

SERIES: **VEP-P**

PATENTED

INTERCHANGE: Stucchi internal specification

MAIN APPLICATIONS

- Drilling rigs
- Mobile construction equipment
- Hydraulic equipment
- Vehicles

The "VEP-P" screw flat face coupling series is the Stucchi solution for hydraulic applications requiring high operating pressures and connection with residual pressure trapped in the circuit. The screw connection system eliminates the premature wear or "brinnelling" typically associated with locking ball connection systems when used in high impulse circuits. The triple valve system allows connection of the coupling safely even in the presence of high internal residual pressure and at the same time eliminates fluid loss during the connection-disconnection process.

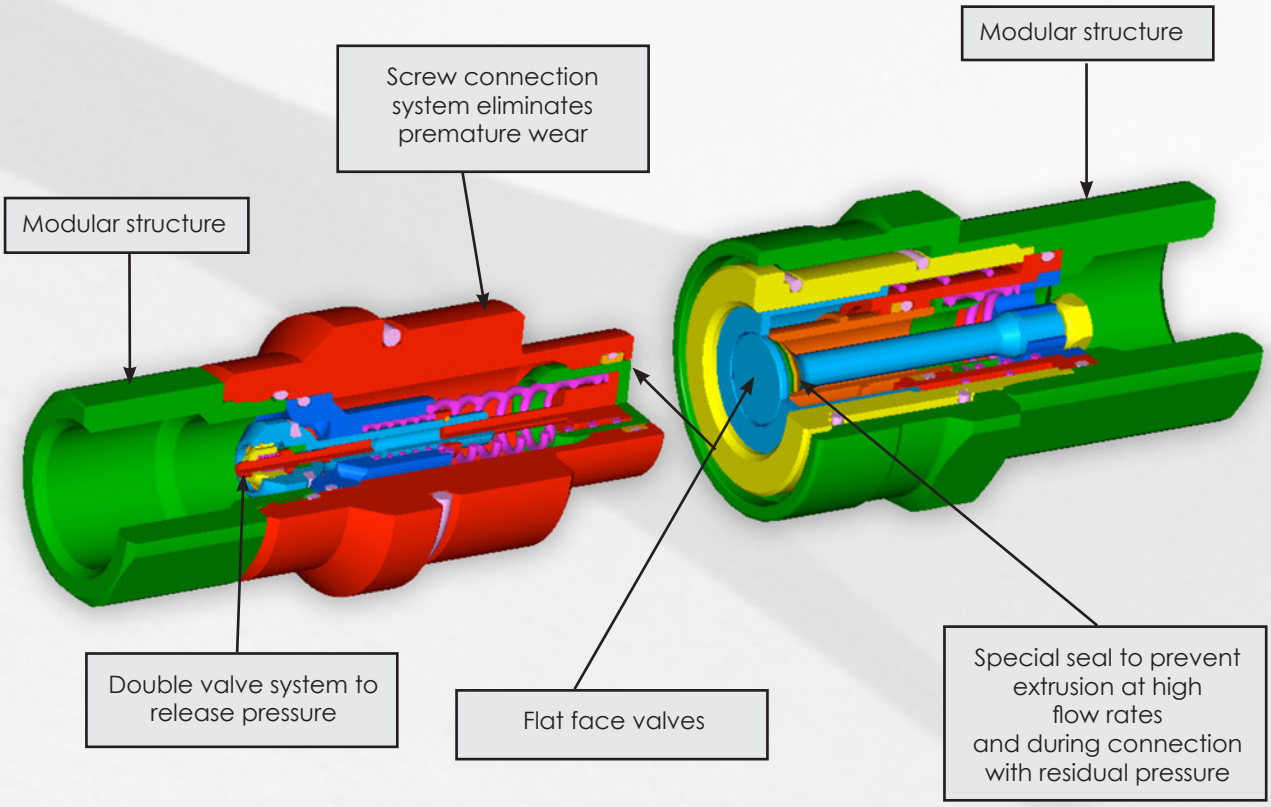


Stucchi®

A CONSTANT FLOW OF SOLUTIONS

TECHNICAL FEATURES AND OPTIONS

- Interchangeability: Stucchi internal specification
- Valve system: Flat face
- Mechanical connection: Screw system
- Connection system: Screw to connect
- Disconnection system: Unscrew to disconnect
- Connection with residual pressure: Pressure in the male coupling, female coupling or both.
- Disconnection with residual pressure: Allowed
- Threads available: BSP, NPT, SAE
- Threads on request: Metrics DIN, ORFS or others
- Construction material: High grade carbon steel. Threaded zone treatment: nitriding + oxidation (QPQ)
- Other surface treatment: Zinc plated
- External springs: AISI 302
- Internal springs: C72 steel
- Seals: standard in NBR (Nitrile), PUR (Polyurethane), POM (Delrin)
- Anti-extrusion rings: PTFE



BENEFITS

- Flat face is easy to clean, helping to reduce the inclusion of contamination in the hydraulic circuit.
- Minimal fluid loss during connection / disconnection, reducing fluid loss to the environment.
- Minimal air inclusion during connection / disconnection, enhancing correct function of the circuit.
- Internal flow of valve design creates minimal pressure drop, maintaining circuit efficiency in the system.
- Internal pressure release valve system allows an easy connection with high internal residual pressure.
- The modular design allows for broad range of port configurations.
- High resistance with impulse pressures.
- Safe and simple to use.

