 x 11.5	16N PFE	1.91	1.17	1.5/8
8	1-1/4 x 11.5	20N PFE	1.70	1.51	1.7/8
9	1-1/2 x 11.5	24N PFE	2.08	1.75	2.1/2

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

19. Female Elbow

ISO Tapered (F) x ISO Tapered (F)
(IT - PFE)



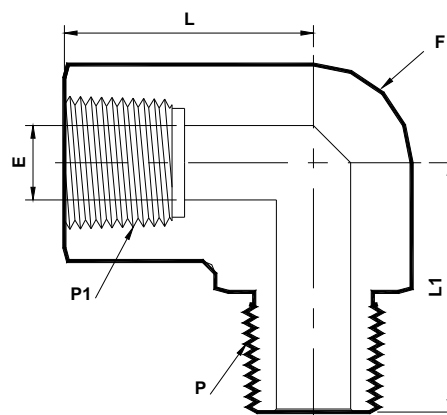
Sr. No.	ISO ② Female Pipe Size P	Ref Part No.	L	ØE ①	Hex F
Dimensions in Inches					
1	(1/4 x 19)	4IT PFE	1.17	0.43	3/4
2	(3/8 x 19)	6IT PFE	1.42	0.57	7/8
3	(1/2 x 14)	8IT PFE	1.56	0.71	1.1/16

NOTE : ① The 'E' Dimension is the minimum opening.

② ISO (BSP Tapered) thread as per BS 21.

20. Street Elbow

NPT (M) x NPT (F)
(N - PSE - N)



Sr. No.	NPT ② Male Pipe Size P	NPT ② Female Pipe Size P1	Ref Part No.	L	L1	ØE ①	Hex F
Dimensions in Inches							
1	(1/16 x 27) x (1/16 x 27)		1PSE 1N	0.86	0.88	0.12	7/16
2	(1/8 x 27) x (1/8 x 27)		2PSE 2N	1.04	0.87	0.19	9/16
3	(1/4 x 18) x (1/4 x 18)		4PSE 4N	1.17	1.17	0.28	3/4
4	(3/8 x 18) x (3/8 x 18)		6PSE 6N	1.42	1.26	0.38	7/8
5	(1/2 x 14) x (1/2 x 14)		8PSE 8N	1.56	1.56	0.47	1.1/16
6	(3/4 x 14) x (3/4 x 14)		12PSE 12N	1.92	1.67	0.62	1.1/4
7	(1 x 11.5) x (1 x 11.5)		16PSE 16N	1.91	1.94	0.88	1.5/8
8	(1-1/4 x 11.5) x (1-1/4 x 11.5)		20PSE 20N	1.91	2.38	1.09	1.7/8

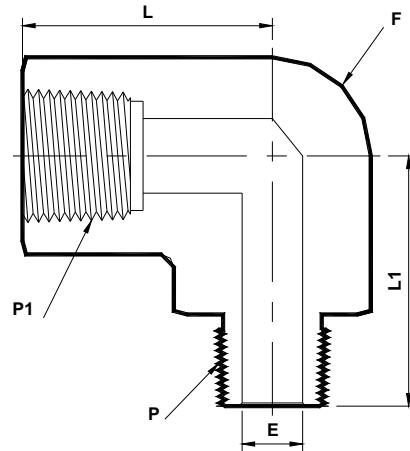
NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

21. Reducing Street Elbow

NPT (M) x NPT (F)

(N - PRSE - N)



