



SERIES: VEP-HD

PATENTED

INTERCHANGE: Stucchi internal specification

MAIN APPLICATIONS

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

The "VEP-HD" screw flat face coupling series is another example of the continuous improvement of Stucchi products. Designed for heavy duty applications with high operating pressure, high impulse frequency, and mechanical stress.

The "VEP-HD" couplings are manufactured in high resistance carbon steel material treated with special nitriding treatment to increase the wear resistance of the coupling.

This series has been tested to 1'000' 000 impulse cycles.

The triple valve system allows a connection of the coupling safely even in presence of high internal residual pressure and at the same time avoiding fluid loss during the connection-disconnection process.

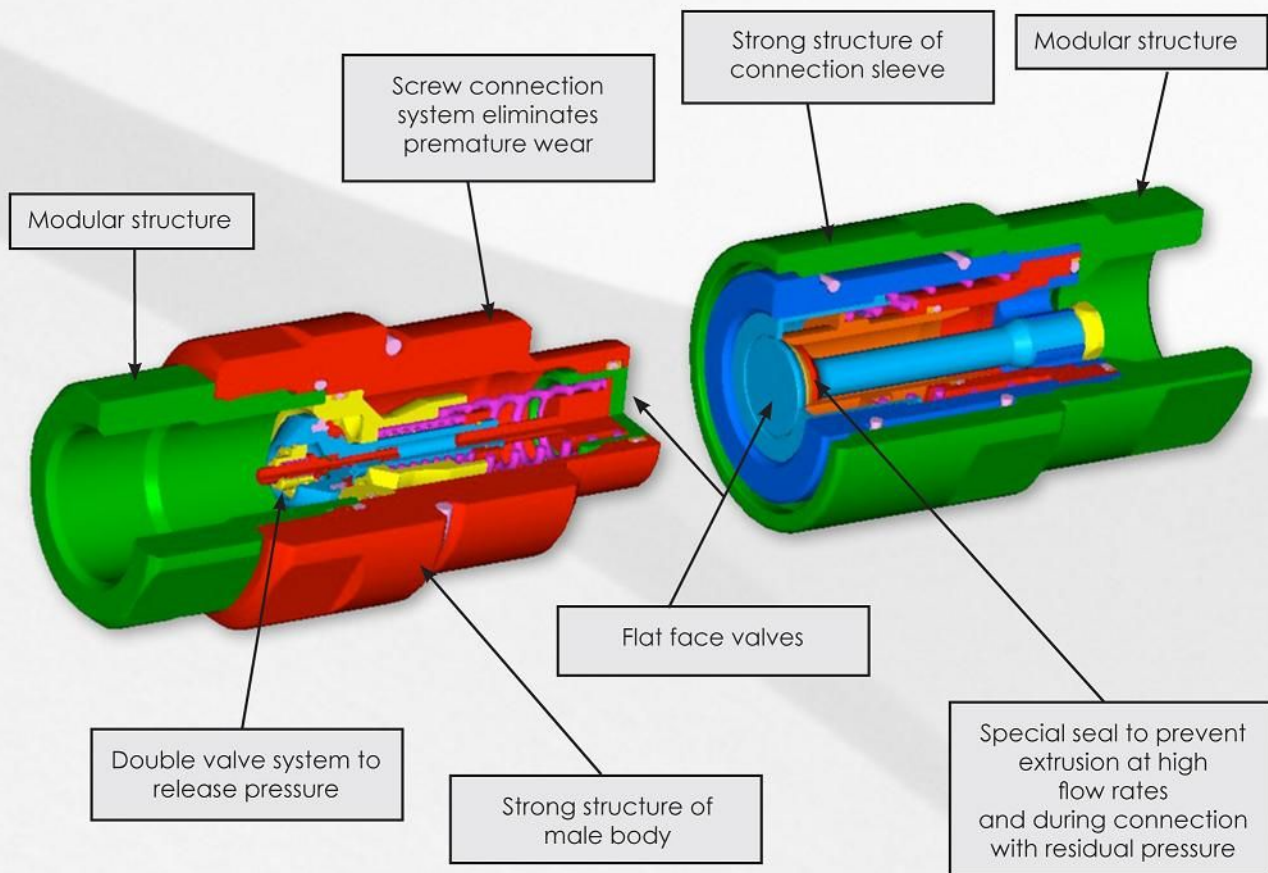


Stucchi®

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: Allowed in the male coupling, female coupling or both.
- Disconnection with residual pressure: Allowed
- Threads available: BSP, NPT, SAE
- Threads on request: Flange ports, ORFS or others
- Construction material: High resistance carbon steel.
- Thread zone treatment: nitriding + oxidation (QPQ)
- 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 to 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.
- Optimal resistance at impulse pressures.
- Safe and simple to use.