HOW TO USE

- Before connecting clean the flat mating surface of coupling to avoid inclusion of contamination in the circuit.
- To couple pull forward the connection sleeve of the female coupling. Align the female and male coupling holding forward the connection sleeve and thread together turning the sleeve.
  Keep couplers aligned during connection process. Do not push to connect couplings.
  The screwing of the threads should be done by hand without the use of the tools for the first part of the connection.
  The use of tools for the second part of connection can be necessary if there is high residual pressure in the circuit.
  Screw the connecting sleeve of the female until metal surface contact with the male coupling is complete.
  Tighten the sleeve to the base of the male using the tightening torque spec. as indicated in the table below.
- To uncouple turn sleeve from contact position using a wrench, then unscrew making sure the couplings stay aligned through the entire process.

WARNING!

- Do not use the female coupling disconnected with impulse pressure at high frequency.
- Do not couple-uncouple with flow in the circuit. Connection only allowed with residual pressure.
- Do not couple-uncouple when the temperature inside of the circuit is higher than 80 °C (176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.
- It is important to limit contamination in the circuit to avoid compromising the function of the internal valves.

PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect ° torque		Disconnect ° torque		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	Nm	lbf ft	Nm	lbf ft	ml
VEP7	1/4	-	12	3,18	24	6,36	2,8	2,06	1,9	1,40	0,012
VEP9P	3/8	-	23	6,10	46	12,19	2,2	1,62	1,4	1,03	0,040
VEP13P	1/2	-	45	11,93	90	23,85	1,8	1,33	1,4	1,03	0,025
VEP15P	5/8	-	74	19,61	148	39,22	3,0	2,21	1,8	1,33	0,033
VEP17P	3/4	-	100	26,50	200	53,00	5,6	4,13	3,6	2,65	0,018
VEP21P	1	-	189	50,09	378	100,17	8,2	6,04	5,8	4,27	0,060
VEP30P	1-1/2	-	288	76,32	750	198,75	26,0	19,16	12,5	9,21	0,200
VEP45P	2	-	379	100,44	1000	265,00	40,0	29,48	40,0	29,48	0,350

Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
VEP7	60	8700	60	8700	42	6090	150	21750	150	21750	126	18270
VEP9P	55	7975	55	7975	33	4785	140	20300	140	20300	100	14500
VEP13P	55	7975	55	7975	33	4785	140	20300	140	20300	100	14500
VEP15P	55	7975	55	7975	33	4785	140	20300	140	20300	100	14500
VEP17P	50	7250	50	7250	33	4785	125	18125	125	18125	100	14500
VEP21P	47	6815	47	6815	30	4350	120	17400	120	17400	80	11600
VEP30P	40	5800	40	5800	27	3915	110	15950	110	15950	80	11600
VEP45P	35	5075	35	5075	27	3915	110	15950	110	15950	80	11600