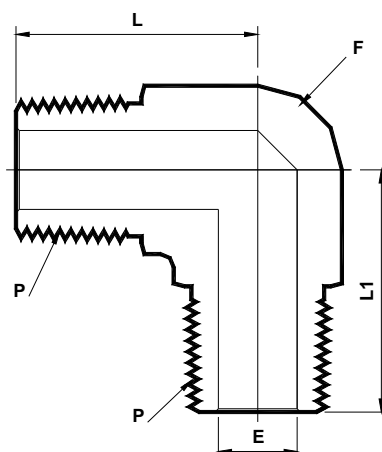
Sr. No.	NPT ② Male Pipe Size P	NPT ② Female Pipe Size P1	Ref Part No.	L	L1	ØE ①	Hex F
Dimensions in Inches							
1	(1/8 x 27) x (1/16 x 27)		2PRSE 1N	1.04	0.87	0.12	7/16
2	(1/4 x 18) x (1/16 x 27)		4PRSE 1N	0.66	1.09	0.12	9/16
3	(1/4 x 18) x (1/8 x 27)		4PRSE 2N	1.17	1.00	0.19	9/16
4	(3/8 x 18) x (1/16 x 27)		6PRSE 1N	0.88	1.09	0.12	11/16
5	(3/8 x 18) x (1/8 x 27)		6PRSE 2N	0.88	1.22	0.19	11/16
6	(3/8 x 18) x (1/4 x 18)		6PRSE 4N	1.42	1.26	0.28	3/4
7	(1/2 x 14) x (1/8 x 27)		8PRSE 2N	0.95	1.47	0.19	7/8
8	(1/2 x 14) x (1/4 x 18)		8PRSE 4N	1.56	1.38	0.28	7/8
9	(1/2 x 14) x (3/8 x 18)		8PRSE 6N	1.56	1.38	0.38	7/8
10	(3/4 x 14) x (1/8 x 27)		12PRSE 2N	1.00	1.59	0.19	1.1/16
11	(3/4 x 14) x (1/4 x 18)		12PRSE 4N	1.00	1.59	0.28	1.1/16
12	(3/4 x 14) x (3/8 x 18)		12PRSE 6N	1.23	1.59	0.38	1.1/16
13	(3/4 x 14) x (1/2 x 14)		12PRSE 8N	1.23	1.59	0.28	1.1/16
14	(1 x 11.5) x (1/8 x 27)		16PRSE 2N	1.63	1.97	0.19	1.3/8
15	(1 x 11.5) x (1/4 x 18)		16PRSE 4N	1.63	1.97	0.28	1.3/8
16	(1 x 11.5) x (3/8 x 18)		16PRSE 6N	1.50	1.97	0.38	1.3/8
17	(1 x 11.5) x (1/2 x 14)		16PRSE 8N	1.63	1.97	0.28	1.3/8
18	(1 x 11.5) x (3/4 x 14)		16PRSE 12N	1.36	1.97	0.57	1.3/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

22. Male Elbow

NPT (M) x NPT (M)
(N - PME)



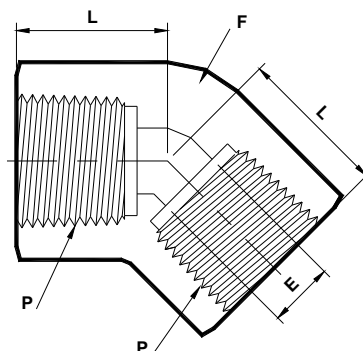
Sr. No.	NPT ② Male Pipe Size P	Ref Part No.	L	ØE ①	Hex F
Dimensions in Inches					
1	1/16 x 27	1N PME	0.66	0.12	7/16
2	1/8 x 27	2N PME	0.88	0.19	7/16
3	1/4 x 18	4N PME	1.05	0.28	9/16
4	3/8 x 18	6N PME	1.17	0.38	11/16
5	1/2 x 14	8N PME	1.45	0.47	7/8
6	3/4 x 14	12N PME	1.59	0.57	1.1/16
7	1 x 11.5	16N PME	1.97	0.71	1.3/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

23. 45° Female Elbow

NPT (F) x NPT (F)
(N - 45PFE)



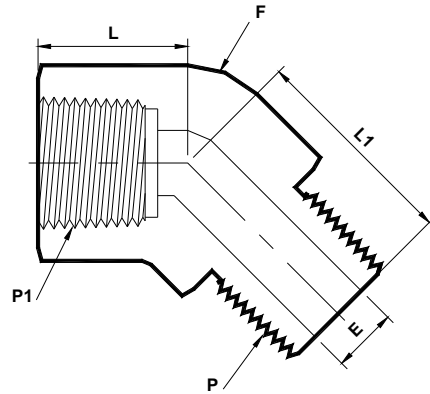
Sr. No.	NPT ② Female Pipe Size P	Ref Part No.	L	ØE ①	Hex F
Dimensions in Inches					
1	1/16 x 27	1N 45PFE	0.47	0.12	7/16
2	1/8 x 27	2N 45PFE	0.47	0.19	7/16
3	1/4 x 18	4N 45PFE	0.69	0.28	9/16
4	3/8 x 18	6N 45PFE	0.75	0.38	11/16
5	1/2 x 14	8N 45PFE	0.94	0.47	7/8
6	3/4 x 14	12N 45PFE	1.00	0.57	1.1/16
7	1 x 11.5	16N 45PFE	1.19	0.71	1.3/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