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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 *
			l/min	GPM	l/min	GPM	Nm	lbf ft	Nm	lbf ft	
VEP17HD	1	-	100	26,50	200	53,00	5,6	4,13	3,6	2,65	0,018
VEP21HD	1-1/2	-	189	50,09	378	100,17	8,2	6,04	5,8	4,27	0,060
VEP30HD	2	-	288	76,32	750	198,75	26,0	19,16	12,5	9,21	0,200

Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
VEP17HD	50	7250	50	7250	33	4785	125	18125	125	18125	100	14500
VEP21HD	47	6815	47	6815	30	4350	120	17400	120	17400	80	11600
VEP30HD	40	5800	40	5800	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
VEP17HD	110-130	81-96	25	3625	25	3625	15	2175	15	2175
VEP21HD	125-145	92-107	25	3625	25	3625	15	2175	15	2175
VEP30HD	155-175	114-129	25	3625	25	3625	5	725	5	725

° 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).

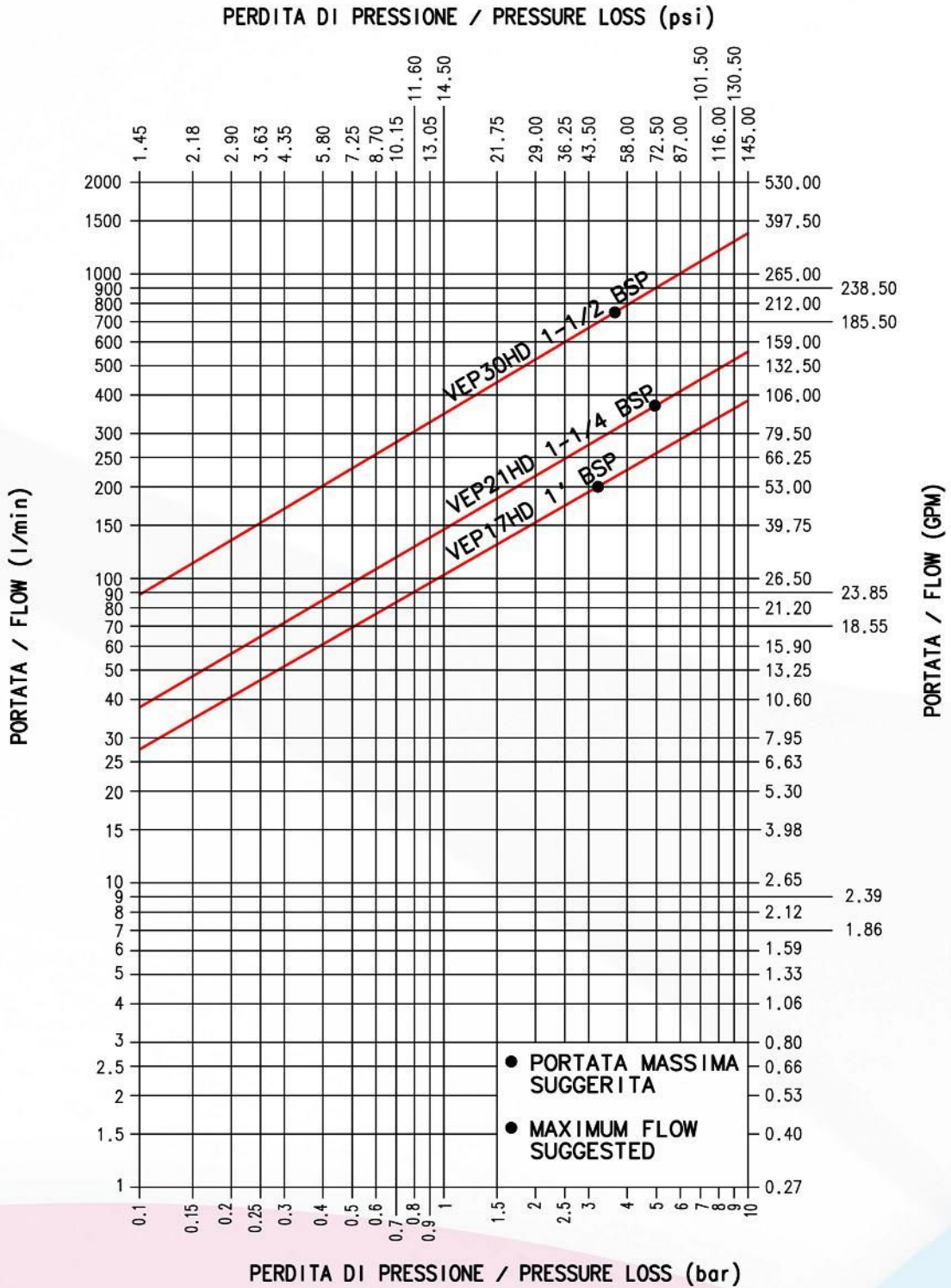
• Tests:

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

The female uncoupled have been tested for 100'000 impulses.

PRESSURE DROP

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

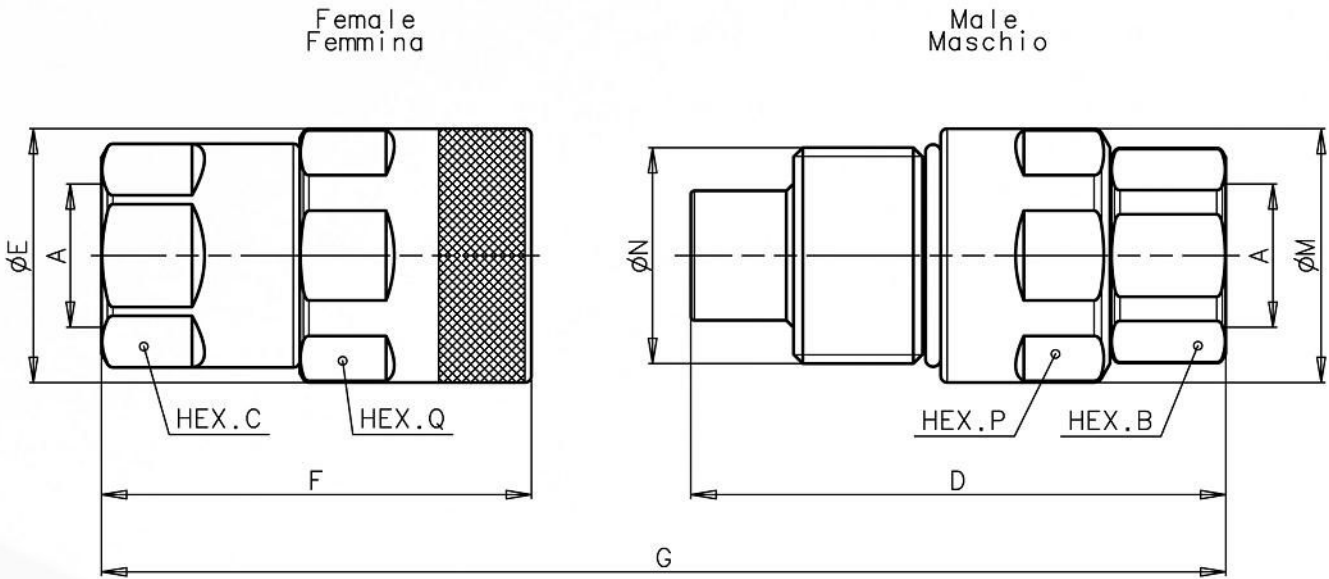


FLUIDO: OLIO ISO VG32
 TEMPERATURA: 40°C
 VISCOSITA': 28.8-35.2 mm²/s

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

SERIES: VEP-HD

OVERALL DIMENSIONS



FEMALE BSPP THREAD (DIN 3852)