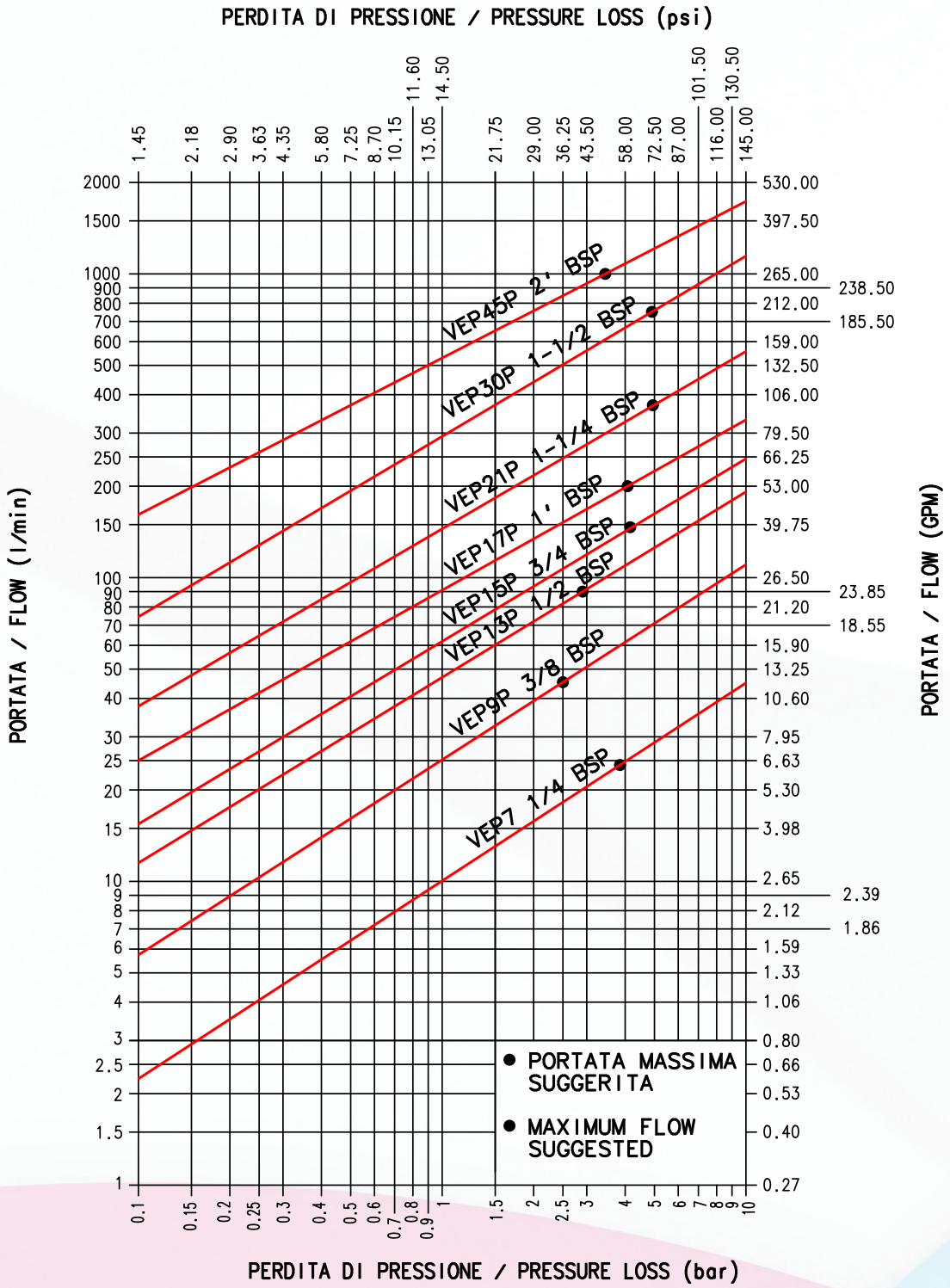
Description	Tightening torque		Max. residual pressure during connection						Max. residual pressure during disconnection	
			Male Female to drain		Female Male to drain		Male and Female			
	Nm	lbf ft	Mpa	psi	MPa	psi	MPa	psi	MPa	psi
VEP7	40-50	29-37	30	4350	30	4350	25	3625	25	3625
VEP9P	50 -60	37-44	25	3625	25	3625	25	3625	25	3625
VEP13P	65-75	48-55	25	3625	25	3625	20	2900	20	2900
VEP15P	70-80	52-59	25	3625	25	3625	20	2900	20	2900
VEP17P	90-110	66-81	25	3625	25	3625	15	2175	15	2175
VEP21P	125-145	92-107	25	3625	25	3625	15	2175	15	2175
VEP30P	155-175	114-129	25	3625	25	3625	5	725	5	725
VEP45P	320-350	236-258	25	3625	20	2900	2	290	2	290

° Connect torque and disconnect torque without residual pressure. The torque increase to increasing of internal residual pressure.
* Spillage is an indicative value of the fluid loss per couple-uncouple cycle without residual pressure.
- Temperature range: Standard seals NBR, PUR, POM from -20 °C to +100 °C (from -4 °F to +212 °F).
- Note: VEP7 has metal to metal sealing system in the internal valve of male and in the valve of female coupling.
- Tests:

- The couplings have been tested at max. operating pressure for 100'000 impulses in according with ISO 7241-2.
  The VEP45P coupled and male have been tested for 1'000'000 impulses.