24. 45° Street Elbow

NPT (M) x NPT (F)
(N - 45PSE)



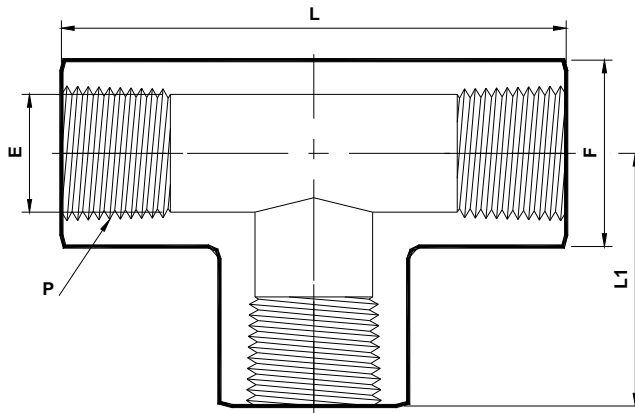
Sr. No.	NPT ② Male Pipe Size P	NPT ② Female Pipe Size P1	Ref Part No.	L	L1	ØE ①	Hex F
Dimensions in Inches							
1	(1/16 x 27) x (1/16 x 27)		1N 45PSE	0.47	0.66	0.12	7/16
2	(1/8 x 27) x (1/8 x 27)		2N 45PSE	0.47	0.72	0.19	9/16
3	(1/4 x 18) x (1/4 x 18)		4N 45PSE	0.63	1.05	0.28	3/4
4	(3/8 x 18) x (3/8 x 18)		6N 45PSE	0.72	1.06	0.38	7/8
5	(1/2 x 14) x (1/2 x 14)		8N 45PSE	0.91	1.34	0.47	1.1/16
6	(3/4 x 14) x (3/4 x 14)		12N 45PSE	0.97	1.38	0.62	1.1/4
7	(1 x 11.5) x (1 x 11.5)		16N 45PSE	1.13	1.72	0.88	1.5/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

25. Female Tee

NPT (F) x NPT (F) x NPT (F)
(N - PFT)



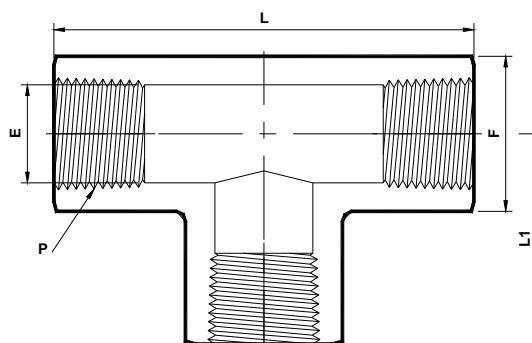
Sr. No.	NPT ② Female Pipe Size P	Ref Part No.	L	L1	ØE ①	Hex F
Dimensions in Inches						
1	1/16 x 27	1N PFT	1.00	0.50	0.25	7/16
2	1/8 x 27	2N PFT	2.08	1.04	0.34	9/16
3	1/4 x 18	4N PFT	2.34	1.17	0.45	3/4
4	3/8 x 18	6N PFT	2.84	1.42	0.59	7/8
5	1/2 x 14	8N PFT	3.12	1.56	0.73	1.1/16
6	3/4 x 14	12N PFT	3.84	1.92	0.94	1.1/4
7	1 x 11.5	16N PFT	3.82	1.91	1.17	1.5/8
8	1.1/4 x 27	20N PFT	3.40	1.70	1.51	1.7/8
9	1.1/2 x 27	24N PFT	4.16	2.08	1.75	2.1/2

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

26. Female Tee

ISO Tapered (F) x ISO Tapered (F) x ISO Tapered (F)
(IT - PFT)