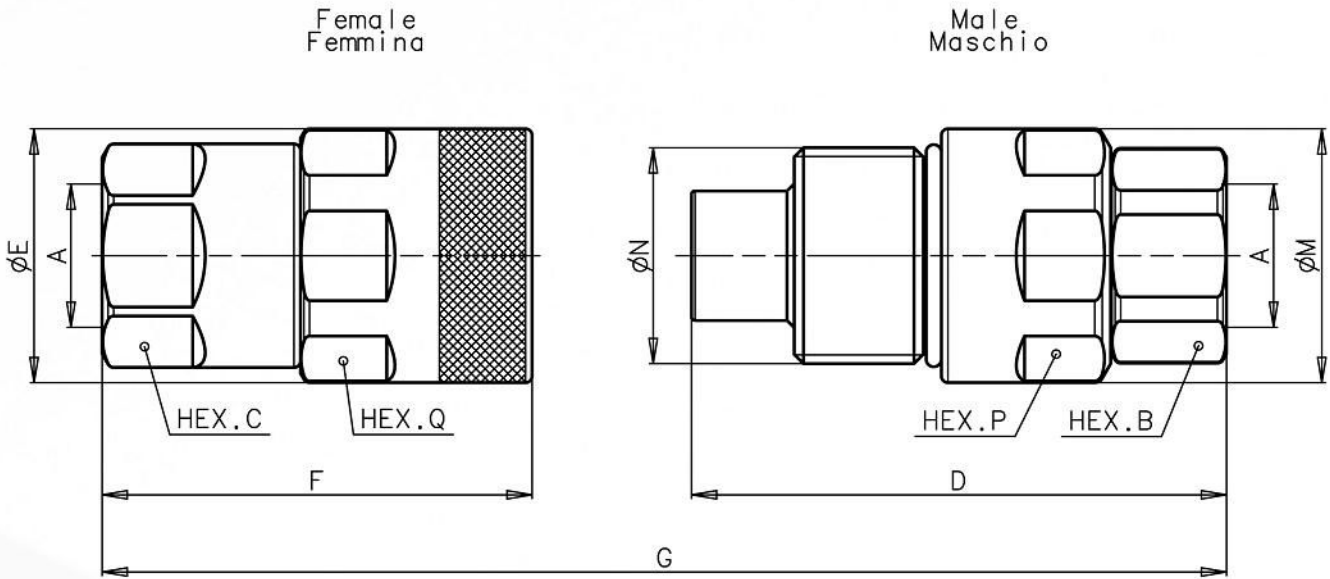
Description	A	Unit	B	C	D	E	F	G	M	N	P	Q	Unit	Weight	
														Male	Female
VEP17HD 3/4 BSP	3/4	mm Inch	46 1,81	46 1,81	124 4,88	58,8 2,31	99,7 3,93	200,9 7,91	58,8 2,31	M50x3 -	55 2,17	55 2,17	Kg lb	1,350 2,98	1,330 2,93
VEP17HD 1 BSP	1	mm Inch	46 1,81	46 1,81	124 4,88	58,8 2,31	99,7 3,93	200,9 7,91	58,8 2,31	M50x3 -	55 2,17	55 2,17	Kg lb	1,300 2,87	1,280 2,82
VEP21HD 1 BSP	1	mm Inch	55 2,17	55 2,17	133,4 5,25	69,8 2,75	106,8 4,20	216,2 8,51	69,8 2,75	M58x3 -	65 2,56	65 2,56	Kg lb	1,890 4,17	2,120 4,67
VEP21HD 1-1/4 BSP	1-1/4	mm Inch	55 2,17	5 2,17	133,4 5,25	69,8 2,75	106,8 4,20	216,2 8,51	69,8 2,75	M58x3 -	65 2,56	65 2,56	Kg lb	1,790 3,95	2,020 4,45
VEP30HD 1-1/4 BSP	1-1/4	mm Inch	65 2,56	65 2,56	150 5,91	95 3,74	133,5 5,26	253,9 10,0	94,4 3,72	M80x4 -	75 2,95	85 3,35	Kg lb	3,400 7,50	4,460 9,83
VEP30HD 1-1/2 BSP	1-1/2	mm Inch	65 2,56	65 2,56	150 5,91	95 3,74	133,5 5,26	253,9 10,0	94,4 3,72	M80x4 -	75 2,95	85 3,35	Kg lb	3,300 7,28	4,360 9,61

FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	M	N	P	Q	Unit	Weight	
														Male	Female
VEP17HD 3/4 NPT	3/4	mm Inch	46 1,81	46 1,81	124 4,88	58,8 2,31	99,7 3,93	200,9 7,91	58,8 2,31	M50x3 -	55 2,17	55 2,17	Kg lb	1,350 2,98	1,330 2,93
VEP17HD 1 NPT	1	mm Inch	46 1,81	46 1,81	12 4,88	58,8 2,31	99,7 3,93	200,9 7,91	58,8 2,31	M50x3 -	55 2,17	55 2,17	Kg lb	1,300 2,87	1,280 2,82
VEP21HD 1 NPT	1	mm Inch	55 2,17	55 2,17	133,4 5,25	69,8 2,75	106,8 4,20	216,2 8,51	69,8 2,75	M58x3 -	65 2,56	65 2,56	Kg lb	1,890 4,17	2,120 4,67
VEP21HD 1-1/4 NPT	1-1/4	mm Inch	55 2,17	55 2,17	133,4 5,25	69,8 2,75	106,8 4,20	216,2 8,51	69,8 2,75	M58x3 -	65 2,56	65 2,56	Kg lb	1,790 3,95	2,020 4,45
VEP30HD 1-1/4 NPT	1-1/4	mm Inch	65 2,56	65 2,56	150 5,91	95 3,74	133,5 5,26	253,9 10,0	94,4 3,72	M80x4 -	75 2,95	85 3,35	Kg lb	3,400 7,50	4,460 9,83
VEP30HD 1-1/2 NPT	1-1/2	mm Inch	65 2,56	65 2,56	150 5,91	95 3,74	133,5 5,26	253,9 10,0	94,4 3,72	M80x4 -	75 2,95	85 3,35	Kg lb	3,300 7,28	4,360 9,61

SERIES: VEP-HD

OVERALL DIMENSIONS



FEMALE SAE THREAD (SAE J1926-1)

Description	A	Unit	B	C	D	E	F	G	M	N	P	Q	Unit	Weight	
														Male	Female
VEP17HD 3/4 SAE	1-1/16- 12UN	mm Inch	46 1,81	46 1,81	127 5,00	58,8 2,31	100,7 3,96	204,9 8,07	58,8 2,31	M50x3 -	55 2,17	55 2,17	Kg lb	1,350 2,98	1,330 2,93
VEP17HD 1 SAE	1-5/16- 12UN	mm Inch	46 1,81	46 1,81	124 4,88	58,8 2,31	100,7 3,96	201,9 7,95	58,8 2,31	M50x3 -	55 2,17	55 2,17	Kg lb	1,290 2,84	1,270 2,80
VEP21HD 1 SAE	1-5/16- 12UN	mm Inch	55 2,17	55 2,17	133,4 5,25	69,8 2,75	106,8 4,20	216,2 8,51	69,8 2,75	M58x3 -	65 2,56	65 2,56	Kg lb	1,890 4,17	2,120 4,67
VEP21HD 1-1/4 SAE	1-5/18- 12UN	mm Inch	55 2,17	55 2,17	133,4 5,25	69,8 2,75	106,8 4,20	216,2 8,51	69,8 2,75	M58x3 -	65 2,56	65 2,56	Kg lb	1,780 3,92	2,010 4,43
VEP30HD 1-1/4 SAE	1-5/18- 12UN	mm Inch	65 2,56	65 2,56	150 5,91	95 3,74	133,5 5,26	253,9 10,0	94,4 3,72	M80x4 -	75 2,95	85 3,35	Kg lb	3,400 7,50	4,460 9,83
VEP30HD 1-1/2 SAE	1-7/8- 12UN	mm Inch	65 2,56	65 2,56	150 5,91	95 3,74	133,5 5,26	253,9 10,0	94,4 3,72	M80x4 -	75 2,95	85 3,35	Kg lb	3,280 7,23	4,335 9,56