PRESSURE DROP

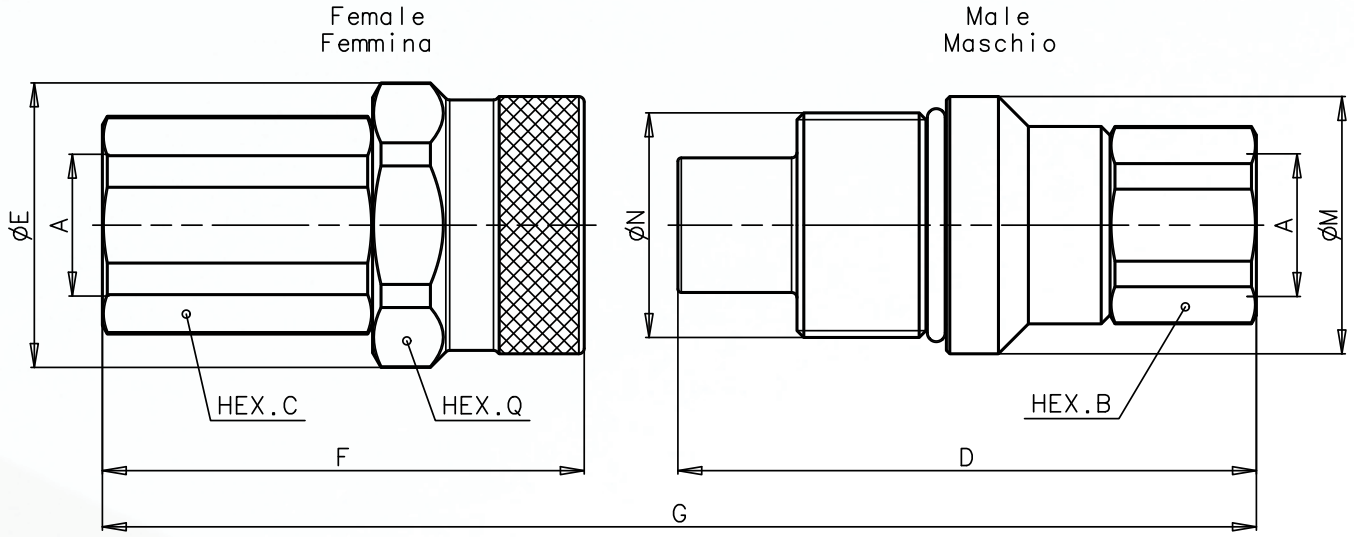
TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2
TESTS IN ACCORDANCE WITH ISO 7241-2