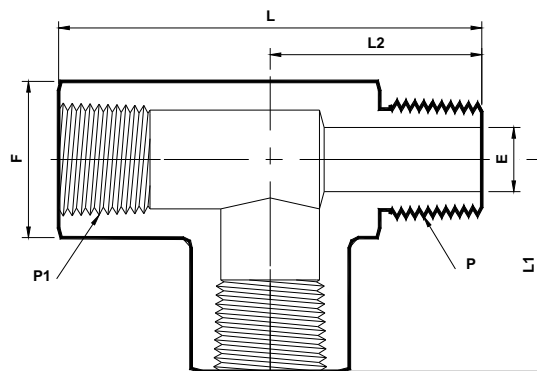
Sr. No.	ISO ② Female Pipe Size P	Ref Part No.	L	L1	ØE ①	Hex F
Dimensions in Inches						
1	1/4 x 19	4IT PFT	2.34	1.17	0.43	3/4
2	3/8 x 19	6IT PFT	2.84	1.42	0.57	7/8
3	1/2 x 14	8IT PFT	3.12	1.56	0.71	1.1/16

NOTE : ① The 'E' Dimension is the minimum opening.

② ISO (BSP Tapered) thread as per BS 21.

27. Street Tee

NPT (F) x NPT (M) x NPT (F)
(N - PST)



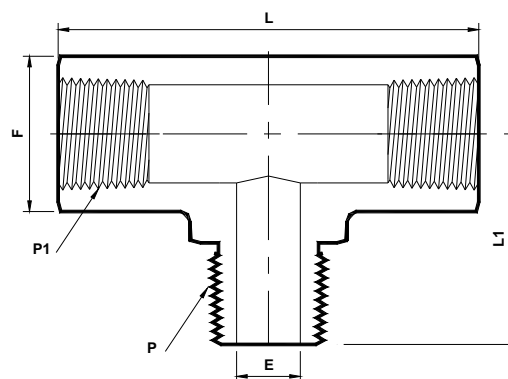
Sr. No.	NPT ② Male Pipe Size P	NPT ② Female Pipe Size P1	Ref Part No.	L	L1	L2	ØE ①	Hex F
Dimensions in Inches								
1	(1/16 x 27) x (1/16 x 27)		1N PST	1.22	0.50	0.72	0.12	7/16
2	(1/8 x 27) x (1/8 x 27)		2N PST	1.91	1.04	0.87	0.19	9/16
3	(1/4 x 18) x (1/4 x 18)		4N PST	2.34	1.17	1.17	0.28	3/4
4	(3/8 x 18) x (3/8 x 18)		6N PST	2.68	1.42	1.26	0.38	7/8
5	(1/2 x 14) x (1/2 x 14)		8N PST	3.12	1.56	1.56	0.47	1.1/16
6	(3/4 x 14) x (3/4 x 14)		12N PST	2.95	1.36	1.59	0.57	1.1/4
7	(1 x 11.5) x (1 x 11.5)		16N PST	3.60	1.63	1.97	0.71	1.5/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

28. Branch Tee

NPT (F) x NPT (F) x NPT (M)
(N - PBT)



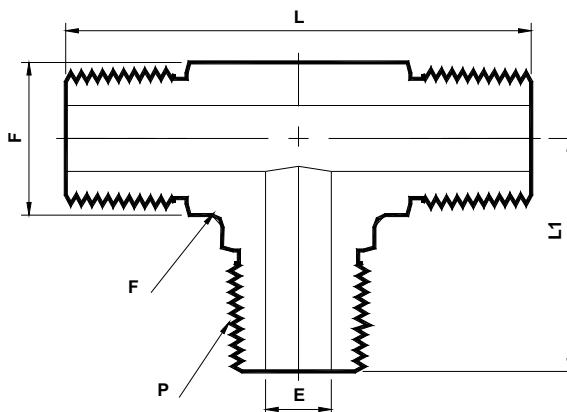
Sr. No.	NPT ② Male Pipe Size P	NPT ② Female Pipe Size P1	Ref Part No.	L	L1	ØE ①	Hex F
Dimensions in Inches							
1	(1/16 x 27) x (1/16 x 27)		1N PBT	1.00	0.72	0.12	7/16
2	(1/8 x 27) x (1/8 x 27)		2N PBT	2.08	0.87	0.19	9/16
3	(1/4 x 18) x (1/4 x 18)		4N PBT	2.34	1.17	0.28	3/4
4	(3/8 x 18) x (3/8 x 18)		6N PBT	2.84	1.26	0.38	7/8
5	(1/2 x 14) x (1/2 x 14)		8N PBT	3.12	1.56	0.47	1.1/16
6	(3/4 x 14) x (3/4 x 14)		12N PBT	2.72	1.59	0.62	1.1/4
7	(1 x 11.5) x (1 x 11.5)		16N PBT	3.26	1.97	0.88	1.5/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

29. Male Tee

NPT (M) x NPT (M) x NPT (M)
(N - PMT)



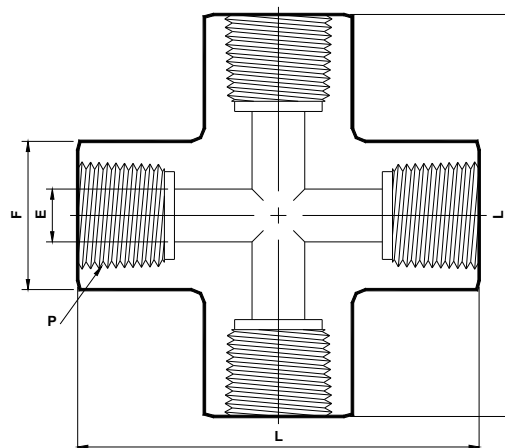
Sr. No.	NPT ② Male Pipe Size P	Ref Part No.	L	L1	ØE ①	Hex F
Dimensions in Inches						
1	1/16 x 27	1N PMT	1.44	0.72	0.12	7/16
2	1/8 x 27	2N PMT	1.76	0.88	0.19	7/16
3	1/4 x 18	4N PMT	2.10	1.05	0.28	9/16
4	3/8 x 18	6N PMT	2.34	1.17	0.38	11/16
5	1/2 x 14	8N PMT	2.90	1.45	0.47	7/8
6	3/4 x 14	12N PMT	3.18	1.59	0.62	1.1/16
7	1 x 11.5	16N PMT	3.94	1.97	0.88	1.3/8
8	1.1/4 x 11.5	20N PMT	4.44	2.22	1.09	1.5/8
9	1.1/2 x 11.5	24N PMT	5.28	2.64	1.34	1.7/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

30. Female Cross

NPT (F) x 4 Sides
(N - PFC)



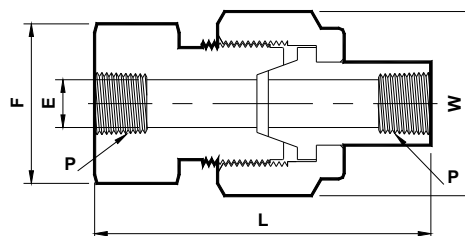
Sr. No.	NPT ② Female Pipe Size P	Ref Part No.	L	ØE ①	Hex F
Dimensions in Inches					
1	1/16 x 27	1N PFC	1.00	0.25	7/16
2	1/8 x 27	2N PFC	2.08	0.34	9/16
3	1/4 x 18	4N PFC	2.34	0.45	3/4
4	3/8 x 18	6N PFC	2.84	0.59	7/8
5	1/2 x 14	8N PFC	3.12	0.73	1.1/16
6	3/4 x 14	12N PFC	3.84	0.94	1.1/4
7	1 x 11.5	16N PFC	3.82	1.17	1.5/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

31. Union Ball Joint

NPT (F) x NPT (F)
(N - PUBJ)



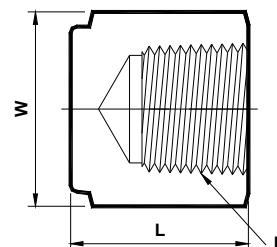
Sr. No.	NPT ② Female Pipe Size P	Ref Part No.	L	ØE ①	Hex F	Hex W
Dimensions in Inches						
1	1/8 x 27	2N PUBJ	1.81	0.27	1.1/8	15/16
2	1/4 x 18	4N PUBJ	2.34	0.36	1.3/8	1.3/16
3	3/8 x 18	6N PUBJ	2.50	0.52	1.1/2	1.5/16
4	1/2 x 14	8N PUBJ	2.69	0.62	1.3/4	1.5/8
5	3/4 x 14	12N PUBJ	3.12	0.88	2	1.7/8
6	1 x 11.5	16N PUBJ	3.56	1.03	2.1/2	2.3/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

32. Hex Female Pipe Cap

NPT (F)
(N - PHFPC)