FLUIDO: OLIO ISO VG32
TEMPERATURA: 40°C
VISCOSITA': 28.8-35.2 mm²/s

FLUID: OIL ISO VG32
TEMPERATURE: 40°C
VISCOSITY: 28.8-35.2 mm²/s

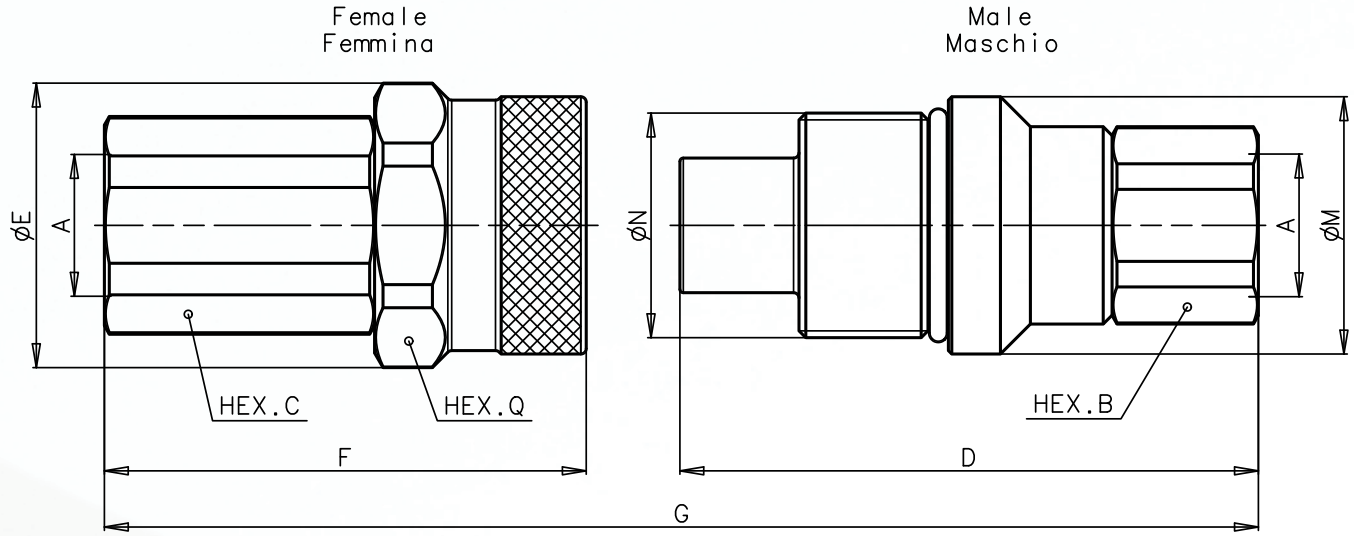
OVERALL DIMENSIONS



FEMALE BSPP THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	M	N	Q	Unit	Weight	
													Male	Female
VEP7	1/4	mm	22	27	71	38,8	54,1	113,3	34,8	M30x2	36	Kg	0,233	0,250
1/4 BSP		Inch	0,87	1,06	2,80	1,53	2,13	4,46	1,37	-	1,42	lb	0,51	0,55
VEP9P	3/8	mm	27	30	82,5	41,8	65,8	131,3	37,8	M33x2	38	Kg	0,325	0,330
3/8 BSP		Inch	1,06	1,18	3,25	1,65	2,59	5,17	1,49	-	1,50	lb	0,72	0,73
VEP9P	1/2	mm	27	30	85	41,8	70,8	138,8	37,8	M33x2	38	Kg	0,320	0,340
1/2 BSP		Inch	1,06	1,18	3,35	1,65	2,79	5,46	1,49	-	1,50	lb	0,71	0,75
VEP13P	1/2	mm	36	36	95	49,8	77,8	154,6	45,8	M40x3	46	Kg	0,600	0,615
1/2 BSP		Inch	1,42	1,42	3,74	1,96	3,06	6,09	1,80	-	1,81	lb	1,32	1,36
VEP13P	3/4	mm	36	36	97,4	49,8	84,8	164	45,8	M40x3	46	Kg	0,580	0,590
3/4 BSP		Inch	1,42	1,42	3,83	1,96	3,34	6,46	1,80	-	1,81	lb	1,28	1,30
VEP15P	3/4	mm	36	41	99	53,8	84,9	165,4	49,8	M45x3	50	Kg	0,670	0,760
3/4 BSP		Inch	1,42	1,61	3,90	2,12	3,34	6,51	1,96	-	1,97	lb	1,48	1,68
VEP17P	3/4	mm	46	46	113,6	58,8	97,7	188,5	54,8	M50x3	55	Kg	1,065	1,168
3/4 BSP		Inch	1,81	1,81	4,47	2,31	3,85	7,42	2,16	-	2,17	lb	2,35	2,57
VEP17P	1	mm	46	46	113,6	58,8	99,7	190,5	54,8	M50x3	55	Kg	1,015	1,118
1 BSP		Inch	1,81	1,81	4,47	2,31	3,93	7,50	2,16	-	2,17	lb	2,24	2,46
VEP21P	1	mm	55	55	123,4	69,8	105,8	205,2	64,5	M58x3	65	Kg	1,540	1,780
1 BSP		Inch	2,17	2,17	4,86	2,75	4,17	8,08	2,54	-	2,56	lb	3,40	3,92
VEP21P	1-1/4	mm	55	55	123,4	69,8	106,8	206,2	64,5	M58x3	65	Kg	1,440	1,685
1-1/4 BSP		Inch	2,17	2,17	4,86	2,75	4,20	8,12	2,54	-	2,56	lb	3,17	3,71
VEP30P	1-1/4	mm	65	65	150	92	133,5	253,9	89,8	M80x4	85	Kg	3,245	3,910
1-1/4 BSP		Inch	2,56	2,56	5,91	3,62	5,26	10,00	3,54	-	3,35	lb	7,15	8,62
VEP30P	1-1/2	mm	65	65	150	92	133,5	253,9	89,8	M80x4	85	Kg	3,200	3,810
1-1/2 BSP		Inch	2,56	2,56	5,91	3,62	5,26	10,00	3,54	-	3,35	lb	7,05	8,40
VEP45P	2	mm	90	90	218,4	200	224,8	383,5	145	M130x6	-	Kg	11,885	14,680
2 BSP		Inch	3,54	3,54	8,60	7,87	8,85	15,10	5,71	-	-	lb	26,20	32,36

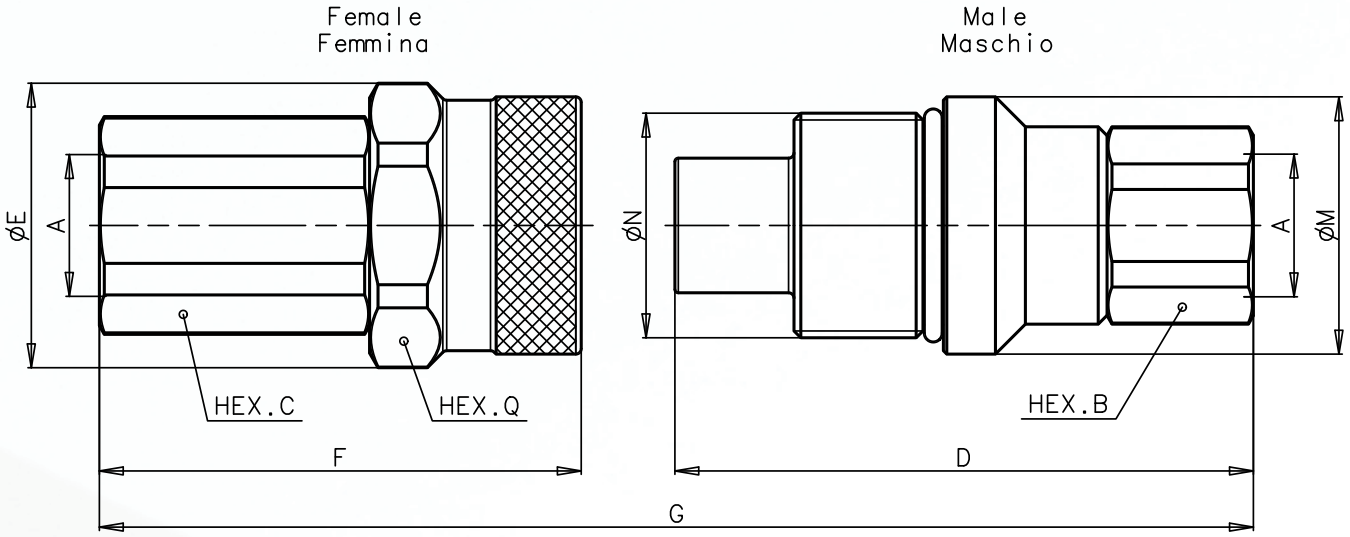
OVERALL DIMENSIONS



FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	M	N	Q	Unit	Weight	
													Male	Female
VEP7	1/4	mm	22	27	71	38,8	54,1	113,3	34,8	M30x2	36	Kg	0,235	0,250
1/4 NPT		Inch	0,87	1,06	2,80	1,53	2,13	4,46	1,37	-	1,42	lb	0,52	0,55
VEP9P	3/8	mm	27	30	82,5	41,8	65,8	131,3	37,8	M33x2	38	Kg	0,325	0,335
3/8 NPT		Inch	1,06	1,18	3,25	1,65	2,59	5,17	1,49	-	1,50	lb	0,72	0,74
VEP9P	1/2	mm	27	30	85	41,8	70,8	138,8	37,8	M33x2	38	Kg	0,320	0,345
1/2 NPT		Inch	1,06	1,18	3,35	1,65	2,79	5,46	1,49	-	1,50	lb	0,71	0,76
VEP13P	1/2	mm	36	36	95	49,8	77,8	154,6	45,8	M40x3	46	Kg	0,605	0,635
1/2 NPT		Inch	1,42	1,42	3,74	1,96	3,06	6,09	1,80	-	1,81	lb	1,33	1,40
VEP13P	3/4	mm	36	36	97,4	49,8	84,8	164	45,8	M40x3	46	Kg	0,590	0,600
3/4 NPT		Inch	1,42	1,42	3,83	1,96	3,34	6,46	1,80	-	1,81	lb	1,30	1,32
VEP15P	3/4	mm	36	41	99	53,8	84,9	165,4	49,8	M45x3	50	Kg	0,690	0,765
3/4 NPT		Inch	1,42	1,61	3,90	2,12	3,34	6,51	1,96	-	1,97	lb	1,52	1,69
VEP17P	3/4	mm	46	46	113,6	58,8	96,7	187,5	54,8	M50x3	55	Kg	1,065	1,168
3/4 NPT		Inch	1,81	1,81	4,47	2,31	3,81	7,38	2,16	-	2,17	lb	2,35	2,57
VEP17P	1	mm	46	46	113,6	58,8	99,7	190,5	54,8	M50x3	55	Kg	1,025	1,115
1 NPT		Inch	1,81	1,81	4,47	2,31	3,93	7,50	2,16	-	2,17	lb	2,26	2,46
VEP21P	1	mm	55	55	123,4	69,8	105,8	205,2	64,5	M58x3	65	Kg	1,540	1,780
1 NPT		Inch	2,17	2,17	4,86	2,75	4,17	8,08	2,54	-	2,56	lb	3,40	3,92
VEP21P	1-1/4	mm	55	55	123,4	69,8	106,8	206,2	64,5	M58x3	65	Kg	1,465	1,700
1-1/4 NPT		Inch	2,17	2,17	4,86	2,75	4,20	8,12	2,54	-	2,56	lb	3,23	3,75
VEP30P	1-1/4	mm	65	65	150	92	133,5	253,9	89,8	M80x4	85	Kg	3,245	3,910
1-1/4 NPT		Inch	2,56	2,56	5,91	3,62	5,26	10,00	3,54	-	3,35	lb	7,15	8,62
VEP30P	1-1/2	mm	65	65	150	92	133,5	253,9	89,8	M80x4	85	Kg	3,180	3,840
1-1/2 NPT		Inch	2,56	2,56	5,91	3,62	5,26	10,00	3,54	-	3,35	lb	7,01	8,47
VEP45P	2	mm	90	90	218,4	200	224,8	383,5	145	M130x6	-	Kg	11,670	14,760
2 NPT		Inch	3,54	3,54	8,60	7,87	8,85	15,10	5,71	-	-	lb	25,73	32,54