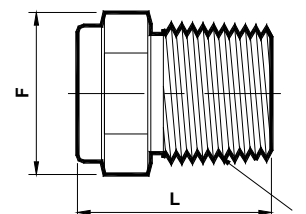
Sr. No.	NPT ② Female Pipe Size P	Ref Part No.	L	Hex W
Dimensions in Inches				
1	1/16 x 27	1N PHFPC	0.50	7/16
2	1/8 x 27	2N PHFPC	0.75	9/16
3	1/4 x 18	4N PHFPC	0.91	3/4
4	3/8 x 18	6N PHFPC	1.03	7/8
5	1/2 x 14	8N PHFPC	1.34	1.1/16
6	3/4 x 14	12N PHFPC	1.44	1.1/4
7	1 x 11.5	16N PHFPC	1.62	1.5/8
8	1.1/4 x 11.5	20N PHFPC	2.00	2.1/8
9	1.1/2 x 11.5	24N PHFPC	2.06	2.3/8
10	2 x 11.5	32N PHFPC	2.17	2.7/8

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

33. Hex Male Plug

NPT (M)
(N - PHMP)



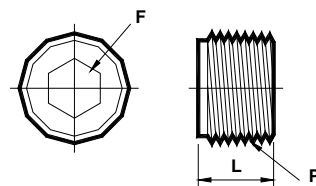
Sr. No.	NPT ② Male Pipe Size P	Ref Part No.	L	Hex F
Dimensions in Inches				
1	1/16 x 27	1N PHMP	0.75	5/16
2	1/8 x 27	2N PHMP	0.75	7/16
3	1/4 x 18	4N PHMP	0.96	9/16
4	3/8 x 18	6N PHMP	0.99	11/16
5	1/2 x 14	8N PHMP	1.21	7/8
6	3/4 x 14	12N PHMP	1.21	1.1/16
7	1 x 11.5	16N PHMP	1.50	1.3/8
8	1.1/4 x 11.5	20N PHMP	1.59	1.3/4
9	1.1/2 x 11.5	24N PHMP	1.74	2.1/8
10	2 x 11.5	32N PHMP	1.96	2.3/4

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

34. Allen Plug

NPT (M)
(N - PAP)



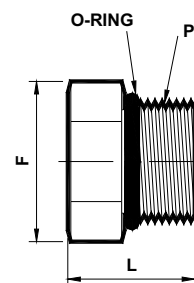
Sr. No.	NPT ② Male Pipe Size P	Ref Part No.	L	Hex F
Dimensions in Inches				
1	1/16 x 27	1N PAP	0.30	5/32
2	1/8 x 27	2N PAP	0.30	3/16
3	1/4 x 18	4N PAP	0.47	1/4
4	3/8 x 18	6N PAP	0.47	5/16

NOTE : ① The 'E' Dimension is the minimum opening.

② NPT thread as per ANSI B 1.20.1.

35. Hex SAE Plug

UNF (M)
(U - PHSP)



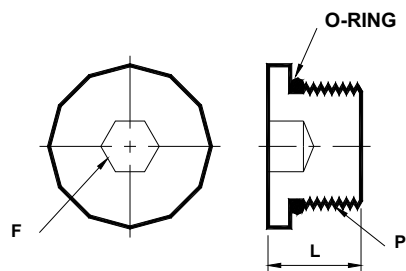
Sr. No.	UNF ② Male Pipe Size P	Ref Part No.	L	Hex F
Dimensions in Inches				
1	7/16 x 20	4U PHSP	0.67	9/16
2	9/16 x 18	6U PHSP	0.73	11/16
3	3/4 x 16	8U PHSP	0.80	7/8
4	1.1/16 x 12	12U PHSP	1.09	1.1/4
5	1.5/16 x 12	16U PHSP	1.13	1.1/2

- O-ring provided are Buna-N standard and Viton - optional.

NOTE : ① SAE/MS (UNF) thread as per ASME B1.1.

36. Allen SAE Plug

UNF (M)
(U - PASP)



Sr. No.	UNF ① Male Pipe Size P	Ref Part No.	L	Hex F
Dimensions in Inches				
1	7/16 x 20	4U PASP	0.47	3/16
2	9/16 x 18	6U PASP	0.50	1/4
3	3/4 x 16	8U PASP	0.58	5/16
4	1.1/16 x 12	12U PASP	0.77	9/16
5	1.5/16 x 12	16U PASP	0.77	5/8

- O-ring provided are Buna-N standard and Viton - optional.

NOTE : ① SAE/MS (UNF) thread as per ASME B1.1.