OVERALL DIMENSIONS



FEMALE SAE THREAD (SAE J1926-1)

Description	A	Unit	B	C	D	E	F	G	M	N	Q	Unit	Weight	
													Male	Female
VEP7	9/16-	mm	22	27	72,8	38,8	57,1	118,1	34,8	M30x2	36	Kg	0,233	0,250
3/8 SAE	18UNF	Inch	0,87	1,06	2,87	1,53	2,25	4,65	1,37	-	1,42	lb	0,51	0,55
VEP9P	3/4-	mm	27	30	87	41,8	70,8	140,8	37,8	M33x2	38	Kg	0,330	0,345
1/2 SAE	16UNF	Inch	1,06	1,18	3,43	1,65	2,79	5,54	1,49	-	1,50	lb	0,73	0,76
VEP13P	1-1/16-	mm	36	36	100,4	49,8	84,8	167	45,8	M40x3	46	Kg	0,585	0,580
3/4 SAE	12UN	Inch	1,42	1,42	3,95	1,96	3,34	6,57	1,80	-	1,81	lb	1,29	1,28
VEP15P	1-1/16-	mm	36	41	102	53,8	84,9	168,4	49,8	M45x3	50	Kg	0,675	0,585
3/4 SAE	12UN	Inch	1,42	1,61	4,02	2,12	3,34	6,63	1,96	-	1,97	lb	1,49	1,29
VEP17P	1-1/16-	mm	46	46	115,6	58,8	99,7	192,5	54,8	M50x3	55	Kg	1,065	1,168
3/4 SAE	12UN	Inch	1,81	1,81	4,55	2,31	3,93	7,58	2,16	-	2,17	lb	2,35	2,57
VEP17P	1-5/16-	mm	46	46	113,6	58,8	99,7	190,5	54,8	M50x3	55	Kg	1,010	1,115
1 SAE	12UN	Inch	1,81	1,81	4,47	2,31	3,93	7,50	2,16	-	2,17	lb	2,23	2,46
VEP21P	1-5/16-	mm	55	55	125,4	69,8	105,8	207,2	64,5	M58x3	65	Kg	1,540	1,780
1 SAE	12UN	Inch	2,17	2,17	4,94	2,75	4,17	8,16	2,54	-	2,56	lb	3,40	3,92
VEP21P	1-5/8-	mm	55	55	123,4	69,8	106,8	206,2	64,5	M58x3	65	Kg	1,460	1,680
1-1/4 SAE	12UN	Inch	2,17	2,17	4,86	2,75	4,20	8,12	2,54	-	2,56	lb	3,22	3,70
VEP30P	1-5/8-	mm	65	65	150	92	133,5	253,9	89,8	M80x4	85	Kg	3,245	3,910
1-1/4 SAE	12UN	Inch	2,56	2,56	5,91	3,62	5,26	10,00	3,54	-	3,35	lb	7,15	8,62
VEP30P	1-7/8-	mm	65	65	150	92	133,5	253,9	89,8	M80x4	85	Kg	3,155	3,815
1-1/2 SAE	12UN	Inch	2,56	2,56	5,91	3,62	5,26	10,00	3,54	-	3,35	lb	6,96	8,41
VEP45P	2-1/2-	mm	90	90	218,4	200	224,8	383,5	145	M130x6		Kg	11,885	14,680
2 SAE	12UN	Inch	3,54	3,54	8,60	7,87	8,85	15,10	5,71	-	0,00	lb	26,20	32,36

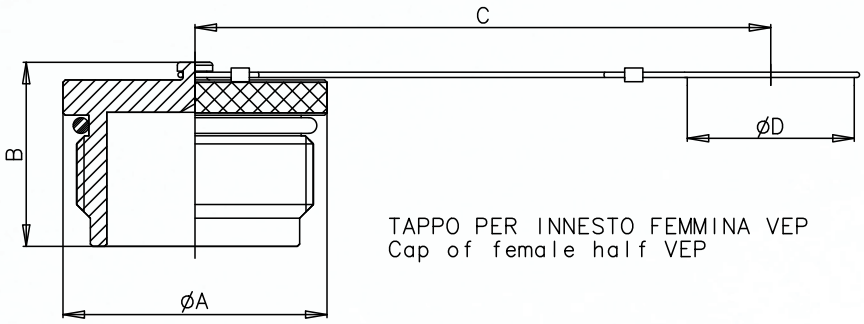
PROTECTION CAPS FOR VEP-P SERIES

Protective caps are always recommended to protect the couplings from damage, dirt inclusion, and will increase the product life. This is particularly important in mobile applications where exposure to weather and aggregate materials are common.

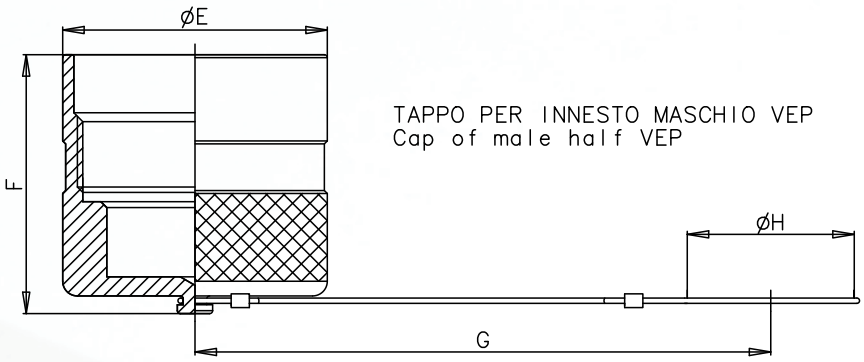
The protection caps for VP-P, VEP-P and VEP-HD series are manufactured in anodizing aluminum.



OVERALL DIMENSIONS PROTECTION CAPS FOR VEP-P AND VEP-HD SERIES



TAPPO PER INNESTO FEMMINA VEP
Cap of female half VEP



TAPPO PER INNESTO MASCHIO VEP
Cap of male half VEP

ALUMINUM CAPS
- **Available in following colors: White and red.**
- **Temperature range: from -20 °C to +100 °C (from -4 °F to +212 °F).**

Description	Coupling	Unit	A	B	C	D	E	F	G	H	Unit	Weight
-	F-VEP7	mm	34,8	35,4	150	24	-	-	-	-	Kg	0,045
		Inch	1,37	1,39	5,91	0,94	-	-	-	-	lb	0,10
-	M-VEP7	mm	-	-	-	-	34,8	45	150	24	Kg	0,050
		Inch	-	-	-	-	1,37	1,77	5,91	0,94	lb	0,11
-	F-VEP9P	mm	37,8	36,6	170	24	-	-	-	-	Kg	0,055
		Inch	1,49	1,44	6,69	0,94	-	-	-	-	lb	0,12
-	M-VEP9P	mm	-	-	-	-	37,8	51,5	170	24	Kg	0,065
		Inch	-	-	-	-	1,49	2,03	6,69	0,94	lb	0,14
-	F-VEP13P	mm	45,8	40	210	33	-	-	-	-	Kg	0,075
		Inch	1,80	1,57	8,27	1,30	-	-	-	-	lb	0,17
-	M-VEP13P	mm	-	-	-	-	45,8	56,5	210	33	Kg	0,100
		Inch	-	-	-	-	1,80	2,22	8,27	1,30	lb	0,22
-	F-VEP15P	mm	49,8	43,6	210	36	-	-	-	-	Kg	0,110
		Inch	1,96	1,72	8,27	1,42	-	-	-	-	lb	0,24
-	M-VEP15P	mm	-	-	-	-	49,8	60	210	36	Kg	0,110
		Inch	-	-	-	-	1,96	2,36	8,27	1,42	lb	0,24
-	F-VEP17P F-VEP17HD	mm	54,8	49,3	240	41	-	-	-	-	Kg	0,150
		Inch	2,16	1,94	9,45	1,61	-	-	-	-	lb	0,33
-	M-VEP17P M-VEP17HD	mm	-	-	-	-	54,8	70	240	41	Kg	0,155
		Inch	-	-	-	-	2,16	2,76	9,45	1,61	lb	0,34
-	F-VEP21P F-VEP21HD	mm	64,5	53,4	270	51	-	-	-	-	Kg	0,230
		Inch	2,54	2,10	10,63	2,01	-	-	-	-	lb	0,51
-	M-VEP21P M-VEP21HD	mm	-	-	-	-	64,5	75	270	51	Kg	0,240
		Inch	-	-	-	-	2,54	2,95	10,63	2,01	lb	0,53
-	F-VEP30P F-VEP30HD	mm	89,8	62,6	340	57	-	-	-	-	Kg	0,415
		Inch	3,54	2,46	13,39	2,24	-	-	-	-	lb	0,91
-	M-VEP30P M-VEP30HD	mm	-	-	-	-	89,8	88	340	57	Kg	0,530
		Inch	-	-	-	-	3,54	3,46	13,39	2,24	lb	1,17
-	F-VEP45	mm	145	88	-	-	-	-	-	-	Kg	1,585
		Inch	5,71	3,46	-	-	-	-	-	-	lb	3,49
-	M-VEP45	mm	-	-	-	-	145	140	-	-	Kg	1,715
		Inch	-	-	-	-	5,71	5,51	-	-	lb	3,78

The texts, data and illustrations indicated in this catalogue, may be changed by Stucchi S.p.A at any time without notice. (CAT. VEP-P - EN - March 2008).